48th *Brazilian Congress of Pharmacology and Experimental Therapeutics*

and

21th *Latin American Congress of Pharmacology (LATINFARMA)*

PROGRAM

04-07 October 2016

Foz do Iguaçu, PR, Brazil

Rafain Palace Hotel

Sociedade Brasileira de Farmacologia e Terapêutica Experimental (SBFTE)
Executive Secretary
http://www.sbfte.org.br
sbfte@sbfte.org.br

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Sociedade Brasileira de Farmacologia e Terapêutica Experimental (SBFTE)
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Message of the Congress Organizers

It is a great honor and pleasure to welcome you to the 48th Brazilian Congress of Pharmacology and Experimental Therapeutics and the 21st Latin American Congress of Pharmacology that will be held from October 04-07, 2016, at the Rafain Hotel Convention Center, Foz do Iguaçu, Paraná, Brazil. The Congress will be hosted by the Brazilian Society of Pharmacology and Experimental Therapeutics (SBFTE) and will mark the celebration of SBFTE 50th Anniversary. SBFTE Board of Directors, Past Presidents and representative members from the Societies of Pharmacology from Argentina, Chile, Colombia, Cuba, Peru, Mexico and Spain will be present. We are very excited to celebrate and reflect on our present and future with all of you.

The Organizing and Scientific Committees have put together a comprehensive and scientifically relevant programme that will update you on the latest hot and innovative topics in pharmacology and experimental therapeutics. The Congress' theme is "*Pharmacology in Latin America: Drug discovery for the future".* Keynote lectures, conferences, courses, industry presentations, workshops, round tables, will be presented by outstanding speakers. *SBFTE Jovem* actively participated in the Congress organization with the sessions "*Meet the Pharmacologist"*, the round table "*Innovation in the Biomedical and Pharmaceutical Markets: How to turn an idea into a Product? "* and the "Meet the Editor of the British Journal Pharmacology (BPS)". These activities will target trainees and young pharmacologists, opening opportunities to improve their careers, and build long-lasting relationships with fellows and senior scientists. The trainee and young investigator winners of the Jose Ribeiro do Valle Award (SBFTE/Biolab Sanus Farmacêutica), the Drug Innovation Award/Young Pharmacologist Award (SBFTE/Biozeus) and best poster presentations will be announced during the Congress Closing Session.

The Congress will be the unique environment to stimulate networking and cooperation among pharmacologists from all over the world. Registered attendees and invited speakers are coming from different countries in Latin America, Australia, Belgium, Canada, England, Germany, Italy, Portugal, Spain, The United States of America, and Netherlands. As part of our efforts as SBFTE and the Latin-American Association of Pharmacology (ALF), the *Pharmacology in Latin America, its perspectives and future* will be discussed.

The *SBFTE 50th anniversary* will be marked by honorary tributes in the Congress Opening Remarks, during the SBFTE Assembly and by the commemorative Mauricio Rocha e Silva Memorial Lecture that will be presented by one of the most inspirational pharmacologists in the world, Salvador Moncada, reflecting on the joy of discovery and his life in pharmacology. The lecture will be followed by a special tribute and "cheers" to the superb life and achievements of our colleague and friend Professor Sergio Henrique Ferreira that would turn 82 years old on October 4, the very first day of our Congress. A cocktail party will follow this session.

Foz do Iguaçu is situated at the borders of Brazil, Argentine and Paraguay being well known for its natural beauty and proximity to the Iguassu National Park where one of the New Seven Natural Wonders of the World is located: the famous Iguassu Falls. Iguassu Falls is also home of the Itaipu dam, one of the world's largest hydroelectric power station. The Bird Park, featuring a large collection of wild birds, and the "Bosque Guaraní", the city's zoo, are places that should not be missed during your visit to Foz do Iguaçu.

We are all deeply thankful to all Colleagues and Collaborators' hard work in assembling this Congress. We will be delighted to welcome attendees, speakers, sponsors and exhibitors to join us for this Congress. Congratulations SBFTE for its gold jubilee. May the Congress in Foz do Iguaçu be the "welcome cheers" to the next 50 years of our Scientific Society.

We look forward to welcoming you members and first timers in Foz do Iguaçu.

On behalf of the Organizing and Scientific Committees
Maria Christina Avellar
Congress President

Sociedade Brasileira de Farmacologia e Terapêutica Experimental (SBFTE)
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Useful information

Secretariat
Congress Secretariat will be open from 8h to 18h

Posters
- All posters should be on display during the whole congress (October 4- 7)
- Poster presenters must attend the Session scheduled by the scientific committee (Oct-5 at 17h20-19h00 or Oct-7 at 10h00-11h40) when posters will be viewed by Poster Evaluators. The best posters will be awarded with a free registration for the next meeting and a certificate.
- All posters should be taken down only at the end of the Congress

Certificates
The Certificates will be sent by email to the participants and lecturers in pdf.

Courses
The course certification will be given for the participants with at least 2 classes attendance.

Media Desk
Media desk will be open from 8h to 18h. Please, leave your material at Media Desk at least two hours before your presentation. All rooms have *data show*. If you need any other equipment, please inform Media Desk as soon as possible. Lecturers presenting talks at 8h00 should leave their material at the Media Desk the day before the presentation.

Badges
The use of badge is mandatory for all activities and circulation areas in the Convention Center, Hotel Rafain.

Abstracts
Abstracts presented at the poster session will be available at SBFTE website
http://www.sbfte.org.br


SBFTE
50 Anos
1966 - 2016

Satellite Meetings

2016: The Year of Pharmacology in Brazil

The 50th anniversary of SBFTE has been celebrated with satellite scientific meetings along the year of 2016. Summer and winter graduate courses, workshops, conferences, symposia, have been organized by SBFTE's members in their own institutions and Graduate Programs in Pharmacology in different regions in Brazil. The timeline and complete list of scientific activities are available online on SBFTE website (http://www.sbfte.org.br/atividades-científicas-e-culturais-programadas-para-o-ano-da-farmacologia).

Prize Awards – Drug Innovation Award – Young Pharmacologist – History

2016: First edition of the Drug Innovation Award – Young Pharmacologist

The rules can be seen at http://www.sbfte.org.br/premios/biozeus-sbfte/

2016 – 1º Winner to be announced in the Congress Closing Ceremony – October 7, 2016, 12h40-13h15

José Ribeiro do Valle Award – History

1998 – Maria Martha Campos (UFSC; Adviser: João Batista Calixto)
1999 – José Eduardo da Silva Santos (UFSC; Adviser: Jamil Assreuy)
2000 – Ana Paula V. Dantas (ICB-USP; Adviser: Maria Helena Catelli de Carvalho)
2001 – Liliam Fernandes (ICB-USP; Adviser: Maria Helena Catelli de Carvalho)
2002 – Isaias Gleizer (ICB-USP; Adviser: Cristoforo Scavone)
2003 – Juliano Ferreira (UFSC; Adviser: João Batista Calixto)
2004 – João Alfredo de Moraes (UERJ; Adviser: Thereza Christina Barja-Fidalgo)
2005 – Tiago Chiavegatti (Unifesp-EPM; Adviser: Rosely O. Godinho)
2006 – Ana Letícia G. Cabral Maragno (FMRP-USP; Adviser: Marcelo Damário Gomes)
2007 – Maria Fernanda de Paula Werner (UFSC; Adviser: Giles A. Rae)
2008 – Ana Luiza Andrade de Paula Lopes (Unifesp-EPM; Adviser: Rosely O. Godinho)
2009 – Silvio Manfredo Vieira (FMRP-USP; Adviser: Fernando de Q. Cunha)
2010 – Vanessa Olzon Zambelli (Instituto Butantan; Adviser: Yara Cury)
2011 – Tatiana Paula Teixeira Ferreira (Fiocruz; Adviser: Patrícia Machado Rodrigues e Silva)
2012 – Maíra Assunção Bicca (UFSC; Adviser: João Batista Calixto)
2013 – Jaqueline Raymondi Silva (FMRP-USP; Adviser: Fernando de Q. Cunha)
2014 – Jhimmy Talbot (FMRP-USP; Adviser: Fernando de Q. Cunha)
2015 – Daniele Maria Ferreira (UFPR; Adviser: Maria Fernanda de Paula Werner)

Prêmio José Ribeiro do Valle – 2016 Five Finalists

Isadora Ramos de Andrade
Ciências Biológicas, UERJ, RJ (2012-2015)
MSc Trainee, Biosciences, Instituto de Biologia, UERJ, RJ.
Adviser: Theresa Christina Barja-Fidalgo, UERJ, RJ..

Flávio Protásio Veras
Farmácia e Bioquímica, UFMA (2011)
MSc Degree, Biological Sciences (Pharmacology), FMRP-USP (2014)
Doctoral Student, Biological Sciences (Pharmacology), FMRP-USP.
Adviser: José Carlos Farias Alves Filho, FMRP-USP.

Davidson Furtado Dias
Biomedical Sciences, Unirio, RJ (2010)
MSc Degree, Human and Experimental Biology, UERJ, RJ, (2012)
Doctoral Student, Cellular and Molecular Biology, Fiocruz, RJ.
Adviser: Patricia Machado Rodrigues e Silva Martins, Fiocrus, RJ.

Douglas Almeida
Biological Sciences, UFMG-ICB, MG (2013)
MSc Student, Physiology and Pharmacology, UFMG, MG.
Adviser: Sérgio Henrique Sousa Santos, UFMG, MG.

Gabriela S. Kinker
Biological Sciences, USP (2014)
Doctoral Student, Biological Sciences (General Physiology), USP, SP.
Adviser: Pedro Augusto Carlos Magno Fernandes, USP, SP.

Tribute to Professor Sergio Henrique Ferreira

Professor Sergio Henrique Ferreira was a full Professor of the Department of Pharmacology, Ribeirão Preto Medicine School (FMRP), University of São Paulo (USP), with a brilliant and widely awarded scientific career. Professor Sergio graduated in Medicine from USP in 1960, and got his PhD in Pharmacology from FMRP in 1964. From 1967 to 1975, Prof. Ferreira did his postdoctoral studies at the Royal College of Surgeons of England. Born in 1934, he would complete 82 years this October 4th.

Professor Sérgio Ferreira gained notoriety in Brazil and abroad after discovering the "potentiation factor of bradykinin," a substance derived from the venom of the Brazilian Jararaca snake, which is able to reduce the blood pressure increase. Investigating the pharmacological mechanism involved in this important effect, Prof. Ferreira demonstrated that the substance present in the venom inhibited the degradation of bradykinin by inhibiting kininase II, therefore increasing the half-life of bradykinin. In subsequent experiments showed that the substance also inhibited the production Antigiontensina II. These works developed, mostly in the Department of Pharmacology of FMRP, were fundamental to the development of a new class of drugs for the treatment of hypertension, inhibitors of angiotensin-converting enzyme, and the Captopril, the first drug of available in this class of . The scientific contribution of Prof. Sergio was not restricted to the cardiovascular area, later extending to the inflammatory process, when it started to investigate the mediators of inflammatory pain and the mechanisms of action of peripheral analgesics. The development of new drugs for pain treatment was part of his interest in recent decades.

Professor Sergio was a member of ABC (Brazilian Academy of Science) since March 29, 1984 and President of the Brazilian Society for the Progress of Science (SBPC) from 1997 to 1999, receiving from the organization the title of Honorary President. He was also president of SBFTE, FESBE and the Brazilian Society for the Study of Pain. Among the awards received by Prof. Sergio include: the National Order of Scientific Merit - Class Grand Cross, among other distinctions received from national and foreign entities.

Fernando de Q. Cunha
Francisco S. Guimarães
Department of Pharmacology
School of Medicine of Riberão Preto
University of São Paulo

Special Tribute

Helena B. Nader. She is a Full Professor at the Federal University of São Paulo, Escola Paulista de Medicina (Unifesp-EPM). Full member of the Brazilian Academy of Sciences. President of the Brazilian Society for the Progress of Science (SBPC). She has stood out for her huge and outstanding contribution to national issues related to science and participation in administrative functions including as Dean of Undergraduate and Graduate Studies and Research at Unifesp-EPM, and as coordinator of Committees at Federal Research Funding Agencies (CNPq and CAPES), among several other distinctions. She has received several important Brazilian Awards such as Class Commander of the National Order of Scientific Merit and Class Grand Cross of the National Order of Scientific Merit as well as international awards (Award Scopus, Elsevier (2007) for her scientific work and quotes. Dr. Helena Nader has expertise and outstanding research publications in biochemistry with emphasis in Glycobiology and Cellular and Molecular Biology of proteoglycans, especially heparin and heparin sulfate. Her works are related to the involvement of these compounds in hemostasis, in the control of cell division and cell transformation. This SBFTE's special tribute recognizes this "woman of many hats" for her continued and notable contribution to Brazilian science as a researcher and an educator, and unique dedication and leadership as President of the SBPC (Brazil).

Keynote Speaker (Opening Conference)

Alberto Mantovani is the Scientific Director of the Humanitas Clinical and Research Center and Full professor of Pathology, Humanitas University, Rozzano, in Italy. He is the Recipient of various awards such as the William Harvey Award, Oustanding Scientist (2009, London, UK.) and the 1st European Immunology Prize (2006, Paris, France). He ranked one of 10 most quoted immunologists in the world and is recognized *for* the discovery of new and key elements related to tumor biology, such as chemokines, IL-1/Toll-like receptors: demonstration in the late '70s of the protumor function of tumor-associated macrophages (TAM) linking inflammation and cancer; original description and role in TAM recruitment of a unique monocyte attractant, Monocyte Chemotactic Protein-1 (CCL2), as tumor-derived chemotactic factor; First demonstration of MyD88 as the adaptor of mammalian Toll-Like Receptors (TLR) and identification of downstream transducers. Dr. Mantovani has made significant contributions in the field of immunopharmacology and their translation from basic biology into clinical application. For his outstanding scientific career, he is recognized as a forerunner in the '70s and a founding father of the renaissance of the inflammation-cancer connection.

Keynote Speaker (Closing Conference)

Arthur Christopoulos is NHMRC Senior Principal Research Fellow; Team Leader of Drug Discovery Biology, Monash Institute of Pharmaceutical Sciences – Australia. Recipient of the John J. Abel ASPET award in 2013. His research focuses on two key paradigms of drug action that arise as a consequence of the properties of G protein-coupled receptors, GPCRs, (allosteric modulation and biased agonism) to make drugs more selective. His team's investigations are revolutionizing modern drug discovery using a multidisciplinary approach that encompasses structural and computational biology, molecular and mathematical modeling of GPCRs, medicinal chemistry, biochemistry and cellular signal transduction, native tissue bioassays and preclinical animal models. Dr. Christopoulos is particularly interested in understanding how the phenomena of allosteric modulation and biased agonism can be applied to GPCRs implicated in neuropsychiatric disorders (including schizophrenia, anxiety and depression), and metabolic/endocrinological disorders. He has an outstanding list of publications, including two recent studies on *Crystal structures of the M_1 and M_4 muscarinic acetylcholine receptors* (*Nature*. 531: 335–340, 2016) and a review article with J.P. Changeux on Allosteric Modulation as a Unifying Mechanism for Receptor Function and Regulation(Cell 166:1084-1102, 2016).

Rocha e Silva Memorial Lecture

1984 *The role of endothelial cells and relaxation of vascular smooth muscle by acetilcoline and bradikinin.* Robert Furchgott (04/07)

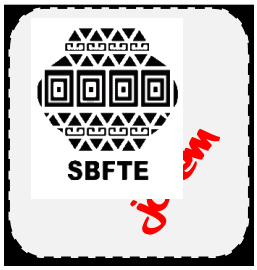
1987 *Caracterização do fator de relaxamento arterial*. Salvador Moncada
1989 *Asma: uma doença inflamatória*. Boris Vargaftig
1991 *A morada Perigosa: morte e a vida da Leishmania nos fagolisossomas*. Michel Rabinovich
1993 *Structure, dynamics and functions of atrial natriuretic factor receptor*. Tomas Maack
1995 *Receptores para Bradicinina.* Domenico Regoli
1997 *Disfunções na produção de fatores vasoativos em doenças cardiovasculares* Paul Vanhoutte
1999 *Purinergic signaling*-Geoffrey Burnstock
2001 *Mecanismos celulares da Asma Brônquica*. Bernardo Boris Vargaftig
2003 *Pharmacology adventures down a long and winding Road.* John Wallace (University of Calgary)
2005 *Inflammation: my wanderings along Mauricio Rocha e Silva's trail.* Roderick John Flower (University of London, England)
2007 *Can we develop anti-inflammatory drugs for infectious diseases*? Mauro Martins Teixeira (UFMG)
2009 *Understanding peripheral analgesics.* Sérgio Henrique Ferreira (USP)
2011 *Bradykinin revisited 62 years after its discovery.* João Batista Calixto (UFSC)
2012 *Discovery of nitric oxide and cyclic GMP in cell signaling and their role in drug development.* Ferid Murad (Nobel Prize Laureate, George Washington University, USA)
2014 *Resolution pharmacology: A new approach to anti-inflammatory therapy*. Mauro Perretti (The William Harvey Research Institute, UK)

Keynote Speaker - 2016 Mauricio Rocha e Silva Memorial Lecture

The joy of discovery: My life in Pharmacology, Salvador Moncada (University of Manchester, UK)

He obtained his PhD in the early 1970s at the Royal College of Surgeons in London, where he contributed to the discovery that aspirin-like drugs inhibit prostaglandin biosynthesis, thus accounting for their analgesic, anti-pyretic and anti-inflammatory actions. In 1975 he joined the Wellcome Research Laboratories where, as Head of the Department of Prostaglandin Research, he initiated and led the work that resulted in the discovery of the enzyme thromboxane synthase and the vasodilator prostacyclin. He was Director of Research at the Wellcome Research Laboratories (1986 – 1995), during which time he oversaw the discovery and development of a number of drugs, including lamotrigine (anti-epileptic), zomig (anti-migraine), atovaquone (anti-malarial) and the initiation of the project which led to the finding and development of lapatinib (anti-cancer). In 1985 he began a project that led to the identification of nitric oxide (NO) as the biological mediator formerly known as endothelium-derived relaxing factor. He elucidated the pathway of the synthesis of nitric oxide (NO) from the amino acid L-arginine and discovered many of the biological activities of this novel mediator. In 1996 Prof. Moncada moved to University College London to establish and direct the Wolfson Institute for Biomedical Research. This approach led to the spinning out up of a number companies, including Ark Therapeutics (vascular disease and cancer), Arrow Therapeutics (anti-infective drugs), CereXus (neuroscience), Inpharmatica (bioinformatics) and ProAxon (sodium channel blockers). In the last decade, he has shown that interactions between NO and oxygen at the level of cytochrome c oxidase might also initiate pathophysiology. In October 2013 Prof Moncada became Emeritus Professor of Experimental Biology and Therapeutics at University College London and Professor of Translational Medicine and Strategic Advisor at the University of Manchester. Prof. Moncada's research has had a major impact, as shown by his standing in the international citation indexes and his acknowledgement as the most cited UK scientist in biomedicine in the 1990s. In 2010 he received a Knighthood from Her Majesty the Queen in recognition of his services to Science.

About SBFTE Jovem



SBFTE "Jovem" (SBFTE Junior) founded in October, 2013, is a Committee of the Brazilian Society Pharmacology and Experimental Therapeutics (SBFTE). Our Committee is composed of young Pharmacologists members of SBFTE, working in association with SBFTE Board of Directors. Our mission is to create a permanent political-scientific discussion forum dedicated to undergraduate, master and PhD students, post-docs, as well as young investigators and junior faculty members of SBFTE to discuss scientific topics related to Pharmacology, which will help them developing their careers, stimulating their participation, insertion and collaboration into the activities of our society.

This year we will promote two activities that will be held during the 48th Brazilian Congress of Pharmacology and Experimental Therapeutics. One of them is entitled "*Meet the Pharmacologist*". The section is scheduled for October 5th, 2016 from 3:30 pm to 5:15 pm. This session provides trainees and young scientists the opportunity to engage in an active discussion with senior leader scientists in an informal environment about any topic of interest related to building a strong career in Science and Pharmacology, such as challenges in getting funding, establishing a research group, choosing and being a good mentor, as well as topics of your area of expertise.

Another activity is a round table about "*Innovation in the biomedical and pharmaceutical markets: how to turn an idea into a product?*" The section is scheduled for October 4th, 2016 from 1:30pm to 3:30pm. In this activity, the aim is to open a discussion about opportunities to Brazilian scientists (mainly young professionals and students) to turn their ideas into innovation products for the biomedical and pharmaceutical market and pinpoint the private and public financing role as encouraging sources to this initiative. In summary with this activity we intend to approach the current reality of pharmaceutical innovation technology in Brazil, its challenges and perspectives.

We would like to invite all the attendee students and young professionals to participate and support SBFTE Jovem activities in the SBFTE Congress at Foz do Iguaçu.

SBFTE Jovem Committee

Erick José Ramo da Silva (Coordinator)
Elisa Mitiko Kawamoto
Enio Setsuo Arakaki Pacini
Juliano Quintella Dantas Rodrigues
Rafael de Morais Campos

Program at a Glance

October 03 (Monday)	
	Room Paraná IV
14h00-16h00	Meeting of the SBFTE Deliberative Council (Council and Directory Board Members only)
	Pre-Congress Activities
14h00-17h00	SBFTE e Divulgação de Farmacologia na Escola Pública (SBFTE and Discussing Pharmacology in the Public School)
	Room Paraná VI
15h00-20h00 Course	Processo de Desenvolvimento de Novos Medicamentos (Development Process of New Drugs) (pre-registered attendees)
	Room Paraná IV
16h00-18h00	Meeting Presidents of Latin-American Societies of Pharmacology and SBFTE Directory Board and Deliberative Council

October 04 (Tuesday)	
08h00	Venue Secretariat
08h00-12h00	SBFTE e Divulgação de Farmacologia na Escola Pública (SBFTE and Discussing Pharmacology in the Public School)
	Pre-Congress Activities
	Room Paraná VI
08h00-13h00 Course	Processo de Desenvolvimento de Novos Medicamentos (Development Process of New Drugs)
	Room A
09h00-12h30 Workshop	Teaching in Pharmacology
12h30-13h30	Lunch/Discussions
	Room A
13h30-15h30 Round Table	Innovation in the Biomedical and Pharmaceutical Markets: How to turn an idea into a Product?
	Room A
15h30-17h00 Round Table	Pharmacology in Latin America: Perspectives
	Room E
18h00-18h45	Opening ceremony
18h45-19h30	Honorary Session to Helena B. Nader
19h30-20h30	Opening Lecture

October 05, Wednesday			
08h00-08h50	Courses		
Room A	**Room D**	**Room E**	**Room F**
Basis of Anesthesia and Pain Management in Animal Experimentation (Fundamentos de Anestesiologia em Experimentação Animal)	How to Write a Scientific Paper: Theory and Practice	How to ensure the reproducibility in my experiment? (Como assegurar a reprodutibilidade no meu experimento?)	PK-PD Modeling: Fundamentals and Applications (Modelagem PK/PD: Fundamentos e aplicações)
09h00-10h30	Symposia		
Room A	**Room D**	**Room E**	**Room F**
Understanding the Pathophysiology of the Side Effects of Chemotherapy Drugs (A Tribute to Ronaldo A. Ribeiro)	New Insights into Purinergic Signaling	Cell Metabolism in Health and Disease	Insights into sex hormones, reproductive and urinary pharmacology
10h30-11h00	Interval		

11h00-11h50	Conferences		
Room A		**Room D**	**Room E**
TRP Channels in Inflammatory and Painful Diseases		Orphan Drug Development for Duchenne Muscular Dystrophy by Protein Crystallization in Space	Molecular Aspects of Corticosteroids in Cardiomyocytes define new Approaches for the Treatment of Heart Disease
11h50-13h30	Lunch		

13h30-15h00	Symposia		
Room A	**Room D**	**Room E**	**Room F**
Translational Approach in Drug Development: Challenge from Medicinal Chemistry to Patient	Reflection on the Advancement of Knowledge on Drug Addiction	New Perspectives in the Nitrite/Nitrate/Nitric Oxide Pathway	Drug Development in Brazil
15h00-15h30	Interval		
	Room A		
15h30-16h15 Conference	Cell-Death Assessment and Cytokine Quantification by Flow Cytometry André Cardoso (BD Life Sciences)		
15h30-17h15	**Room D**	**Room E**	
	Meet the Professor Chair: SBFTE Jovem Committee	Workshop From the Etnopharmacology studies to Development of New Phytomedicine with impact in the Nationals System of Health. The Priority Field of Research in Latin America.	
17h20-19h00	Poster Session 1		
	Room A		
19h10-20h30	SBFTE Assembly		

October 06 (Thursday)

08h00-08h50	Courses		
Room A	**Room D**	**Room E**	**Room F**
Fundamentos de Anestesiologia em Experimentação Animal (Fundamentos de Anestesiologia em Experimentação Animal)	How to write a Scientific Paper: Theory and practice	How to ensure the reproducibility in my experiment? (Como assegurar a reprodutibilidade no meu experimento?) (Sponsored by FESBE)	PK-PD modeling: Fundamentals and applications (Modelagem PK/PD: Fundamentos e aplicações) Chair: Teresa C. Dalla Costa (UFRGS)
09h00-10h30	Symposia		
Room A	**Room D**	**Room E**	**Room F**
New Approaches for the Treatment of Inflammatory Diseases	Novel Therapeutic Strategies in the Treatment of Cardiovascular Disease	Infectious Disease/Parasite	Pharmacology Aiming New Targets and New Therapies
10h30-11h00	Interval		
11h00-11h50	Conferences		
Room A		**Room E**	
G Protein-Coupled Receptors: Novel Therapeutic Targets for Pain, Addiction, and Obesity		Deciphering neural circuits to develop new anti-anxiety medications	
11h50-13h30	Lunch		
	Room D		
13h30-15h30	José Ribeiro do Valle Award Symposium (Finalists' Oral Communications)		
	Room E		
13h30-15h30	ALF Assembly		
15h30-16h00	Interval		

16h00-17h30	Symposia			
Room A		**Room D**	**Room E**	**Room F**
New Developments in Resolution of Inflammation		Pharmacogenomics in Latin American Populations	New targets and treatments for pulmonary inflammatory diseases	Pain and antinociception pharmacology
18h00-19h00				
SBFTE Jovem		Conference	Mini-Symposium	
Room A		**Room D**	**Room E**	**Room F**
British Journal of Pharmacology: 2016 and beyond		Label-Free, Immobilization-Free Interaction Studies Using Microscope Thermophoresis	Alternative Experimental Model	
	Room E			
20h30-21h30	Rocha e Silva Memorial Lecture			
21h30-22h15	Special Session: SBFTE 50 years Anniversary"			
	"Cheers": A Tribute to Sergio Ferreira			
22h15	Cocktail Celebration			

October 07 (Friday)

08h00-08h50	Courses		
Room A	**Room D**	**Room E**	**Room F**
Fundamentos de Anestesiologia em Experimentação Animal (Fundamentos de Anestesiologia em Experimentação Animal)	How to write a Scientific Paper: Theory and practice	How to ensure the reproducibility in my experiment? (Como assegurar a reprodutibilidade no meu experimento?) (Sponsored by FESBE)	PK-PD modeling: Fundamentals and applications (Modelagem PK/PD: Fundamentos e aplicações)
09h00-09h50	Conferences		
Room E		**Room F**	
Natural Product-Based Drugs: Crossing the valley of death in their development as drugs		New paradigms in vascular redox biology and oxidative stress in hypertension	
10h00-11h40	Poster Session 2 with Coffee-Break		
	Room E		
11h50-12h30	Closing Conference G Protein-Coupled Receptor Allostery in the New Millennium		
12h40-13h15	Awards and Prize Announcements Closing Ceremony		

October 03 (Monday)	
14h00-16h00 Room Paraná IV	Meeting of the SBFTE Deliberative Council (Council and Board of Director's Members (only)
	Pre-Congress Activities
14h00-17h00	**SBFTE e Divulgação de Farmacologia na Escola Pública** (Promoting Pharmacology in Primary Public Schools in Foz do Iguaçu) Colégio Estadual Doutor Arnaldo Busatto (Turmas: 8° Ano) Coordinators: Maria Christina W. Avellar (Unifesp-EPM) and Francois G. Noel (UFRJ)
	Course
15h00-20h00 Room Paraná VI	**Processo de Desenvolvimento de Novos Medicamentos** (Development Process of New Drugs) (pre-registered attendees) Chair: François G. Noel (UFRJ)
16h00-18h00 Room Paraná IV	Meeting of the Presidents of Latin-American Societies of Pharmacology Board of Directors and Deliberative Council Members

	October 04 (Tuesday)
08h00	Venue Secretariat
08h00-12h00	**SBFTE e Divulgação de Farmacologia na Escola Pública** (Promoting Pharmacology in Primary Public Schools in Foz do Iguaçu) Colégio Estadual Cataratas do Iguaçu (Turmas: 7º e 8º Anos) Coordinators: Maria Christina W. Avellar (Unifesp-EPM) and Francois G. Noel (UFRJ)
	Pre-Congress Activities
08h00-13h00	**Course**
Room Paraná VI	**Processo de Desenvolvimento de Novos Medicamentos** (Development Process of New Drugs) Chair: François G. Noel (UFRJ) (pre-registered attendees)
09h00-12h30	**Workshop**
Room A	**Teaching in Pharmacology** Chair: SBFTE/ALF/SBFTE Permanent Forum of Graduate Programs in Pharmacology • 09h00-0 9h30 *Opening Session* • 09h30-10h30 *Initiatives from the BPS for Teaching and Learning in Pharmacology* Simon Maxwell (University of Edinburgh, UK) (Video-Conference) • 10h30-10h45 Interval • 10h45-11-30 *PHARMAVIRTUA: Educational Software for Teaching and Learning Basic Pharmacology* Antonio Fidalgo-Neto (Fiocruz) • 11h30-12h30 General Discussion, Proposals and Closing Remarks
12h30-13h30	**Lunch/Discussions**
13h30-15h30	**Round Table**
Room A	**Innovation in the Biomedical and Pharmaceutical Markets: How to turn an idea into a Product?** Chair: SBFTE Jovem Committee • *The Role of EMBRAPII in Stimulating Innovation. Opportunities for Research Groups in Pharmacology for the Pharmaceutical Industry* Jorge A. Guimarães (EMBRAPII, UFRGS) • *Bridging the Gap Between Academia and Industry: Model for Drug Development in Brazil* Thomas Gerlach (Biozeus)

	• *Knowledge-Intensive Business Services in Brazil: Entrepreneurship in a stimulating scenario* Thais Guaratini (Lychnoflora)

15h30-17h00	**Round Table**
Room A	**Pharmacology in Latin America: Challenges and Perspectives** Chairs: Maria Christina W. Avellar (Brazil) and leticia V,. Costa Lotufo (Brazil) • *Pós-graduação Latino-Americana de Biofísica da SBBF: 10 anos de sucesso!* Marcelo Morales (UFRJ, CNPq) • *Presidents of Societies of Pharmacology in Latin America* Benjamín Castañeda (Peru) Maria Christina W. Avellar (Brazil) Ramón Sotomayor Zárate (Chile) René Delgado Hernández (Cuba) Sergio F. Sánchez Bruni (Argentina)
	Room E
18h00-18h45	**Opening ceremony**
18h45-19h30	**Honorary Session to Helena B. Nader**
	One hundred Years of Heparin and Yet Uncovered Structural and functions Attributes Helena B. Nader (Unifesp-EPM) Introduced by Regina P. Markus (USP)
19h30-20h30	**Opening Lecture**
	Negative Regulation on Inflammatory Cytokines and Chemokines as a General Mechanism of Inhibition and Resolution of Inflammation Alberto Mantovani (Humanitas Clinical and Research Center, Italy) Introduced by Mauro M. Teixeira (UFMG)

	October 05, Wednesday
08h00-08h50	**Courses**
Room A	**Basis of Anesthesia and Pain Management in Animal Experimentation** (Fundamentos de Anestesiologia em Experimentação Animal) Chair: Paulo de Assis Melo (UFRJ) • 1st Class: *Pathophysiology basis of pain and recent action mechanisms of action of different anesthetics agents* (*Os fundamentos de fisiopatologia da dor e recentes mecanismos de ação dos diferentes agentes anestésicos)* Paulo de Assis Melo (UFRJ)
Room D	**How to Write a Scientific Paper: Theory and Practice** Chair: Patrícia Machado Rodrigues e Silva (Fiocruz) • 1st Class: How to write a Scientific Paper: Theory and practice: Part 1 Yeshwant Bakhle (Imperial College, UK)
Room E	**How to ensure the reproducibility in my experiment?** (Como assegurar a reprodutibilidade no meu experimento?) (Sponsored by FESBE) Chair: Marcel Frajblat (UFRJ) • 1st Class: The reproducibility in science in special with animal research (*Reprodutibilidade em ciência, especialmente na pesquisa animal*) Marcel Frajblat (UFRJ)
Room F	**PK-PD Modeling: Fundamentals and Applications** (Modelagem PK/PD: Fundamentos e aplicações) Chair: Teresa C. Dalla Costa (UFRGS) • 1st Class: *PK modeling: Concepts, models and applications* *(Modelagem PK: Conceitos, modelos e aplicações)* Teresa C. Dalla Costa (UFRGS)

09h00-10h30	Symposia
Room A	**Understanding the Pathophysiology of the Side Effects of Chemotherapy Drugs (A Tribute to Ronaldo A. Ribeiro)** Chair: Fernando de Q. Cunha (USP) • *Molecular mechanisms of anticancer drug toxicities as opportunity for better therapeutic approaches* Roberto César Pereira Lima Junior (UFC) • *The importance of studying treatment toxicities in the reality of cancer patients* Helano de Freitas (Hospital A. C. Camargo) • *Resistance mechanisms in cancer therapy: An endless labyrinth*? Luis Felipe Ribeiro Pinto (INCa)
Room D	**New Insights into Purinergic Signaling** Chair: Rosely O. Godinho (Unifesp-EPM) • *Purinergic endothelial signaling and the role of NO in vascular dilatation* Juan Pablo García-Huidobro (Universidad de Santiago de Chile, Chile) • *Purinergic modulation of astrocytic function* Ana Maria Sebastião (University of Lisbon, Portugal) • *The extracellular cyclic AMP–adenosine pathway: Another dimension to cAMP signaling.* Rosely Oliveira Godinho (Unifesp-EPM)
Room E	**Cell Metabolism in Health and Disease** Chair: Rita Tostes (USP) • *Mitochondrial dynamics and mitophagy: novel targets in cardiovascular pharmacology* Sergio Alejandro Lavandero González (Universidad de Chile, Chile) • *Dynamic O-GlcNAcylation and its roles in the cellular stress response and homeostasis.* Natasha E. Zachara (Johns Hopkins University, USA) • *O-GlcNAcylation bridges metabolic reprogramming and regulatory T cell development* José Carlos Farias Alves Filho (USP)
Room F	**Insights into sex hormones, reproductive and urinary pharmacology** Maria Jesus Sanz (University of Valencia, President Spanish Society of Pharmacology). • *Estradiol Improves Endothelial Function Through Estrogen Receptor Alpha* Carlos Hermenegildo University of Valencia, Spain) • CO: 06.083 G-protein coupled estrogen receptor activation reduces cardiac, vascular and skeletal muscle dysfunction in female rats with pulmonary hypertension. Allan Kardec Nogueira de Alencar (UFRJ) • CO: 04.014 Role of estradiol on leukocyte mobilization and systemic chemokines after intestinal ischemia reperfusion in male rats. Fernanda Yamamoto Ricardo da Silva (USP) • CO: 07.006 Hyperlipidic diet establishes a rat model of erectile dysfunction: mechanisms underlying the endothelial damage. Iara Leão (UFPB) • CO: 07.004 Sexual dysfunction of hypertensive female rat improved with chronic ipriflavone treatment in both youth and senescence. Thales de Andrade Martins (UFOP)
10h30-11h00	**Interval**
11h00-11h50	**Conferences**
Room A	**TRP Channels in Inflammatory and Painful Diseases** Pierangelo Geppetti (University of Florence) Introduced by: Juliano Ferreira (UFSC)
Room D	**Orphan Drug Development for Duchenne Muscular Dystrophy by Protein Crystallization in Space** Yoshihiro Urade (University of Tsukuba, Japan) Introduced by: Carlos F. de Mello (UFSM)
Room E	**Molecular Aspects of Corticosteroids in Cardiomyocytes define new Approaches for the Treatment of Heart Disease** John Cidlowski (NIH/NIEHS, USA) Introduced by: Maria Christina W. de Avellar
11h50-13h30	**Lunch**

13h30-15h00	Symposia
Room A	**Translational Approach in Drug Development: Challenge from Medicinal Chemistry to Patient** Chair: Roberto Takashi Sudo (UFRJ) • *Challenges in drug design & discovery at LASSBio-UFRJ: The first 20 years!* Eliezer de Lacerda J. Barreiro (UFRJ) • *Science, Art and Drug Discovery, a Personal Perspective* Simon Campbell (Former SVP for WW Discovery at Pfizer) • *Translational approach in the development of new anti-*T. cruzi *drugs: Trying to surpass the "Hit-to-Lead" phase* Hugo Cerecetto (Universidade de la Republica, Montevideo)
Room D	**Reflection on the Advancement of Knowledge on Drug Addiction** Rosana Camarini (USP) • *Role of glycine receptors on ethanol behaviors* Luis Aguayo Hernandez (Universidad de Concepción, Chile) • *Mechanisms responsible for the behavioral effects of cannabidiol* Francisco Silveira Guimarães (USP) • *Cocaine and the excitatory-inhibitory balance: The role of GABA* Helena Maria Tannhauser Barros (UFCSPA)
Room E	**New Perspectives in the Nitrite/Nitrate/Nitric Oxide Pathway** Chair: Jamil Assreuy (UFSC) • *Therapeutic opportunities from the nitrate-nitrite-nitric oxide pathway in cardiovascular disease* Amrita Ahluwalia (William Harvey Res Institute) • *Vascular pharmacology of Nitric Oxide released from NO donors* Lusiane Bendhack (USP) • *Role of dietary nitrate on systemic and local changes induced by oral inflammation* Daniel Fernandes (UEPG)
Room F	**Drug Development in Brazil** Chair João Massud Filho (Trials Consulting)) • *Development of pre-clinical studies in Brazil* João B. Calixto (CIENP) • *Advances and obstacles for clinical research in Brazil* Gustavo Kesselring (President SBMF) • *Drug development in Brazil: The internationalization of Brazilian origin technologies in the area of drugs and health.* Arnaldo da Silva Junior (ScieNova)
15h00-15h30	**Interval**
15h30-16h15	**Conference**
Room A	**Cell-Death Assessment and Cytokine Quantification by Flow Cytometry** André Cardoso (BD Life Sciences)
15h30-17h15 Room D	**SBFTE Jovem**
	Meet the Professor Chair: SBFTE Jovem Committee • Alberto Mantovani (Humanitas Clinical and R. Center, Italy) • Arthur Christopoulos (Monash University, Australia) • Daniel Berwick (the Open University, UK) • John L. Wallace (University of Calgary, Canada) • Lakshmi A. Devi (Mount Sinai School of Medicine, USA) • Mauro Perretti (William Harvey Research Institute, UK) • Renato Cordeiro (Fiocruz) • Rita Tostes (USP) • Salvador Moncada (University of Manchester, UK) • Sergio F. S. Bruni (UNICEN, Argentina) • Tereza C. Dalla-Costa (UFRGS)

15h30-17h15	**Workshop**
Room E	**From the Etnopharmacology studies to Development of New Phytomedicine with impact in the Nationals System of Health. The Priority Field of Research in Latin America.** Chairs: René Delgado Hernandez (Pharmacy and Food Institute, Cuba) / Wim Vanden Berghe (Antwerp University, Belgium) • *Modulation of metabolizing systems and transporters as novel pharmacological targets in cancer therapy, its impact in the human health.* Idania Rodeiro Guerra (Marine Bioproduct Institute, Cuba) • *Promises and challenges of phytochemicals as epigenetic modifiers in cancer prevention, treatment and therapy sensitization* Wim Vanden Berghe (Antwerp University, Belgium) • *Isolated mitochondria as a useful experimental system in drugs-toxicological researches of natural products* Gilberto L. Pardo Andreu (Havana University, Cuba) • *Antitumoral and antimetastatic effects of proteases from* Vasconcellea cundinamarcensis Miriam Teresa Paz Lópes (UFMG) • *Methodological issues in herbal interventions clinical trial* Maria Acelia Marrero Miragaya (Center of Clinical Trials, Cuba) • *Regulatory status of herbal medicines. World health organization (WHO) strategy about herbal medicines. Considerations about Cuba.* Diadelis Remirez Figueredo (National Centre of the State Quality Control of Drugs, Equipment and Medical Devices, Cuba)
17h20-19h00	**Poster Session 1**
	01. Cellular and Molecular Pharmacology (01.001-01.006; 01.013-01.024) 02. Neuropharmacology (02.001-02.012; 02.019-02.028; 02.035-02.040; 02.046-02.054) 03. Psychopharmacology (03.001-03.005; 03.011-03.022; 03.026 03.027) 04. Inflammation and Immunopharmacology (04.001-04.030; 04.036; 04.041; 04.051-04.062; 04.069-04.082; 04.089-04.095; 04.102-04.106) 05. Pain and Nociception Pharmacology (05.001-05.020; 05.031-05.035; 05.036; 05.042-05.049; 05.056-05.064; 05.068) 06. Cardiovascular and Renal Pharmacology (06.001-06.026; 06.042-06.053; 06.059-06.073; 06.079-06.083; 06.089-06.0940) 07. Endocrine, Reproductive and Urogenital Pharmacology 07.001-07.005; 07.011-07.021 08. Respiratory and Gastrointestinal Pharmacology (08.001-08.005; 08.010-08.012; 08.017-08.023) 09. Natural Products and Toxinology (09.001-09.015; 09.028-09.039; 09.046-09.050; 09.057-09.067) 10. Cancer Pharmacology (10.001-10.006; 10.012-10.017; 10.023-10.025) 11. Clinical Pharmacology, Pharmacokinetics, Pharmacogenomics and Toxicology (11.001-11.007; 11.020-11.026) 12. Drug Discovery and Development (12.001-12.004; 12.009-12.017; 12.022-12.027) 13. Pharmacology Education and Technology (13.002-13.004) 14. Pharmacology: Other (14.001-14.005; 14.010-14.017)
19h10-20h30 Room A	**SBFTE Assembly**

	October 06 (Thursday)
08h00-08h50	**Courses**
Room A	**Fundamentos de Anestesiologia em Experimentação Animal** (Fundamentos de Anestesiologia em Experimentação Animal) Coordinator: Paulo de Assis Melo (UFRJ) • 2nd Class: *Experimental anesthesia models with mammals, reptiles and fishes: Agents and procedures* (*Modelos experimentais de anestesia com mamíferos, répteis e peixes, agentes e procedimentos*) Paulo de Assis Melo (UFRJ)
Room D	**How to write a Scientific Paper: Theory and practice** Chair: Patrícia Machado Rodrigues e Silva (Fiocruz) • 2nd Class: *How to write a Scientific Paper : Theory and practice: Part 2* Yeshwant Bakhle (Imperial College, UK)
Room E	**How to ensure the reproducibility in my experiment?** (Como assegurar a reprodutibilidade no meu experimento?) (Sponsored by FESBE) Chair: Marcel Frajblat (UFRJ) • 2nd Class: *Laboratory animal genetics and its role on reproductibility* (*A genética do animal de laboratório e seu papel em reprodutibilidade*) Marcel Frajblat (UFRJ)
Room F	**PK-PD modeling: Fundamentals and applications** (Modelagem PK/PD: Fundamentos e aplicações) Chair: Teresa C. Dalla Costa (UFRGS) • 2nd Class: *PD modeling: Concepts, models and applications* (*Modelagem PD: conceitos, modelos e aplicações*) Bibiana Verlindo de Araujo (UFRGS)
	ALF Assembly
09h00-10h30	**Symposia**
Room A	**New Approaches for the Treatment of Inflammatory Diseases** Chair Fernando Spiller (UFSC) • *Roles for Siglecs in Modulating Immune Cells* Matthew S. Macauley (The Scripps Research Institute) • *New targets in rheumatoid arthritis* Paulo Louzada Junior (USP) • *Th17 and IL-17 in CNS diseases* Ari Waisman (University of Mainz)
Room D	**Novel Therapeutic Strategies in the Treatment of Cardiovascular Disease** Chair: Lucia Rossetti Lopes (USP) • *Cell Specific targeted therapies of vascular disease* Francis Joseph Miller (Duke University, USA) • *Pathophysiological implications of protein disulfide isomerase in cellular redox signaling* Francisco R. M. Laurindo (InCor-HC-USP) • *Nitro-fatty acids as anti-inflammatory signaling mediators in vascular cells* Andres Trostchansky (Universidade de La Republica, Uruguay)
Room E	**Infectious Disease/Parasite** Chair: Mauro M. Teixeira (UFMG) • *Suppression of inflammation by helminth parasites: A pharmacopeia of possibilities* Derek M. McKay (University of Calgary, Canada) • *The liver educates new macrophages to rapidly capture bacteria in the blood flow* Gustavo B. de Menezes (UFMG) • OC: 02.047 Memantine prevents brain damage induced by *Zika virus* infection. Costa VV[1], Del Sarto JL[2], Rocha RF[2], Marques RE[2], Esper L[2], Ribeiro LS[3], Ribeiro F[2], Ribeiro F[2], Vieira THF[2], Souza DG[3], Ribeiro F[2], Teixeira MM[2] [1]UFMG – Bioquímica e Imunologia, [2]UFMG – Bioquímica e Imunologia, [3]UFMG – MicrobiologiaOC*: To be Announced* • *OC:* 06.072 *Simvastatin reduces endothelial adhesion molecules through 15-epi-lipoxin A4 production on a murine model of chronic Chagas cardiomyopathy*. Fabiola Gonzáles-Herrera (University of Chile, Chile)

Room F	**Pharmacology Aiming New Targets and New Therapies** Marcelo N. Muscará (USP) • *Is mitochondrial-targeted hydrogen sulfide H_2S a viable therapeutic opportunity?* Matthew Whiteman (NIH) • *Wnt signaling and the way to new Parkinson's disease therapies.* Daniel Berwick (the Open University, UK) • *Melatonergic system as a new target for cancer therapeutic strategies* Regina P. Markus (USP)
10h30-11h00	**Interval**
11h00-11h50	**Conferences**
Room A	**G Protein-Coupled Receptors: Novel Therapeutic Targets for Pain, Addiction, and Obesity** Lakshmi A Devi (Mount Sinai School of Medicine, USA) Introduced by: Cristoforo Scavone (USP)
Room D	**Deciphering neural circuits to develop new anti-anxiety medications** Andrew Holmes (NIH, USA) Introduced by: Silvana Chiavegatto (USP)
11h50-13h30	**Lunch**
13h30-15h30 Room D	**José Ribeiro do Valle Award** Chair: Maria Christina W. Avellar (Unifesp-EPM) Coordination: JRV Evaluation Committee
	Isadora Ramos de Andrade • 01.024 *Obese adipose tissue contributes to increase proliferation, migration and invasion in breast cancer cells*. Andrade IR[1], Renovato-Martins M[1], João JA[2], Matheus ME[2], Silva SV[1], Bouskela E[1], Souza AP[2], Cláudio-da-Silva C[2], Barja-Fidalgo TC[1] [1]UERJ , [2]UFRJ *Flávio* Protásio Veras • 04.041 *Pyruvate kinase M2 (PKM2), an isoenzyme of the glycolytic pathway, is pivotal to the development of psoriasis*. Veras F[1], Prado D[1], Melo B[1], Tartari P[1], Melo P[1], Costa L[2], Cecilio N[1], Publio G[1], Alves M[3], Lima D[4], Nakaya H[4], Sales K[3], Souza C[2], Cunha FQ[5], Alves-Filho JC[5] [1]FMRP-USP - Farmacologia, [2]FMRP-USP - Clínica Médica, [3]FMRP-USP - Biologia Celular e Molecular, [4]FCF-USP - Análises Clínicas e Toxicológicas, [5]CRID-FMRP-USP *Davidson Furtado Dias* • *04.048 Atypical chemokine receptor ACKR2 contributes to the development of lung fibrosis in silicotic mice.* Dias DF[1], Correa AMC[1], Pereira JG[1], Arantes ACS[1], Cordeiro RSB[1], Graham G[2], Martins MA[1], Silva PMR[1] [1]Fiocruz - Inflammation, [2]University of Glasgow - Infection, Immunity and Inflammation *Douglas Almeida* • *05.046 Diabetic neuropathy is modulated by cannabinoid and opioid systems in obese mice.* Almeida D[1], Freitas Lima LC, Valadares WCP, Quintão JL[2], Silva JF[3], Romero TRL[2], Santos SHS [1]ICB-UFMG - Fisiologia e Farmacologia, [2]ICB-UFMG - Farmacologia, [3]ICB-UFMG - Fisiologia e Biofísica *Gabriela* S Kinker • *10.001 Melatonin receptors as pharmacological targets for glioma therapy.* Kinker GS[1], Oba-Shinjo SM[2], Carvalho-Sousa CE[1], Muxel SM[1], Marie SKN[2], Markus RP[1], Fernandes PA[1] [1]IB-USP - Fisiologia, [2]FM-USP- Neurologia
15h30-16h00	**Interval**

16h00-17h30	Symposia
Room A	**New Developments in Resolution of Inflammation** Chair: John L. Wallace • *The plasminogen/plasmin system on resolution of inflammation* Lirlândia Pires de Sousa (UFMG) • *Resolution activities and signaling: Impact on tissue repair* Mauro Perretti (William Harvey Res Institute) • *Hydrogen Sulfide is a Pro-Resolution Signaling Molecule* John L. Wallace (University of Calgary)
Room D	**Pharmacogenomics in Latin American Populations** Guilherme Suarez Kurtz (INCa) • *Pharmacogenomics in Peruvian populations* Alberto Salazar Granara (SOPFARTEX, USMP) • *Pharmacogenomics of antiretroviral therapy adverse effects in Brazil* Vanessa Suñé Mattevi (UFCSPA) • *Parkinson's disease pharmacogenomics: New findings and perspectives* Mara Helena Hutz (UFRGS, Refargen)
Room E	**New targets and treatments for pulmonary inflammatory diseases** Chair: Patrícia Machado Rodrigues e Silva (Fiocruz) • *Stem cells in chronic pulmonary inflammatory diseases* Patricia Rieken Macedo Rocco (UFRJ) • *Pharmacological strategies to enhance the resolution of inflammation* Adriano Rossi (University of Edinburgh) • *A novel N-acylhydrazone derivative accelerates resolution of lung injury induced by silica particles in mice: potential interaction with A_{2A}receptor* Vinicius de Frias Carvalho (Fiocruz)
Room F	**Pain and antinociception pharmacology** Chair: José Carlos Alves Filho (USP) • *New Alternatives for Treatment of Chronic Pain* Gisele Zapata-Sudo (UFRJ) • 05.010 *HUF-101, a cannabidiol analog, decreases nociception in mice via facilitation of endocannabinoids receptors-mediated neurotransmission.* Nicole Rodrigues da Silva (USP) • CO: 05.011 *Environmental enrichment induced-analgesia after CCI injury involves endogenous opioids release in rats*. Louise Faggionato Kimura Vieira (IBu) • CO 05.015 *Participation of opioid and cannabinoid endogenous systems in peripheral neuropathic pain modulation.* Daniel Portela Dias Machado (UFMG) • CO 05.027 *Quercetin inhibited Granulocyte-Colony Stimulating Factor (G-CSF)-induced mechanical hyperalgesia in mice: effect on cytokine production and NO-Cyclic GMP-Protein Kinase G-ATP-sensitive potassium channel signaling pathway and NFκB activation* Thacyana Teixeira de Carvalho (UEL)
18h00-19h00	
SBFTE Jovem Room A	**British Journal of Pharmacology: 2016 and beyond** Amrita Ahluwalia (William Harvey Res Institute)
Conference Room D	**Label-Free, Immobilization-Free Interaction Studies Using Microscope Thermophoresis** Daniel Maturana (Nanotemper Tecnologies)
Mini-Symposium Room E	**Alternative Experimental Model** Chair: João B. Calixto (UFSC) • *Reconstructed Human Epidermis (RHE): From Skin Irritation to Skin Sensitization* Rodrigo De Vecchi (L'Oréal R&I) • *RENAMA: The Brazilian Network for Alternative Methods to Animal Testing* Fabiano Borba Guimarães (MCTIC) • *Open discussion*

	Room E
20h30-21h30	**Rocha e Silva Memorial Lecture** **The Joy of Discovery: My Life in Pharmacology** Salvador Moncada (University of Manchester, UK) Introduced by: Jamil Assreuy (UFSC)
21h30-22h15	**Special Session: SBFTE 50 years Anniversary"**
	"Cheers": A Tribute to Sergio Ferreira Chair: Fernando de Q. Cunha (USP) • *SHF and BPF* Yeshwant Bakhle ((Imperial College, UK)) • *Nociceptor: From Sherrington to SHF* Thiago M. Cunha (USP)
22h15	**Cocktail Celebration**

	October 07 (Friday)
08h00-08h50	**Courses**
Room A	**Fundamentos de Anestesiologia em Experimentação Animal** (Fundamentos de Anestesiologia em Experimentação Animal) Chair: Paulo de Assis Melo (UFRJ) • 3rd Class: *Basis and national and international rules for pain control for pain control and anesthesia in testing – Rules and results interference* *(Fundamentos e regras nacionais e internacionais para o controle da dor e anestesia em animais de experimentação – regras e interferências nos resultados)* Paulo de Assis Melo (UFRJ)
Room D	**How to write a Scientific Paper: Theory and practice** Chair: Patrícia Machado Rodrigues e Silva (Fiocruz) • *How to write a Scientific Paper : Theory and practice: Part 2* Yeshwant Bakhle (Imperial College, UK)
Room E	**How to ensure the reproducibility in my experiment?** (Como assegurar a reprodutibilidade no meu experimento?) (Sponsored by FESBE) Chair: Marcel Frajblat (UFRJ) • 3rd Class: *The influence of environment, housing, and management on animal research* (A influência do ambiente, hospedagem e manuseio em pesquisa animal) Marcel Frajblat (UFRJ)
Room F	PK-PD modeling: Fundamentals and applications **(Modelagem PK/PD: Fundamentos e aplicações)** **Chair: Teresa C. Dalla Costa (UFRGS)** • ***Integrating PK and PD: building PK/PD models for linear, non-linear and mixed effects (Integrando PK e PD: construindo modelos PK/PD para efeitos lineares, não-lineares e mistos)*** **Bibiana Verlindo de Araujo (UFRGS)**
09h00-09h50	**Conferences**
Room E	**Natural Product-Based Drugs: Crossing the valley of death in their development as drugs** David Newman (Newman Consulting LLC USA) Introduced by: Leticia V. Costa Lotufo (USP)
Room F	**New paradigms in vascular redox biology and oxidative stress in hypertension** Rhian M Touyz (University of Glasgow, UK) Introduced by: Rita Tostes (USP)

10h00-11h40	Poster Session 2 with Coffee-Break
	01. Cellular and Molecular Pharmacology (01.007-01.012; 01.025-01.034) 02. Neuropharmacology (02.013-02.018; 02.029-02.034; 02.041-02.045; 02.055-02.061) 03. Psychopharmacology (03.006-03.010; 03.023-03.025; 03.028) 04. Inflammation and Immunopharmacology (04.031-04.035; 04.037-04.040; 04.042-04.050; 04.063-04.068; 04.083-04.088; 04.096-04.101) 05. Pain and Nociception Pharmacology (05.021-05.030; 05.037-05.041; 05.050-05.055; 05.065; 05.067) 06. Cardiovascular and Renal Pharmacology (06.027-06.041; 06.054-06.058; 06.074-06.078; 06.084-06.088; 06.095-06.099) 07. Endocrine, Reproductive and Urogenital Pharmacology (07.006-07.010; 07.022-07.023) 08. Respiratory and Gastrointestinal Pharmacology (08.006-08.009; 08.013-08.016; 08.024-08.027) 09. Natural Products and Toxinology (09.016-09.027; 09.040-09.045; 09.051-09.056; 09.068-09.072) 10. Cancer Pharmacology (10.007-10.011; 10.018-10.022) 11. Clinical Pharmacology, Pharmacokinetics, Pharmacogenomics and Toxicology (11.008-11.019) 12. Drug Discovery and Development (12.005-12.008; 12.018-12.021) 13. Pharmacology Education and Technology (13.001) 14. Pharmacology: Other (14.006-14.009)
	Room E
11h50-12h30	**Closing Conference**
	G Protein-Coupled Receptor Allostery in the New Millennium Arthur Christopoulos (Monash University, Australia) Introduced by: André Sampaio Pupo (Unesp-Botucatu)
12h40-13h15	Awards and Prize Announcements Final Remarks Closing Ceremony

01. Cellular and Molecular Pharmacology

01.001 Protective effect of (-)-α-Bisabolol in a Model of Ischemia/Reperfusion in renal tubular cells. Sampaio TL[1], Bezerra de Menezes RRPP[1], de Azevedo IEP[2], Meneses GC[1], da Costa MFB[1], Medrado KA[2], Martins AMC[2] [1]UFC – Farmacologia, [2]UFC – Análises Clínicas e Toxicológicas

01.002 Membrane cholesterol regulates IL-10 secretion and tumor cell migration. Selos F[1], Fernandes PD[1], Costa ML[2], Mermelstein C[2] [1]UFRJ – Farmacologia e Química Medicinal, [2]UFRJ – Biologia Celular e Molecular

01.003 Host response of miRNA profile to enteroaggregative. *Escherichia coli* **infected mice fed with zinc deficient diet** Prata MGP[1], Bolick DT[2], Kolling GL[2], Havt A[1], Guerrant RL[2], Lima AAM[1] [1]IBISAB-UFC – Fisiologia e Farmacologia, [2]University of Virginia – Infectious Diseases and International Medicine

01.004 Capsaicin activates macrophages and adrenocortical cells by TRPV1-dependent mechanism. Ferreira LGB[1], Silva PMR[1], Martins MA[1], Faria RX[2], Carvalho VF[1] [1]Fiocruz – Inflamação, [2]Fiocruz – Toxoplasmose

01.005 Preeclampsia prevents plasticity in alpha1-adrenoceptors from rat abdominal aortae: Contribution to the pathophysiology. Silva KP, Caldeira-Dias M, Possomato-Vieira JS, Golçalves-Rizzi VH, Sandrim VC, Dias-Junior CA, Pupo AS IBB-Unesp-Botucatu – Farmacologia

01.006 Anti-Apis serum failed to antagonize cytotoxicity induced by *Apis mellifera* **venom** *in vitro.* Jhonatha-Cruz JM[1], Tavares-Henriques MS[1], Strauch MA[2], Barraviera B[3], Ferreira-Junior RS[3], Quintas LEM[1], Melo PA[1] [1]UFRJ – Farmacologia, [2]IVB – Diretoria Científica, [3]Unesp – Venenos e Animais Peçonhentos

01.013 Bioactivity and cytotoxicity evaluation of Botulinum toxin Type A. Xavier B, Silva FS, Remuzzi GL, Silveira AR, Dalmora SL UFSM – Farmácia Industrial

01.014 Friedelin regulates migration and extracellular matrix synthesis in fibroblasts. Carmo JOS[1], Ferro JNS[1], Conserva LM[2], Barreto E[1], Correia ACC[1,3] [1]UFAL- Biologia Celular, [2]UFAL- Química de Produtos Naturais, [3]UFAL- Nutrição

01.015 Fenofibrate promotes weight loss in mice via miR-103. Rocha KC[1], Frias FT[1], Sousa E[1], Cruz MM[2], Rodrigues AC[1] [1]USP – Farmacologia, [2]Unifesp-Diadema – Ciências Biológicas

01.016 Prenatal alcohol exposure can change the expression of genes related to Osteogenesis in pre-osteoblasts of newborns rats. Carvalho ICS[1], Milhan NVM[2], Barros PP[2], Back-Brito GN[2], Jorge AOC[2], Godoi BH[1], Moraes CDGO[1], Rocha RF[2], Pacheco-Soares C[1] [1]UNIVAP – Biologia Celular e Molecular, [2]Unesp – Ciências Biológicas e Odontologia

01.017 Treatment of diet-induced obese mice with pioglitazone causes decrease of MIR-23b by adiponectin-independent pathway in skeletal muscle. Mendonça M, Sousa E, Rodrigues AC ICB-USP – Farmacologia

01.018 Cilomilast inhibits elastase-induced lung emphysema in mice Cunha LCL[1], Souza ET[2], Martins MA[2], Silva PMR[2] [1]UERJ – Ciências Biológicas, [2]Fiocruz – Farmacologia Bioquímica e Molecular

01.019 Evaluation of an *in vitro* **cell culture bioassay for the potency assessment of recombinant human erythropoietin.** Perobelli RF, Xavier B, Maldaner FPS, Walter ME, Motta LGJ, Dalmora SL UFSM – Farmácia Industrial

01.020 Investigation of the role of endothelial $P2Y_2$ and $P2Y_6$ receptors in leukocyte adhesion during mesenteric inflammation caused by schistosomiasis. Pereira LM, Silva CLM UFRJ – Farmacologia e Inflamação

01.021 Melanoma-derived microvesicles induce human neutrophils polarization. Guimarães-Bastos DA[1], Frony AC[1], Saldanha-Gama R[1], Moraes JA[1,2], Barja-Fidalgo TC[1] [1]UERJ – Biologia Celular e Molecular, [2]UFRJ – Farmacologia Bioquímica e Celular

01.022 Neutrophil microparticles: generation and role on inflammation. Frony AC[1], Moraes JA[2], Barcellos-de-Souza P[3], Cunha M, Boisson-Vidal C[4], Barja-Fidalgo TC[1] [1]UERJ, [2]UFRJ, [3]INCa, [4]INSERM

01.023 Expression of the estrogen receptors in DU-145 human prostate cancer cells. Souza DS, Lombardi APG, Lucas TFG, Porto CS [1]Unifesp-EPM – Farmacologia

01.024 Obese adipose tissue contributes to increase proliferation, migration and invasion in breast cancer cells. Andrade IR[1], Renovato-Martins M[1], João JA[2], Matheus ME[2], Silva SV[1], Bouskela E[1], Souza AP[2], Cláudio-da-Silva C[2], Barja-Fidalgo TC[1] [1]UERJ, [2]UFRJ

02. Neuropharmacology

02.001 Schizophrenia-related behavioral changes induced by repeated activation of cannabinoid receptors during brain development in mice. Gonçalves PFR, Macena MV, Silva FMR, Neves G – UFRJ

02.002 Cognitive decline in the Streptozotocin-induced model of Alzheimer's disease may be related to neuroinflammation and impairment in adult neurogenesis. Bassani TB[1], Machado MMF[1], Bonato JM[2], Oliveira RMMW[2], Vital MABF[1] [1]UFPR- Farmacologia, [2]UEM – Farmacologia e Terapêutica

02.003 α2 Na^+,K^+-ATPase silencing induces loss of LPS response and ouabain protection in glial cells. Kinoshita PF[1], Yshii LM[2], Orellana AMM[1], de Sá Lima L[1], Kawamoto EM[1], Scavone C[1] [1]ICB-USP – Farmacologia, [2]INSERM

02.004 We declare the Nigrostriatal pathway guilty: From sleep disturbances to cognitive deficits. Targa A[1], Rodrigues LS[1], Noseda ACD[1], Aurich MF[1], Andersen ML[2], Tufik S[2], Lima MMS[1] [1]UFPR- Fisiologia, [2]Unifesp – Psicobiologia

02.005 Quercetin reduces manic-like behavior and brain oxidative stress induced by paradoxical sleep deprivation in mice. Kanazawa LKS[1], Vecchia DD[1], Wendler EM[1], Hocayen PAS[1], Lívero FAR[1], Stipp MC[1], Barcaro IMR[1], Acco A[1], Andreatini R[1] [1]UFPR- Farmacologia

02.006 (+)-Dehydrofukinone inhibits calcium influx in mice cortical synaptosomes. Garlet QI[1], Pires LC[2], Milanesi LH[1], Mello CF[1], Heinzmann BM[3] [1]UFSM – Farmacologia, [2]UFSM – Farmácia, [3]UFSM – Farmácia e Farmacologia

02.007 Hippocampal gene expression profiling reveals anti-epileptogenic targets in a rat model of hyperthermic seizures. Azevedo H, Khaled N, Santos P, Bertonha F, Moreira-Filho CA FM-USP – Pediatria

02.008 Effect of ketamine in ultrasonic vocalizations in animal model of Parkinson's disease. Vecchia DD, Kanazawa LKS, Wendler E, Hocayen PAS, Vital MABF[1], Miyoshi E, Schwarting R, Andreatini R[1] [1]UFPR-Farmacologia

02.009 The effects of ethyl-acetate fraction (EAF) of *Trichilia catigua* (Catuaba) on memory deficit after global cerebral ischemia in rats. Godinho J, Bacarin CC, Huzita CH, Milani H, Oliveira RMW

02.010 Ouabain ameliorates synaptic plasticity and long-Term memory impairments induced by Chronic Unpredictable Stress. Leite JA, Orellana AMM, Andreotti DZ, dos Santos NB, de Sá Lima L, Kawamoto EM, Munhoz CD, Scavone C ICB-USP – Farmacologia

02.011 Role of brain-derived neurotrophic factor in the basolateral nucleus of amygdala in the modulation of anxiety behaviors. Matthiesen M[1], Sousa RM[1], Frias AT, Zangrossi Junior H FMRP-USP – Farmacologia

02.012 Effect of riparin IV in cognitive function in mice exposed to chronic stress induced by corticosterone. Chaves RC[1], Vasconcelos AS[1], Oliveira NF[1], Oliveira ICM[1], Rodrigues GC[1], Lopes IS[1], Valentim JT[1], Fernandes ML[1], Gutierrez SJC[2], Sousa FCF[1] [1]UFC – Fisiologia e Farmacologia, [2]UFPI – Bioquímica e Farmacologia

02.019 Effect of naringenin on prevention of oxidative stress in a model of mania induced by lisdexamfetamine. Rosa LD[1], Nobre CA[1], Gomes MJP[1], Macêdo AJR[1], Turbano MCN[1], Prado SMC[2], Aguiar LMV[2] [1]INTA, [2]UFC

02.020 Effects of 5-HT_{2A} antagonist volinaserin on pre-pulse inhibition of startle reflex and working memory deficits induced by MK-801 Macena MV[1], Neves GA[1], Marques AM[1] [1]UFRJ – Ciências Biomédicas

02.021 New cholinesterase inhibitors derived from cardanol for Alzheimer's disease. Boni MS[1], Guimarães MJR[1], Silva FMR[1], Couto GC[1], Castro NG[1], Romeiro LAS[2] [1]UFRJ, [2]UCB

02.022 Evaluation of the new anticholinesterasic drug PQM-56 in memory deficit and neurodegeneration induced by Aβ 1-40. da Silva MCM[1], Bellozi PMQ[1], Junior WOC[1], Campos AC[2], Machado RP[3], Viegas Junior C[3], de Oliveira ACP[1] [1]UFMG – Farmacologia, [2]USP, [3]Unifal

02.023 Auricular electrical stimulation of vagus nerve as an alternative to pharmacological treatment of canine idiopathic epilepsy. Santos RSS, Carneiro RA EV-UFMG – Clínica e Cirurgia Veterinárias

02.024 Cheek injection of the selective TRPV4 agonist GSK1016790A elicited scratching behavior in mice. Cruz JVR[1], Matias OD[2], Dias FC[2], Alves VS[2], Miranda ALP[2], Figueiredo CP[2], Costa R[2] [1]ICB-UFRJ, [2]UFRJ – Farmácia

02.025 Etoricoxib blunts pentylenetetrazole-induced seizures and proinflammatory cytokine levels increase in mice. Londero AL[1], Temp FR[1], Marafiga JR[1], Duarte T[1], Jesse AC[1], Milanesi LH[1], Hessel AT[1], Mello CF[2] [1]UFSM, [2]UFSM – Fisiologia e Farmacologia

02.026 Effect of naringenin on reversion of oxidative stress in a model of mania induced by lisdexanfetamin. Macêdo AJR[1], Nobre CA[2], Rosa LD[1], Gomes MJP[1], Campêlo JAC[1], Araújo AB[2], Aguiar LMV[2] [1]INTA, [2]UFC

02.027 Effect of naringenin on prevention and revertion of neuroinflammation through the tumor necrosis factor α dosage in a model of mania induced by lisdexanfetamin. Gomes MJP[1], Nobre CA[2], Turbano MCN[1], Rosa LD[1], Macêdo AJR[1], Val DR[2], Aguiar LMV[2] [1]INTA, [2]UFC

02.028 NOS enzymes play a role in oxidative stress of hippocampal cells injured by glutamic acid or conditioned medium of microglia activated by Interferon gamma. Montenegro NA, Titze-de-Almeida SS, Titze-de-Almeida R UnB

02.035 Changes in α-Na,K-ATPase isoform expression and NMDAR-NOS signaling in hippocampus of klotho mutant mice, a genetic model of aging. Cararo MM, Mazucanti CH, Sala T, Andreotti D, de Sá Lima L, Scavone C, Kawamoto EM ICB-USP – Farmacologia

02.036 DNA methylation inhibitors modulate neuritogenesis in SH-SY5Y neuroblastoma cells Cantelmo RA[1], Santos NAG[2], Santos AC[2], Joca SRL[1] [1]FCFRP-USP – Ciências Farmacêuticas, [2]FCFRP-USP – Toxicologia

02.037 The inhibitory effect caused by choline in neuromuscular transmission is mediated at 50 HZ by activation of A1 and A2A receptors on motor nerve terminal. Castellão-Santana LM[1], Abiko PY[1], Ambiel CR[2], Correia-de-Sá P[3], Alves-do-Prado W[1] [1]UEM – Farmacologia e Terapêutica, [2]UEM – Ciências Fisiológicas, [3]Universidade do Porto – Farmacologia

02.038 Pioglitazone reduces the activation of the NF-κB in the 6-OHDA model of Parkinson's disease. Machado MMF[1], Moura ELR[1], Bassani TB[1], Cóppola V[2], Zanata S[2], Vital MABF[1] [1]UFPR- Farmacologia, [2]UFPR-Patologia

02.039 Effects of neuronal PTEN haploinsufficiency on memory and synaptic markers. Cabral-Costa JV[1], Andreotti DZ[1], Mattson MP[2], Camandola S[2], Scavone C[1], Kawamoto EM[1] [1]ICB-USP – Farmacologia, [2]NIA-NIH

02.040 Biochemical and behavioral effects of the pre-treatment with the inverse agonist of CB1 in the inflammatory signaling triggered by LPS in mice. de Souza BLS, Andreotti DZ, Scavone C, Kawamoto EM ICB-USP – Farmacologia

02.046 Involvement of H_2S pathway in behavioral changes in pilocarpine-induced seizure model. Rios ERV[1], Silva AH[2], Carvalho AMR[1], Vasconcelos LF[1], Carvalho MAJ[1], Souza DAA[1], Oliveira JVS[1], Fonteles MMF[2] [1]UFC – Fisiologia e Farmacologia, [2]UFC – Farmácia

02.047 Memantine prevents brain damage induced by *Zika virus* infection. Costa VV[1], Del Sarto JL[2], Rocha RF[2], Marques RE[2], Esper L[2], Ribeiro LS[3], Ribeiro F[2], Ribeiro F[2], Vieira THF[2], Souza DG[3], Ribeiro F[2], Teixeira MM[2] [1]UFMG – Bioquímica e Imunologia, [2]UFMG – Bioquímica e Imunologia, [3]UFMG – Microbiologia

02.048 Kinin B2 receptor as a target for the treatment of Alzheimer's disease Nunes MA[1], Dong-Cresti KE[1], Baraldi-Tornisielo T[1], Schöwe NM[2], Cheloni JA[1], D'Amaro G[1], Caetano AL[1], Farah D[3], Irigoyen MCC[3], de Angelis K[4], Gobeil F[5], Viel TA[6], Buck HS[1] [1]FCMSCSP – Ciências Fisiológicas, [2]USP – Ciências Farmacêuticas, [3]InCor-HC-USP – Hipertensão Experimental, [4]Uninove, [5]Université de Sherbrooke – Pharmacology, [6]EACH-USP

02.049 A novel potential target to Alzheimer's disease: Transient Receptor Potential Ankyrin 1 (TRPA1). Bicca MA[1,2], Santos ECS[1], Viola KL[2], Loch-Neckel G[1], Klein WL[2], Calixto JB[1] [1]UFSC – Farmacologia, [2]Northwestern University – Neurobiology

02.050 Topic Dexamethasone impairs protein synthesis and neuronal regeneration in the olfactory epithelium. Crisafulli U[1], Xavier AM[2], Cambiaghi TD[3], Santos FB[2], Castilho BA[3], Porcionatto M[2], Malnic B[1], Glezer I[2] [1]USP – Bioquímica, [2]Unifesp-EPM – Bioquímica, [3]Unifesp-EPM – Biologia Celular e Molecular

02.051 Test of ONO-8713, a PGE2 EP1 selective receptor antagonist, on potential benefits in Alzheimer mouse models subjected to stroke. Mendes FR[1], Doré S[2] [1]UFABC – Ciências Naturais e Humanas, [2]University of Florida – Anesthesiology, Neurology, Psychiatry, Psychology, Pharmaceutics, Neuroscience

02.052 Evaluation of the anxiolytic-like behavior and density of kinin B1 and B2 brain receptors in knockout Mice for kinin receptors. Barald-Tornisielo T[1], Dong-Krest KE[1], Schöwe NM[2], Lopes ASA[1], Sousa AMA[1], Caetano AL[1], Nunes MA[1], Viel TA[3], Buck HS[1] [1]FCMSCSP – Ciências Fisiológicas, [2]ICB-USP – Farmacologia, [3]EACH-USP

02.053 Programming of dopaminergic neurons by neonatal estradiol exposure reduces dopamine transporter expression and amphetamine-induced conditioned place preference in adult female rats. Selva M[1], Sanguinetti N[1], Silva RA[1], Martínez J[1], Cruz G[1], Andrés ME[2], Renard GM[1], Sotomayor-Zárate R[1] [1]Universidad de Valparaíso – Neurobiology and Brain Plasticity, [2]Pontificia Universidad Católica de Chile – Cellular and Molecular Biology, Faculty of Biological Sciences

02.054 P2X2 Receptors potentiate the amyloid beta peptide toxicity inducing a synaptic failure and mitochondrial dynamic dyshomeostasis Fuentealba J[1,2], Barra K[1], Celis T[1], Godoy P[1], Panes J[1], Silva-Grecchi T[1], Fuentes-Villalobos F[3], Castro A[3], Guzman L[1] [1]Universidad de Concepcion – Fisiologia, [2]Center for Advanced Research on Biomedicine (CIAB), [3]Universidad de Concepcion – Bioquímica

03. Psychopharmacology

03.001 Psychopharmacological effects of N-acetylcysteine in Zebrafish. Mocelin R[1], Herrmann AP[2], Marcon M[1], Rambo AL[3], Abreu MS[4], Zanatta L[5], Elisabetsky E[6], Barcellos LJG[7], Lara DR[3], Piato AL[6] [1]UFRGS – Neurociências, [2]UFFS, [3]PUCRS – Biologia Celular e Molecular, [4]UFSM – Farmacologia, [5]UNOCHAPECO – Ciências Ambientais, [6]UFRGS – Farmacologia e Terapêutica, [7]UPF – Bioexperimentação

03.002 Combined use of alcohol and tobacco on behavioral and neuroinflammatory parameters in rats. Bandiera S[1], Pulcinelli RR[2], Giustina CLD[2], Hansen AW[1], Caletti G[1], Souza A[1], Medeiros LF[1], Torres ILS[1,3], Gomez R[1,3] [1]UFRGS – Farmacologia e Terapêutica, [2]UFRGS, [3]UFRGS – Farmacologia

03.003 Fluoxetine prevents stress-induced alterations on behavioral, physiological and molecular parameters in Zebrafish. Marcon M[1], Mocelin R[1], Herrmann AP[2], Rambo CL[3], Koakoski G[4], Abreu MS[4], Conterato GM[5], Kist LW[3], Bogo MR[3], Zanatta L[6], Barcellos LJG[7], Piato AL[8] [1]UFRGS – Neurociências, [2]UFFS, [3]PUCRS – Biologia Celular e Molecular, [4]UFSM – Farmacologia, [5]UFSC, [6]UNOCHAPECO – Ciências Ambientais, [7]UPF – Bioexperimentação, [8]UFRGS – Farmacologia e Terapêutica

03.004 The saccharin presence changes the value of cocaine on conditioning place preference but not for rats created in an enriched environment Freese L[1], Almeida FB[1], Heidrich N[2], Zavarize L[2], Fernandes P[2], Fonseca AR[3], Gomez R[4], Barros HM[1] [1]UFCSPA – Farmacologia, [2]UNISINOS, [3]UFRGS, [4]UFRGS – Farmacologia

03.005 TRKB-dependent antidepressant-like effect of losartan. Diniz CRAF[1], Casarotto PC[2], Castrén E[2], Joca SRL[3] [1]FMRP-USP – Farmacologia, [2]University of helsink, Finland – Neuroscience Center, [3]FCFRP-USP – Física e Química

03.011 Antagonism of TRPV4 channel reduced depression-like behavior in mice. Alves VS[1], Dias FC[1,2], Matias DO[1,2], Cruz JVR[1], Miranda ALP[1,2,3], Figueiredo CP[1,2], Costa R[1,2] [1]UFRJ – Farmácia, [2]Ciências Farmacêuticas, [3]Farmacologia e Química Medicinal

03.012 Antinociceptive, anti-inflammatory and anxiolytic effects of a novel agonist of opioid receptor. Rezende B[1], Montes GC[1], Silva BNM[2], Silva BV[2], Sudo RT[1], Zapata-Sudo G[1] [1]UFRJ – Farmacologia e Química Medicinal, [2]UFRJ – Química Orgânica

03.013 Determination of the antioxidant potential of medicines used on the treatment of bipolar disorder and tobacco use disorder. Michelin AP[1], Bonifácio KL[1], Semeão LO[1], Farias CC[1], Higachi L[1], Matsumoto AK[1], Barbosa DS[2] [1]UEL, [2]UEL – Análises Clínicas e Toxicológicas

03.014 Antioxidant action of some antipsychotics in *in vitro* models. Semeão LO, Brinholi FF, Michelin AP, Matsumoto AK, Farias CC, Higachi L, Bonifácio KL, Barbosa DS UEL

03.015 Purinergic receptors are involved in processing contextual fear conditional responses in rodents. Domingos LB[1], Hott SC[2], Resstel LBM[1] [1]USP – Pharmacology, [2]UFES – Pharmaceutical Sciences

03.016 Effect of copaiba oil on alcohol voluntary intake in rats. Pulcinelli RR, Bandiera S, Santos P, Giustina CD, Gomez R UFRGS – Farmacologia e Terapêutica

03.017 Acute effect of L-Arginine on general activity observed in the open-field arena and its dyskinetics movements after haloperidol acute treatment in rats. Mariani MP[1], Gemignani S[2], Pedroso-Mariani SR[2] [1]PUC-Campinas- Farmacologia, [2]FMJ – Farmacologia

03.018 Effect of a Nociceptin/Orphanin FQ receptor agonist on aggressive behavior in male mice. Silva EF[1], Silva AI[1], Souza LS[1], Santos WB[1], Guerrini R[2], Asth L[1], Calo' G[3], Gavioli EC[1] [1]UFRN – Biofísica e Farmacologia, [2]University of Ferrara – Chemical and Pharmaceutical Sciences and LTTA, [3]University of Ferrara – Medical Science, Section of Pharmacology and National Institute of Neuroscience

03.019 Psychopharmacological effects of N-Acetylcysteine. Benvenutti R, Santos P, Giongo FK, Fortes LS, Hermann AP, Elisabetsky E UFRGS

03.020 Involvement of Nitrergic neurotransmission in the dorsolateral periaqueductal gray on rats escape-response expressed under hypoxia condition. Gripp-Fernandes G, Frias AT, Spiacci Junior A, Zangrossi Junior H FMRP-USP

03.021 Antipsychotic-like effects of cannabidiol on social interaction and cognitive impairment induced by MK-801. Rodrigues NS[1], Silva NR[1], Gomes FV[2], Guimarães FS[1] [1]FMRP-USP – Farmacologia, [2]University of Pittsburgh – Neurosciences

03.022 Phentolamine microinjected into the dorsal periaqueductal gray matter attenuates anxiolytic-like effect of noradrenaline in rats tested in the elevated T-maze. Carvalho JJV[1,2], Souza DO[3], Beijamini V[1,3], Martins JM[1,2], de Bortoli VC[1,2,3] [1]UFES – Bioquímica e Farmacologia, [2]CEUNES/UFES – Ciências da Saúde, [3]UFES – Ciências Farmacêuticas

03.026 Involvement of β-arrestin 2 and G-protein in the effects of nociceptin/orphanin FQ receptor ligands on emotional states in mice. Asth L[1], Ruzza C[2], Malfacini D[2], Medeiros IU[1], Guerrini R[3], Zaveri NT[4], Gavioli EC[1], Calo' G[2] [1]UFRN – Biofísica e Farmacologia, [2]University of Ferrara – Medical Science, Section of Pharmacology and National Institute of Neuroscience, [3]University of Ferrara – Chemical and Pharmaceutical Sciences and LTTA, [4]Astraea Therapeutics, LLC.

03.027 Activation of CB2 receptors mediates inhibitory effect of rimonabant in the cocaine responses: role of 2-arachinonoylglycerol. Gobira PH, Oliveira A, Gomes JA, Batista EM, Silva FR, Okine BN, Ribeiro FM, Finn DP, Aguiar DC, Moreira FA UFMG

04. Inflammation and Immunopharmacology

04.001 Skin wound healing properties of gold nanoparticles: A preliminary study. Ventura ACSSB, Ferreira GK, Soley BS, Ferreira JCP, Otuki MF, Cabrini DA UFPR – Farmacologia

04.002 Inosine antiproliferative effect on keratinocytes in culture. Silva CD[1], Soley BS[1], Pawloski PL[1], Santos ARS[2], Cabrini DA[1] [1]UFPR- Farmacologia, [2]UFSC – Fisiologia

04.003 Impaired cytokine release by bone marrow derived macrophages from diabetic mice is related to high glucose environment. Ayala TS, Tessaro FHG, Bella LM, Martins JO FCF-USP – Análises Clínicas e Toxicológicas

04.004 Insulin enhances LPS-induced cytokines and signaling pathways in bone marrow-derived macrophages from diabetic mice. Tessaro FHG, Ayala TS, Bella LM, Nolasco EL, Martins JO FCF-USP – Análises Clínicas e Toxicológicas

04.005 Vitamin D modulates lipopolysaccharide-induced immune response in raw 267.4 macrophages. Bella LM[1], Quirino TC[1], Tessaro FHG[1], Nolasco EL[1], Ayala TS[1], Azevedo CB[2], Martins JO[1] [1]FCF-USP – Análises Clínicas e Toxicológicas, [2]Unifesp

04.006 Protective effect of gedunin on TLR-mediated inflammation by modulation of inflammasome activation and cytokine production: evidence of a multitarget compound. Borges PV[1], Moret KH[1], Manjunathaiah RN[2], Costa TEM[1], Monteiro AP[3], Carneiro AB[3], Pacheco P[1], Temerozo JR[4], Habib DCB[4], Henriques MG[1,5], Penido C[1,5] [1]Farmanguinhos-Fiocruz – Farmacologia Aplicada, [2]Osmania University – Pharmaceutical Chemistry, [3]IOC-Fiocruz – Imunofarmacologia, [4]IOC-Fiocruz – Imunologia, [5]CDTS-Fiocruz

04.007 Maresin-1 and its role as a hepatoprotective against diethylnitrosamine-induced liver fibrosis in Sprague-Dawley Rats. Rodriguez MJ[1], Dominguez KA[1], Donoso WK[2], Zuñiga Hernandez J[1], Beltran OA[1] [1]University of Talca – Medical Research, School of Medicine, [2]University of Talca – Oral Pathology, School of odontology

04.008 Maternal Obesity Programs the OVA-induced Airway Inflammation in the male offspring. E-Lacerda RR[1], Bordin S[2], Antunes E[1], Anhê GF[1] [1]Unicamp – Farmacologia, [2]USP – Fisiologia e Biofísica

04.009 Anti-Inflammatory, analgesic and vasorelaxant activities of new pyrazole derivative 5-[1-(4-fluorphenyl) - 1H-pyrazol-4-yl]-2H-tetrazole. Oliveira LP[1], Silva DPB[1], Florentino IF[1], Fajemiroye JO[2], Oliveira TS[1], Ghedini PC[1], Menegatti R[3], Costa EA[1] [1]UFG – Farmacologia, [2]UFG – Ciências Farmacêuticas, [3]UFG – Farmácia

04.010 Exogenous and endogenous hydrogen sulphide protects against histaminergic and nonhistaminergic pruritus and inflammation in mice dorsal skin. Rodrigues L[1], Schmidt TP[1], Florenzano J[1], Cerqueira ARA[1], Teixeira SA[1], Wood ME[2], Whiteman M[2], Muscará MN[1], Costa SKP[1] [1]ICB-USP – Farmacologia, [2]University of Exeter

04.011 Anti-inflammatory effect of methyl gallate on experimental arthritis: Inhibition of neutrophil recruitment, production of inflammatory mediators, and activation of macrophages. Correa LB[1,2], Pádua TA[1,2], Seito LN[1], Costa TEMM[1,2], Andrade-Silva M[1,2], Candéa ALP[1,2], Rosas EC[1,2], Henriques MG[1,2] [1]Farmanguinhos-Fiocruz – Farmacologia Aplicada, [2]CDTS-INCT-IDN

04.012 Teriflunomide and methotrexate injected intrathecally inhibits LPS-induced knee-joint arthritis in rats. Norões MM, Tonussi CR UFSC – Farmacologia

04.013 Influence of estradiol on the mobilization of leukocytes and serum chemokines release after intestinal ischemia and reperfusion in rats. Fantozzi ET[1], Ricardo-da-Silva FY[2], Rodrigues-Garbin S[1], Vargaftig BB[1], Oliveira-Filho RM[1], Breithaupt-Faloppa AC[2], Tavares-de-Lima W[1] [1]ICB-USP – Farmacologia, [2]FM-USP – Cirurgia

04.014 Role of estradiol on leukocyte mobilization and systemic chemokines after intestinal ischemia reperfusion in male rats. Ricardo-da-Silva FY[1], Fantozzi ET[2], Rodrigues-Garbin S[2], Oliveira-Filho RM[2], Vargaftig BB[2], Breithaupt-Faloppa AC[1], Tavares-de-Lima W[2] [1]FM-USP – Cirurgia Cardiovascular e Patofisiologia da Circulação, [2]ICB-USP – Farmacologia

04.015 Targeting the sphingosine pathway to resolution of inflammatory response induced by LPS. Perez DA, Athayde RM, Reis AC, Secchim LR, Vago JP, Resende BM, Teixeira MM, Sousa LP, Pinho V UFMG

04.016 Lipoxin A4 prevents Malaria-induced Acute Respiratory Distress Syndrome by neutrophil cytoskeletal remodeling impairment. Pádua TA[1], Torres ND[1], Silva JD[2], Costa MFS[1,3], Candéa AP[1], Rocco PRM[2], Souza MC[1], Henriques MG[1,3] [1]Farmanguinhos-Fiocruz – Farmacologia Aplicada, [2]IBCCF-UFRJ – Investigação Pulmonar, [3]CDTS-INCT/IDN-Fiocruz

04.017 Inhibition of N-Type voltage-gated calcium channel by toxin from the spider *Phoneutria nigriventer* as a new strategy to control the symptoms and signs of multiple sclerosis. Silva RBM[1], Gomez MV[2], Campos MM[1] [1]INTOX-PUCRS, [2]IEP-UFMG

04.018 Bosentan for the treatment of ulcerative colitis, it really works? Maria-Ferreira D[1], **Dallazen JL[1],** Góis MB[2], Sant'Ana DMG[2], Rae GA[3], **Baggio CH[1],** Werner MFP[1] [1]UFPR- Farmacologia, [2]UEM – Biosciences and Pathophysiology, [3]UFSC – Farmacologia

04.019 Hydroquinone exposure contributes to induction and aggravation of experimental arthritis in rats. Heluany CS[1], Kupa LVK[1], Viana MN[2], Fernandes CM[2], Farsky SHP[1] [1]FCF-USP – Análises Clínicas e Toxicológicas, [2]IBu – Farmacologia

04.020 Role of ACKR2 in experimental COPD induced by cigarette smoke inhalation. Coutinho DS[1], Ferreira TPT[1], Dias DF[1], Arantes ACS[1], Arantes ACS[1], Ciambarella BT[1], Serra MF[1], Silva PMR[1], Locati M[2], Martins MA[1] [1]Fiocruz – Inflamação, [2]Humanitas Clinical and Research Center – University of Milan

04.021 cAMP elevating agents induce resolution of acute inflammation dependent on Annexin A1. Lima KM[1], Negreiros-Lima GL[1], Caux TR[1], Vago JP[1], Tavares LP[1], Aribada RG[1], Carmo AAF, Galvão I, Costa BRC[1], Soriani

FM[1], Perretti M[2], Silva PMR[3], Pinho V[1], Solito E[2], Teixeira MM[1], Sousa LP[1] [1]UFMG, [2]Queen Mary University of London, [3]Fiocruz

04.022 Potential pro-resolutive effects of rolipram on pathogenesis of chronic nephropathy induced by doxorubicin. Costa WC[1], Silva JD[1], Barroso LV[1], Campolina GH[1], Reis AC[1], Braz GGS[1], Santos APB[1], Pinho V[1] [1]UFMG – Morfologia

04.023 Ouabain inhibits neutrophil migration through downregulation of p38 MAPK activation. Cavalcante-Silva LHA, Lima EA, Galvão JGFM, Costa JOM, Freitas JAM, Rodrigues-Mascarenhas S UFPB

04.024 Coadjuvant action of Annexin A1 on angiogenesis: potential application to heterologous transplantation. Mimura KKO, Drewes CC, Lacerda JZ, Zanon CF, Greco R, Ansari T, Gil CD, Greco KV, Oliani SM, Farsky SHP FCF-USP

04.025 Participation of 5-LO pathway in development of mouse model of acute graft-versus-host disease: potential new therapeutic target for GVHD. Rezende BM[1], Bernardes PT[1], Athayde RM[1], Resende CB[1], Gonçalves WA[1], Perez DA[1], Esper L[2], Cisalpino D[3], Cunha TM[4], Castor MGM[5], Machado FS[2], Teixeira MM[2], Pinho V[1] [1]ICB-UFMG – Morfologia, [2]ICB-UFMG – Bioquímica e Imunologia, [3]ICB-UFMG – Microbiologia, [4]FMRP-USP – Farmacologia, [5]ICB-UFMG – Farmacologia

04.026 Translocator Protein 18 kDa (TSPO): A Promising Target for Meta-Inflammation. Barioni ED[1], Rocha GHO[1], Oliveira EM[2], Campa A[1], Farsky SHP[1] [1]USP – Análises Clínicas e Toxicológicas, [2]University of Cambridge – Cambridge – Institute of Metabolic Science

04.027 Antagonism of TRPC4/TRPC5 channels increases the severity and mortality of sepsis in mice. Pereira DMS[1], Mendes SJF[1], Castro Jr JAA[1], Aubdool AA[2], Alawi KM[2], Thakore P[2], Grisotto MAG[1], Brain S[2], Fernandes ES[1,2] [1]Ceuma, [2]King's College – Cardiovascular Division

04.028 Bacterial thioredoxin effects on cytokine production are exacerbated in TRPC5 KO mice with LPS-induced sepsis. Mendes SJF[1], Pereira DMS[1], Silva BLR[1], Aubdool AA[2], Alawi K[2], Thakore P[2], Grisotto MAG[2], Brain SD[2], Fernandes ES[1,2] [1]Ceuma, [2]King's College London – Cardiovascular Division

04.029 Anti- inflammatory activity of serotonin amide in the coffee beans. Amorim JL[1], Moreira IGS[2], Rezende CM[2], Fernandes PD[1] [1]UFRJ – Farmacologia, [2]UFRJ – Química

04.030 Evaluation of anti-inflammatory effect of *Tibouchina granulosa* leaves. Sobrinho AP[1], Ferreira LLC[2], Fernandes PD[1] [1]UFRJ – Farmacologia e Química Medicinal, [2]IVB – Fitoterápicos

04.036 Tumor necrosis factor-alpha reduces platelet aggregation independently of IKK, but dependently of PKCδ or PKCε activation. Bonfitto PHL, Bueno PI, Naime ACA, Antunes E, Marcondes S Unicamp – Farmacologia

04.041 Pyruvate kinase M2 (PKM2), an isoenzyme of the glycolytic pathway, is pivotal to the development of psoriasis. Veras F[1], Prado D[1], Melo B[1], Tartari P[1], Melo P[1], Costa L[2], Cecilio N[1], Publio G[1], Alves M[3], Lima D[4], Nakaya H[4], Sales K[3], Souza C[2], Cunha F[5], Alves-Filho JC[5] [1]FMRP-USP – Farmacologia, [2]FMRP-USP – Clínica Médica, [3]FMRP-USP – Biologia Celular e Molecular, [4]FCF-USP – Análises Clínicas e Toxicológicas, [5]CRID-FMRP-USP

04.051 Evaluation of immunomodulatory effect of essential oil obtained from *Siparuna guianensis* Aublet towards lymphocytes obtained from mice bearing experimental autoimmune encephalomyelitis *in vitro*. Alves JV[1], Silva SKS[1], Silva CA[1], Silva AM[2], Rovarotto CF[3], Silva GA[3], Silva IR[1], Santos LMB, Farias AS[3], Parise MR[1] [1]UFG, [2]IFC, [3]Unicamp

04.052 Calcitonin-Gene Related Peptide (CGRP) is a potent mediator of edema in the rat cheek. Almeida MPA[1], Queiroz BFG[1], Bakhle YS[2], Francischi JN[1] [1]UFMG – Farmacologia, [2]Imperial College London – Leukocyte Biology

04.053 Unpredicted lethality of substance P administered intraorally in ketamine-xylazine anesthetized rats. Queiroz BFG[1], Almeida MPA[1], Frade TIC[1], Bakhle YS[2], Francischi JN[1] [1]UFMG – Farmacologia, [2]Imperial College London – Leukocyte Biology

04.054 Aloe Vera extract delays mortality but does not attenuate kidney injury after cecal puncture and ligation in mice. Yasojima EY[1], Dórea MA[1], Yamaki VN[1], Teixeira RKC[1], Feijó DH[1], Gouveia EHH[2], Feitosa Junior DJS[1], Valente AL[1], Carvalho LTF[3], Franco RC[2], Leite GMO[1], Neto ESM[1] [1]UEPA, [2]Cesupa, [3]UFPA

04.055 Influence of hydrogen sulfide (H2S) on expression and function of adhesion molecule on human neutrophil and eosinophil. Salamí YAM[1], Sato ASP[1], Feitosa KB[2], Costa SKP[2], Ferreira HHA[1] [1]Faculdade São Leopoldo Mandic – Inflammation Research, [2]ICB-USP – Pharmacology

04.056 Evaluation of anti-inflammatory activity of LASSBio-1827. Nascimento TS, Freitas RHCN, Fraga CAM, Fernandes PD, Cordeiro NM UFRJ – Farmacologia e Química Medicinal

04.057 Padronization of an experimental model of induced pulmonary emphysema by inhaled cigarette smoke. Silva TS, Souza ACS UFSJ

04.058 Endothelin plays a proinflammatory role in primary cultures of rat lung microvascular endothelial cells activated by LPS. Silva MM[1], Balbino AM[1], Gil NL[1], Azevedo GA[1], Fernandes L[1], Landgraf MAV[1,2,3], Landgraf RG[1] [1]Unifesp-Diadema – Ciências Farmacêuticas, [2]USP – Farmacologia, [3]Unip

04.059 Intrauterine undernourishment downregulates COX-2 and TLR-4 expression in the second generation of rats. Arakaki CP[1], Silva MM[1], Balbino AM[1], Gil NL[1], Azevedo GA[1], Ramos APA[1], Landgraf RG[1], Landgraf MAV[1,2,3] [1]Unifesp-Diadema – Ciências Farmacêuticas, [2]USP – Farmacologia, [3]Unip

04.060 Adrenalectomy reverses the decreased lung inflammation presented by low birth weight rats. Azevedo GA[1], Gil NL[1], Silva MM[1], Fernandes L[1], Landgraf MAV[2,3,4], Landgraf RG[1] [1]Unifesp-Diadema – Ciências Farmacêuticas, [2]Unifesp – Ciências Farmacêuticas, [3]USP – Farmacologia, [4]Unip

04.061 Effect of photobiomodulation on cell viability and inflammatory mediators on myoblasts submitted to *B. jararacussu* snake venom (BJSSUV) David AC, Silva LMG, Zamuner SF, Cogo JC, Zamuner SR Uninove

04.062 Effect of a high-calorie / westernized diet on pharmacological effectiveness of nimesulide in Wistar rats. Araújo RB[1], Menezes TM[1], Franco ES[1], Nascimento E[2], Maia MBS[1], Araújo MGP[1], Santana LD[1], Pereira CFC[1], Cunha CCS[1], Lima LCAS[1] [1]UFPE – Farmacologia de Produtos Bioativos, [2]UFPE – Nutrição

04.069 Involvement of hormonal imbalance and epigenetic alterations in development of allergic lung inflammation, in low birth weight rats. Ramos APA[1], Balbino AM[2], Gil NL[1], Azevedo GA[1], Arakaki CP[1], Carvalho MHC[3], Landgraf RG[1], Landgraf MA[1,3,4] [1]Unifesp-Diadema – Ciências Farmacêuticas, [2]UNIFESP – Ciências Farmacêuticas, [3]USP – Farmacologia, [4]Unip

04.070 Peripheral efficacy of resolution factors in the carrageenan-induced paw edema and hyperalgesia models in rats: a comparison between resolvin E1 and D1. Fonseca FCS[1], Orlando RM[2], Augusti R[2], Turchetti-Maia RMM[1], Francischi JN[1] [1]UFMG – Farmacologia, [2]UFMG – Química

04.071 Acute lung inflammation induced by intestinal ischemia and reperfusion is influenced by ovariectomy in obese mice. Rodrigues-Garbin S[1], Fantozzi ET[1], Ricardo-da-Silva FY[1], Oliveira-Filho RM[1], Riffo-Vasquez Y[2], Tavares-de-Lima W[1] [1]ICB-USP, [2]Sackler Institute – Kings College

04.072 Investigation of the anti-inflammatory activity of N-salicyloyltryptamine on carrageenan-induced peritonitis in Mus musculus. Sousa Neto BP, Gomes BS, Everton SS, Macêdo FVC, Arcanjo DDR, Gutierrez SJC, Oliveira FA – UFPI – Farmacologia

04.073 Chemical and surgical models of temporomandibular osteoarthritis display distinct patterns of local inflammation in rats. Togni L[1,2], Abreu MC[1], Silva RB[1,3], Campos MM[1,2,3] [1]INTOX-PUCRS – Toxicologia Pré-clínica, [2]PUCRS – Patologia, [3]PUCRS – Medicina e Ciências da Saúde

04.074 Sulphoraphane modulates joint inflammation in CFA-induced mono-arthritis. Rodrigues JFS, Silva CS, Muniz TF, Nina LNS, da Silva LCN, Fernandes ES, Grisotto MAG Ceuma

04.075 P-Coumaric acid protects against lipopolysaccharide-induced acute lung injury in mice by modulating inflammatory cells and cytokine production. Souza TNC, Ferro JNS, Silva LMP, Corrêa ACC, Santos FM, Júnior JCF, Conserva LM, Barreto EO [1]UFAL – Ciências Biológicas e da Saúde, [2]UFAL – Química e Biotecnologia

04.076 Evaluation of anti-inflammatory activity of oleoresin of *Copaifera reticulata.* Almeida Junior JS[1], Silva EBS[1], Araujo JA[1], Sartoratto A[2], Moraes TMP[1], Oliveira ECP[1], Moraes WP[1] [1]Ufopa, [2]Unicamp

04.077 Suppressive effects of oral quercetin administration on the late phase of experimental silicosis in mice. Guimarães FV, Ferreira TPT, Arantes ACS, Martins MA, Silva PMR Fiocruz

04.078 Nopharmacological treatment, using aerobic training and low intensity laser protect the articular capsule on experimental monoarthritis. Silva AD, Zamuner LF, Silva MP, Sanches IC, de Angelis K, Chavantes C, Zamuner SR Uninove

04.079 Friedelin modulates intracellular redox status in epithelial cells *in vitro* exposed to cigarette smoke combined with LPS. Santos FM[1], Ferro JNS[1], Silva-Júnior AJ[1], Santos SL[1], Conserva LM[2], Broetto L[1], Barreto E[1] [1]ICBS-UFAL, [2]IQB-UFAL

04.080 Gold nanoparticles reduce pulmonary lung function and airway hyper-reactivity in silicotic in mice. Ribeiro NBS, Ciambarella BT, Arantes AC, Serra MF, Martins MA, Silva PMR Fiocruz – Farmacologia e Inflamação

04.081 Parenteral administration of fish oil lipid emulsion in septic patients: clinical and biochemical responses. Messias MCF, Mecatti GC, Carvalho PO USF

04.082 LPS increase the Siglec-5 expression on human neutrophils. Amaral FC[1], Lorenzini CB[1], Macauley M[2], Spiller F[1] [1]UFSC – Farmacologia, [2]The Scripps Research Institute – Cell and Molecular Biology, Immunology and Microbial Science, and Physiological Chemistry

04.089 Leukotriene B4 (LTB4) induces maturation and antigen-presentation function of Mice Bone-marrow Derived Dendritic Cells (BM-DCs). Pires-Lapa MA, Koga MM, Filgueiras LR, Jancar S ICB-USP – Imunologia

04.090 Effect of Nitroxyl donor on septic arthritis following *Staphylococcus aureus* infection in mice. Staurengo-Ferrari L[1], Miyazawa R[1], Mizokami SS[1], Domiciano TP[1], Pinho-Ribeiro FA[1], Fattori V[1], Pelayo JS[2],

Casagrande R[3], Miranda KM[4], Verri Junior WA[1] [1]UEL – Ciências Patólogicas, [2]UEL – Microbiologia, [3]UEL – Ciências Farmacêuticas, [4]University of Arizona – Chemistry and Biochemistry

04.091 The role of GILZ in macrophage reprogramming. Vago JP[1], Jones S, Sugimoto MA, Lima KM, Lang T, James H, Morand E, Teixeira MM, Sousa LP – UFMG

04.092 Annexin A1 depletion improves mice fertility and distorces sex ratio. Hebeda CB[1], Machado ID[1], Reif I[1], Bevilacqua E[2], Perretti M[3], Farsky SHP[1] [1]FCF-USP – Análises Clínicas e Toxicológicas, [2]ICB-USP – Biologia Celular e do Desenvolvimento, [3]Queen Mary University of London – The William Harvey Research Institute

04.093 Lidocaine differentially affects acute and late phases of experimental silicosis in mice. Ferreira TPT[1], Mariano LL[1], Ciambarella BT[1], Filho JCA[2], Hogaboam CM[3], Martins MA[1], Silva PMR[1] [1]Fiocruz – Inflamação, [2]FM-USP – Farmacologia, [3]Cedars Sinai Medical Center

04.094 Effect of topical gold nanoparticles formulations on cutaneous inflammation in mice. Ferreira GK[1], Olivio M[1], Soley BS[1], Paula MMS[2], Cabrini DA[3], Otuki MF[3] [1]UFPR – Farmacologia, [2]UNISUL – Ciências da Saúde, [3]UFPR

04.095 The hydrogen peroxide enhances the resolution of allergic inflammation by inhibiting ERK and NFKB. Reis AC[1], Magalhães G[2], Barroso LC[3], Costa WC[1], Perez DA[1], Silva JD[1], Souza DG[4], Teixeira MM[3], Pinho V[1] [1]ICB-UFMG – Morfologia, [2]ICB-UFMG, [3]ICB-UFMG – Biochemistry and Immunology, [4]ICB-UFMG – Microbiologia

04.102 Transcranial Direct Current Stimulation (tDCS) modulates inflammatory process induced by Freund's adjuvant. Gamaro GD[1], Medeiros LF[2], Silva SP[1], Crespo PC[1], Sanches PRS[2], Couto CA[3], Freitas JS[2], Souza A[4], Martins OG[1], Torres ILS[2], Souza ICC[1] [1]UFPel, [2]UFRGS, [3]USP, [4]Unilasalle

04.103 Effects of high fat diet on alveolar bone loss induced by *Aggregatibacter actinomycetemcomitans* in mice. Zicker MC[1], Chaves IM[2], Laranjeira AO[2], Macari S[3], Saraiva AM[3], Duarte PM[4], Teixeira MM[5], Souza DG[2], Versiani AM[6], Silva TA[3], Madeira MFM[2] [1]UFMG – Medicamentos e Alimentos, [2]UFMG – Microbiologia, [3]UFMG – Patologia, [4]UNG – Odontologia, [5]UFMG – Biochemistry and Immunology, [6]UFMG – Nutrição

04.104 SOCS2 is crucial to modulate the dendritic cells function during experimental *Trypanosoma cruzi* infection. Esper L, Gualdrón-Lopez M, Brant F, Monti-Rocha R, Pimentel PMO, Souza DG, Teixeira MM, Machado FS UFMG – Biochemistry and Immunology

04.105 Down-regulation of neutrophil function by the mexiletine analogue JME-173: impact on experimental COPD. Ferrero MR[1], Coutinho D[1], Silva PMR[1], Silva ET[2], Costa JCS[2], Martins MA[1] [1]Fiocruz – Inflammation, [2]Fiocruz – Organic Synthesis of Farmanguinhos

04.106 ATP-induced melatonin synthesis by macrophages increases phagocytic activity. Dargenio-Garcia L, Souza-Teodoro L, Takiguchi RS, Muxel SM, Markus RP, Ferreira ZS IB-USP – Fisiologia

05. Pain and Nociception Pharmacology

05.001 Activation of satellite glial cells and P2X7 receptors of dorsal root ganglion contribute to signaling of inflammatory muscle pain. Aquino BM[1], Fusaro C[2], Oliveira-Fusaro MCG[1] [1]LABEDI-FCA-UNICAMP – Health, [2]USF

05.002 The relevance of nociceptin/orfanin FQ-NOP receptor system in experimental fibromyalgia. Dagnino APA[1], Silva RBM[2], Campos MM[3] [1]PUCRS – Biologia Celular e Molecular, [2]PUCRS – Medicina e Ciências da Saúde, [3]PUCRS – Faculdade de Odontologia

05.003 Study on the participation of the adrenergic system in the modulation of peripheral pain. Gonzaga ACR[1], Romero TRL[1], Castor MGM[1], Lemos VS[2], Silva GC[2], Duarte IDG[1] [1]UFMG – Farmacologia, [2]UFMG – Fisiologia

05.004 Role of endocannabinoid system in aripiprazole induced-peripheral antinociception. Ferreira RCM, Almeida-Santos AF, Duarte IDG, Aguiar DC, Moreira FA, Romero TRL ICB-UFMG – Farmacologia e Fisiologia

05.005 Characterization of behavioral changes related to the nociception and depression in experimental model of obesity induced by monosodium glutamate in rats. Adami ER, Schreiber AK, Redivo, DBB, Scarante FF, Zanoveli JM, Cunha JM UFPR- Farmácia e Farmacologia

05.006 Effect of a new Thiazolidine-2,4-Dione (TDZ) on the acute cold hypersensitivity induced by oxaliplatin in mice. Stoeberl LC, Quintão NLM, Silva GF, Kormann EC, Buzzi FC, Melato J Univali – Ciências Farmacêuticas

05.007 A study of peripheral antinociceptive mechanisms induced by serotonin. Diniz DA, Petrocchi JA, Navarro LC, Souza TC, Castor MGM, Perez AC, Duarte IDG, Romero TRL ICB-UFMG – Farmacologia e Ciências Biológicas

05.008 Static contraction-induced muscle pain is modulated by peripheral TRPV1 receptors and PKC epsilon. Jorge CO[1], Melo-Aquino B[1], Santos DFS[1], Bonfante R[2], Macedo CG[2], Clemente-Napimoga JT[2], Oliveira-Fusaro MCG[1] [1]LABEDI-Unicamp, [2]FOP-Unicamp

05.009 The selective TRPV4 channel antagonist HC-067047 reverted mechanical hypersensitivity in diabetic animals. Dias FC[1,2], Alves VS[2], Matias DO[1,2], Cruz JVR[2], Silva RV[1,2], Santos BLR[3], Lima CKF[2], Clarke JHR[2], Passos GF[2], Figueiredo CP[1,2], Miranda ALP[1,2,3], Costa R[1,2] [1]UFRJ – Ciências Farmacêuticas, [2]UFRJ – Farmácia, [3]UFRJ – Farmacologia e Química Medicinal

05.010 HUF-101, a cannabidiol analog, decreases nociception in mice via facilitation of endocannabinoids receptors-mediated neurotransmission. Silva NR[1], Gomes FV[1], Fonseca MDM[1], Zuardi AW[2], Crippa JAS[2], Hallak JEC[2], Mechoulam R[3], Cunha TM[1], Guimarães FS[1] [1]FMRP-USP – Farmacologia, [2]FMRP-USP – Neurociências e Ciências do Comportamento, [3]Universidade Hebraica de Jerusalém – Química Medicinal e Produtos Naturais

05.011 Environmental enrichment induced-analgesia after CCI injury involves endogenous opioids release in rats. Kimura LF[1,2], Sant'Anna MBM[1], Teixeira NB[1], Mattaraia VGM[3], Zambelli VO[1], Picolo G[1,2] [1]IBu – Dor e Sinalização, [2]ICB-USP, [3]IBu – Biotério Central

05.012 Evaluation of the participation of the Transient Receptor Potential Ankyrin 1 (TRPA1) in the chronic nociceptive phase of ischemia/reperfusion model in mice. De Prá SD[1], Duarte M, Ferro P, Milioli A, Adamante G, Rigo FK, Ferreira J[2], Trevisan G[1] [1]UNESC – Ciências da Saúde, [2]UFSC – Farmacologia

05.013 A New Nβ-Alkanoyl-5-Hydroxytryptamide induces antinociceptive effect in mice. Giorno TBS[1], Moreira IGS[2], Rezende CM[2], Fernandes PD[1] [1]UFRJ – Farmacologia e Química Medicinal, [2]UFRJ – Química

05.014 Anti-hyperalgesic effect of N-(4Methyl-Phenyl)-4-Methylphthalimide – Adenylyl Cyclase as main target. da Silva GF, dos Anjos MF, Rocha LW, Rebello Luis, Stiz DS, Corrêa R, Santin JR, Cechinel-Filho V, Hernandes MZ, Quintão NLM Univali – Ciências da Saúde

05.015 Participation of opioid and cannabinoid endogenous systems in peripheral neuropathic pain modulation. Machado DPD, Ferreira RCM, Duarte IDG, Romero TRL, Duarte IDG ICB-UFMG – Fisiologia e Farmacologia

05.016 TRPA1 channel mediates *Bothrops jararaca* venom-induced nociception and oedema. Macedo-Júnior SJ[1], Tonello R[1], Silva LM[1], Santos ARS[2], Geppetti P[3], Ferreira J[1] [1]UFSC – Farmacologia, [2]UFSC – Ciências Fisiológicas, [3]University of Florence – Health Sciences, Clinical Pharmacology and Oncology

05.017 Analgesic activity of betalain-rich dye of *Beta vulgaris*. Hohmann MSN[1], Martinez RM[2], Longhi-Balbinot DT[1], Zarpelon AC[1], Baracat MM[2], Georgetti SR[2], Sassonia R[3], Verri Junior WA[1], Casagrande R[2] [1]UEL – Ciências Patológicas, [2]UEL – Ciências Farmacêuticas, [3]UFT – Ciências Integradas

05.018 Lectin of *Abelmoschus esculentus* (OKRA) promotes antinociceptive and anti-inflammatory effects on formalin induced temporomandibular joint inflammatory hypernociception in rats. Pinto IR[1], Vieira LV[1], Assis EL[1], Val DR[1], Freitas RS[1], Gadelha CAA[2], Santi-Gadelha T[2], Lacerda JTJG[2], Napimoga JTC[3], Pinto VPT[1], Chaves HV[1], Bezerra MM[1] [1]UFC-Sobral, [2]UFPB, [3]Unicamp

05.019 Aromatase inhibitor-evoked pain is promoted by the enzyme substrate, androstenedione, via transient receptor potential ankyrin 1 (TRPA1) in mice. de Logu F[1], Monello R[2], Materazzi S[1], Nassini R[1], Fusi C[1], Coppi E[1], Li Puma S[1], Marone IM[1], Sadofsky L[3], Morire A[4], Susini T[1], Terreni A[5], Di Tommaso MR[1], Geppetti P[1], Benemei S[1] [1]University of Florence, [2]UFSM, [3]University of Hull, [4]Castle Hill Hospital, [5]General Laboratory, Careggi University Hospital, Florence,

05.020 TRPV4 channel, in addition to TRPA1 mediates the oxidative stress-dependent peripheral painful neuropathy induced by vincristine. Marone IM[1], Trevisan G[2], de Logu F[1], Fusi C[1], Materazzi S[1], Benemei S[1], Nassini R[1], Geppetti P[1] [1]University of Florence, [2]UNESC

05.031 Hypoalgesia is not modulated by peripheral opioid receptors in high-fat diet-induced obese mice. Silva NP[1], Aquino BM[1], Santos DF[1], Torsoni AS[2], Oliveira-Fusaro MCG[1] [1]LABEDI-FCA-UNICAMP – Health, [2]LabDiMe-FCA-UNICAMP – Health

05.032 Spinal Cord CXCL1/CXCR2 signalling mediates the development of paclitaxel-induced peripheral neuropathy in mice. Manjavachi MN[1], Matias DO[2], Trevisan G[3], Costa R[4], Calixto JB[5] [1]UFSC – Farmacologia e Ciências Biológicas, [2]UFRJ – Ciências Farmacêuticas, [3]UFSC – Farmacologia, [4]UFRJ – Farmácia, [5]Centro de Inovação e Ensaios Pré-Clínicos.

05.033 Pregabalin attenuates tactile hypersensitivity and anxiety-like behavior in a model of facial carcinoma in rats. Gambeta E, Kopruszinski CM, dos Reis RC, Zanoveli JM[1], Chichorro JG UFPR- Farmacologia

05.034 Evaluation of antinociceptive activity and possible mechanisms of action of isoxazoline-acylhydrazone derivatives. Carvalho VMF[1], Silva NM[1], Melo MCS[1], Rios ACM[1], Correia JCA[1], Carvalho JA[1], Neto PPM[1], Mota FVB[1], Faria AR[2], Silva TG[1] [1]UFPE – Antibióticos, [2]UFPE – Ciências Farmacêuticas

05.035 Chronic administration of fish oil is capable of preventing inflammatory and neuropathic pain in mice. Melat J[1], da Silva GF[1], Stoeberl LC[1], Costa R[2], Quintão NLM[1] [1]Univali – Ciências da Saúde, [2]UFRJ – Farmácia

05.036 Role of bradykinin receptors B1 and B2 in the paclitaxel-associated acute pain syndrome. Zanata GC[1], Silva RL[1], Oliveira FFB[2], Fonseca MD[1], Cunha TM[1] [1]FMRP-USP – Farmacologia, [2]UFC – Farmacologia e Fisiologia

05.042 The role of the transient receptor potencial vanilloid-1 in the induction of herpetic neuralgia. Pereira JA[1], Silva CR[1,2], Cunha TM[1] [1]USP – Farmacologia e Inflamação, [2]UFU – Genética e Bioquímica

05.043 Ethanol extract of Leonurus sibiricus reduces oxidative stress and nociception. Santos-Oliveira A[1], Cercato LM[1], Santana MT[1], Biano LS[1], Melo AJO[2], Duarte MC[2], Silva AM[3], Camargo EA[1] [1]UFS – Fisiologia, [2]UFS – Farmácia, [3]UFS – Nutrição

05.044 Subcutaneous injection of IFN-β causes pain-like behaviors and edema in mice. Silva ML, Tonello R, Ferreira J UFSC

05.045 Muscle hypoalgesia induced by chronic exercise is dependent of peripheral PPARγ receptors. de Azambuja G[1], Botasso-Gomez B[1], Messias LHD[2], Manchado-Gobatto FB[2], Oliveira-Fusaro MCG[1] [1]LABEDI-Unicamp [2]LAFAE-Unicamp

05.046 Muscle hypoalgesia induced by chronic exercise is dependent of peripheral PPARγ receptors. Almeida D[1], Freitas Lima LC, Valadares WCP, Quintão JL[2], Silva JF[3], Romero TRL[2], Santos SHS [1]ICB-UFMG - Fisiologia e Farmacologia, [2]ICB-UFMG - Farmacologia, [3]ICB-UFMG - Fisiologia e Biofísica

05.047 Exercise does not reverse the hyperalgesia induced by neonatal morphine exposure, instead it decreases the nociceptive threshold in naïve rats. Freitas JS, Nunes EA, Macedo IC, Kuo J, Rozisky JR, Medeiros LF, Caumo W, Torres ILS UFRGS – Pharmacology of Pain and Neuromodulation: Pre-Clinical Investigations

05.048 Pharmacological standardization of hypersensitivity resposponse induced by *Physalia physalys*' venom (MLU_080047) in mice. M Anjos MF, da Silva GF, Quintão NLM Univali – Ciências Farmacêuticas

05.049 Fish oil concentrate treatment alleviates neuropathic pain behavior in mice after peripheral nerve injury Silva RV[1], Lima CKF[1], Silva NLC[2], Dias FC[2], Alves VS[1], Miranda ALP[1] [1]UFRJ – Biotecnologia Farmacêutica, [2]UFRJ

05.056 Antinociceptive effects of *Condalia Buxifolia* Reissek in a mouse model of postoperative pain. Simões RR[1], Coelho IS[1], Zambenedetti A[2], Morel A F[2], Zanchet EM[2], Santos ARS[1] [1]UFSC, [2]UFSM

05.057 Beneficial effects of LASSBio-1027 in acute and chronic inflammatory pain. Montes GC, Rezende B, Rocha MD, Fraga CAM, Barreiro EJ, Zapata-Sudo G, Sudo RT ICB-UFRJ

05.058 TRPA1 channel mediates the analgesic action of dipyrone and pyrazolone derivatives. Nassini R[1], Materazzi S[1], de Logu F[1], Marone IM[1], Coppi E[1], Fusi C[1], Preti D[2], Tonello R[3], Patacchini R[4], Chairugi A[1], Geppetti P[1], Benemei S[1] [1]University of Florence, [2]University of Ferrara, [3]UFSM, [4]Chiesi Farmaceutici Spa

05.059 Native and Recombinant Phα1β Toxin Produce Anti-hyperalgesic Effect in a Model of Bortezomib-induced Neuropathy in Mice Gonçalves MC[1], Tonello R[1,2], Nassini R[1], de Logu F[1], Gomez MV[3], Geppetti P[1], Ferreira J[1,2] [1]University of Florence, UniFI – Health Sciences, [2]UFSC – Farmacologia, [3]Institute of Education and Research of Santa Casa of Belo Horizonte

05.060 Kynurenine metabolic pathway links peripheral immune response to central sensitization that account for the development of neuropathic pain. Souza GR[1], Fonseca MD[1], Dagostin ALA[1], Lemos H[2], Huang L[2], Pacholczyk G[2], Santana DA, Talbot J[1], Sant'Anna MB[1], Leão RM[3], Alves-Filho JC[1], Cunha FQ[1], Mellor AL[2], Cunha TM[1] [1]FMRP-USP – Farmacologia, [2]Georgia Regents University, [3]FMRP-USP – Fisiologia

05.061 P2X4 Receptors modulate fatigue-enhanced muscle pain. Oliveira-Fusaro MCG[1], Gregory N[2], Kolker S[2], Wilson S[3], Sluka KA[2] [1]LABEDI-Unicamp, [2]University of Iowa, – Physical Therapy and Rehabilitation Science, [3]University of South Carolina – Pharmacology

05.062 α-Spinasterol: A dual TRPV1 Antagonist and cyclooxygenase inhibitor presents antinociceptive effects in pathological pain models in mice. Oliveira SM[1], Brusco I[1], Trevisan G[2], Ferreira J[3] [1]UFSM – Bioquímica e Biologia Molecular, [2]UFSM – Fisiologia e Farmacologia, [3]UFSC – Farmacologia

05.063 The role of pattern recognition receptors like toll-like receptors 4 in herpetic and post-herpetic neuralgia. Silva CR[1,2], Pereira JA[2], Raymondi J[2], Cecilio NT[2], Cunha FQ[2], Cunha TM[2] [1]UFU – Bioquímica e Farmacologia, [2]FMRP-USP – Farmacologia

05.064 Subcutaneous injection of *Rhinella marina* and *Rhinella jimi* venoms produce antinociceptive and anti-inflammatory effect in mice Aguiar MF[1], Dias QM[1,2] [1]UNIR, [2]Fiocruz

05.068 Participation of Trpa1 receptor in a trigeminal neuropathic pain model in mice. Trevisan G, Benemei S, Materazzi S, de Logu F, De Siena G, Fusi C, Rossato FM, Coppi E, Marone IM, Ferreira J, Geppetti P, Geppetti P, Nassini R

06. Cardiovascular and Renal Pharmacology

06.001 Renal effects and gender diferences in aged dahl salt sensitive rats. Costa PHS[1], Jorge ARC[2], Martins ICMT[2], Santos CF[2], Nascimento NRF[2], Monteiro HSA[1], Fonteles MC[1,2] [1]UFC – Fisiologia e Farmacologia, [2]ISCB-UECE

06.002 High fat diet (HFD)-induced mitochondrial oxidative stress in the PVAT promotes loss of its anticontractile effects by activation of RhoA/Rho kinase signaling. Costa RM, Fais RS, Dechandt CR, Alberici LC, Lobato NS, Tostes RC

06.003 NACHT, LRR and PYD domains-containing protein 3 (NLRP3) mediates endothelin-1- (ET-1)-induced contractile response sensitization in mice cavernous tissue. Fais RS[1], Costa RM[1], Rodrigues FL[2], Tostes RC[1], Carneiro FS[1] [1]FMRP-USP – Farmacologia, [2]FMRP-USP – Fisiologia

06.004 Estrogen effects on cardiovascular and oxidative parameters of female rats under LPS endotoxemia: NO participation Castardo-de Paula JC[1], de Campos BH[1], de Jager L[1], Zalunqui NG[2], Pinge-Filho P[2], de Farias

CC[3], Higachi L[3], Barbosa DS[3], Martins-Pinge MC[1] [1]UEL – Ciências Fisiológicas, [2]UEL – Ciências Patólogicas, [3]UEL – Análises Clínicas e Toxicológicas

06.005 A new nitric oxide generator induces a vasodilation in aorta and coronary and is able to reduce the blood pressure in normotensive and hypertensive rats. de Moraes TF[1], Rodrigues CNS[1], Oishi JC[1], Vatanabe IP[1], Rodrigues GJ[1] [1]Universidade Federal de São Carlos – UFSCar – Ciências Fisiológicas

06.006 Maternal Exposure to Fluoxetine Reduced Aortic Contraction in Female Progeny by Mechanism Involving Nitric Oxide and Prostacyclin Higashi CM[1], Sartoretto SM, Higachi L, Carvalho MHC, Pelosi GG, Barbosa DS, Gerardin DCC, Moreira EG, Akamine EH, Ceravolo GS[1] [1]UEL – Fisiologia e Farmacologia

06.007 Participation of TRPM4/TRPM7 channels in the cardiac activities of carvacrol on animals with essential hypertension. Alves QL, Santos PV, Jesus RLC, Oliveira SCDS, Froes TQ, Castilho MS, Silva DF UFBA

06.008 Mitochondrial DNA activates NLRP3 inflamassome and contributes to inflammatory response in the vasculature of type 1 diabetic mice. Pereira CA[1], Ferreira NS[1], Zanotto CZ[1], Carlos D[2], Tostes RC[1] [1]FMRP-USP – Farmacologia, [2]FMRP-USP – Bioquímica e Imunologia

06.009 Cardiovascular effects and vascular reactivity induced by linalool treatment of spontaneously hypertensive rats. Camargo SB[1], Simões LO[1], Medeiros CFA[1], Jesus AM[1], Evangelista A[2], Villareal CF[2], Fregoneze JB[3], Silva DF[1] [1]UFBA – Ciências da Saúde, [2]Fiocruz, [3]UFBA – Neurociências

06.010 Effects of artemether treatment on mice isolated cardiomyocytes contractility and calcium transient. Souza ACM[1], Mosqueira VCF[1], Richard S, Oliveira LT[1], Silveira APA[2], Rodrigues LA[2], Castro QJT[1], Guimarães HN[3], Grabe-Guimarães A[1] [1]UFOP – Ciências Farmacêuticas, [2]UFOP – Farmácia, [3]UFMG

06.011 Aldosterone activates NLRP3/inflammasome in the vasculature of type 2 diabetic mice. Ferreira NS[1], Bruder-Nascimento T[1], Zanotto CZ[1], Pereira CA[1], Prado DS[1], Alves-Filho JC[1], Carlos D[2], Tostes RC[1] [1]FMRP-USP – Farmacologia, [2]FMRP-USP – Biochemistry and Immunology

06.012 Placental-fetal interface is affected positively by sodium nitrite and sildenafil and concomitantly shows reductions in hypertension-in-pregnancy Gonçalves-Rizzi VH[1], Possomato-Vieira JS[1], Nascimento RA[1], Silva KP[1], Caldeira-Dias M[1], Sandrim VC[1], Dias-Junior CA[1] [1]IBB-Unesp-Botucatu – Farmacologia

06.013 Correlation between cardiovascular disorder and early exposure to the ambient pollutant 1,2-naphthoquinone: role of transient receptor potential channel. Soares AG[1], Florenzano J[1], Rodrigues L[1], Cunha C[1], Teixeira SA[1], Brain SD[2], Muscará MN[1], Costa SKP[1] [1]ICB-USP – Farmacologia, [2]King's College London – Cardiovascular Division

06.014 Estrone treatment improves endothelial dysfunction in ovariectomized Wistar rats. Oliveira TS[1], Campos HM[1], Bastos AM[1], Oliveira LP[1], Costa EA[1], Filgueira FP[2], Ghedini PC[1] [1]UFG – Farmacologia, [2]UFG – Ciências da Saúde

06.015 Cardioprotective effect of ipriflavone in female spontaneously hypertensive rats submitted to the left coronary ligature. Castro QJT[1], Mosqueira VCF[1], Pereira SC[1], Souza ACM[1], Amancio GCS[1], Guimarães HN[2], Leite R[1], Grabe-Guimarães A[1] [1]UFOP – Farmácia, [2]UFMG – Engenharia

06.016 Ethnopharmacological investigation of the diuretic properties of native species of the southern pantanal. Tirloni CAS[1], Vasconcelos PCP[1], Silva AO[1], Lopes GB[2], Tomazetto TA[1], Gasparotto Júnior A[1] [1]UFGD – Ciências da Saúde, [2]UFGD – Ciências Biológicas

06.017 Influence of physical exercise in SHR rats on treatment with captopril. Castro QJT, Watai PY, Souza ACM, Paula DCC, Antunes LR, Locatelli J, Guimarães HN, Oliveira LKB, Silva SSC, Guimarães AG – UFOP

06.018 Modulation of Intrarenal Gene Expression of Guanylate Ciclase-C, Guanylin and Uroguanylin and by Enalapril in 5/6 Nephrectomized rats. Alves NTQ[1], Costa PHS[1], Rodrigues FAP[1], Medeiros PHQS[1], Silveira JAM[1], Silva PLB[1], Viana DA[2], Nogueira Júnior FA[1], Ximenes RM[3], Havt A[1], Monteiro HSA[1] [1]UFC – Physiology and Pharmacology, [2]UECE, [3]UFPE – Antibiotics

06.019 Effect of physical training (Swimming) on sympathetic neurotransmission in shr of differents age groups. Garcia MP[1], Miranda-Ferreira R, Castro-Musial D[1], Souza BP[2], Jurkiewicz NH[1], Jurkiewicz A[1] [1]Unifesp – Farmacologia, [2]Unifesp

06.020 Novel sulfonylhydrazone compound (LASSBio-1773) ameliorates cardiovascular and renal dysfunction in streptozotocin-induced diabetic rats. Araújo JSC, da Silva JS, Trachez MM, Delgobbo MS, Silva TF, Lima LM, Barreiro EJ, Sudo RT, Zapata-Sudo G UFRJ – Farmacologia e Química Medicinal

06.021 Hydrogen Sulfide (H2S) donor reduces systolic blood pressure and stimulates nitric oxide production in rats with L-NAME-induced hypertension in pregnancy. Possomato-Vieira JS, Gonçalves-Rizzi VH, Nascimento RA, Silva KP, Caldeira-Dias M, Sandrim VC, Dias-Junior CA IBB-Unesp-Botucatu – Farmacologia

06.022 TNF-α mediates oxidative stress and vascular inflammation induced by ethanol consumption in mouse aorta with and without perivascular adipose tissue. Simplicio JA[1], Cunha TM[1], Tirapelli CR[2] [1]FMRP-USP – Farmacologia, [2]EERP-USP – Farmacologia

06.023 Northeastern Brazilian red wine is able to reduce oxidative stress and to improve vascular dysfunction in resistance arteries in hypertensive animals. Maciel MPM[1], Machado-Calzerra NT[1], Melo MP[1], Santos PF[1], Assis KS[1], Vieira RLP[2], Cavalcante AA[1], Albuquerque JGF[1], Meireles RLAM[3], Cordeiro AMTM[4], Ribeiro TP[1], Medeiros IA[1] [1]UFPB – Farmácia, [2]UFPB – Ciências da Saúde, [3]UFCG, [4]UFPB

06.024 Increased cellular excitability and its cross-talk with activity of the sympathoadrenal axis and hypertension development by chronic ethanol consumption by normotensive and hypertensive rats. Bomfim GHS[1], Méndez-López I[2], Padín JF[2], Jurkiewicz A[1], García AG[2], Jurkiewicz NH[1] [1]Unifesp-EPM – Farmacologia, [2]Universidad Autónoma de Madrid – Farmacologia

06.025 Effects of exercise on the cardiovascular response to repeated restraint stress in rats. Veríssimo LF[1], Volpini VL[1], Matsubara NK[1], Estrada VB[1], dos Santos DC[1], Marques LAC[1], Ceravolo GS[1], Gomes MV[2], Martins Pinge MC[1], Pelosi GG[1] [1]UEL – Ciências Fisiológicas, [2]UENP- Ciências da Saúde

06.026 Treatment with enalapril prevents functional decline in hypertensive rats dos Santos DC[1], Veríssimo LF[1], Raquel HA[1], Volpini VL[1], Marques LAC[1], Gomes MV[2], Fernandes KBP[2], Michelini LC[3], Pelosi GG[1] [1]UEL – Ciências Fisiológicas, [2]UNOPAR, [3]USP

06.042 Intrauterine and lactation exposure to fluoxetine affects endothelial response in aorta of rats subjected to acute restrain stress. Marques BVD[1], Novi DRBS[1], Zanluqui NG[2], Higashi CM[1], Picinin R[1], Pinge-Filho P[2], Gomes GGP[1], Ceravolo GS[1] [1]UEL – Ciências Fisiológicas, [2]UEL – Ciências Patólogicas

06.043 Evaluation of metabolic parameters in rat exposed to fluoxetine during early development. Moura KF, Marques BVD, Higashi CM, Costa GB, Barrionuevo DR, Ceravolo GS UEL – Ciências Fisiológicas

06.044 Vasorelaxant Effect of Asenapine Involves Endothelium-Dependent and -Independent Mechanisms Bastos AM[1], Campos HM[1], Oliveira TS[1], Brito RB[1], Costa EA[1], Filgueira FP[2], Ghedini PC[1] [1]UFG – Farmacologia, [2]UFG – Ciências da Saúde

06.045 Modulation of cardiac atpases involved with calcium homeostasis in rats fed with cholesterol rich diet obtained by eggs and butter supplementation. Silva RM[1], Marques EB[1], Scaramello CBV[1] [1]UFF – Fisiologia e Farmacologia

06.046 Evaluation of cardiotoxic activity of free ATM and into a nanocarrier. Souza ACM[1], Mosqueira VCF[1], Richard S, Vidal-Diniz AT[1], Silveira APA[2], Rodrigues LA[2], Castro QJT[1], Guimarães HN[3], Guimarães AG[1] [1]UFOP – Ciências Farmacêuticas, [2]UFOP, [3]UFMG

06.047 Acute and repeated restraint stress cause similar cardiovascular response in rats. Marques LAC[1], Volpini VL[1], Veríssimo LF[1], Santos DC[1], Matsubara NK[1], Estrada VB[1], Ceravolo GS[1], Gomes MV[2], Pelosi GG[1] [1]UEL, [2]UNOPAR

06.048 Endothelium-dependent vasorelaxant effect of the kuromanin compound in rat thoracic aorta. Campos HM[1], Bastos AM[1], Oliveira TS[1], Costa EA[1], Gil ES[2], Filgueira FP[3], Ghedini PC[1] [1]UFG – Farmacologia, [2]UFG – Farmácia, [3]UFG – Ciências da Saúde

06.049 Spontaneous and isoprenaline-evoked response of isolated heart preparations from rats submitted to early weaning. Alvim-Silva T[1], Barros RBM[1], Marques EB[1], Oliveira DF[2], Nascimento JHM[2], Scaramello CBV[1] [1]UFF – Fisiologia e Farmacologia, [2]UFRJ – Biofísica

06.050 Are involved H3 and H4 receptors in the regulation atrial in Wistar-EPM1 rats? Nascimento SR[1], Musial DC[1], Souza BP[1], Miranda-Ferreira R[1], Jurkiewicz A[1], Jurkiewicz NH[1] [1]Unifesp – Farmacologia

06.051 NLRP3 inhibition protects against aldosterone-induced endothelial dysfunction Pequeno IO[1], Nascimento TB[2], Tostes RC[2] [1]Centro Universitário Barão de Mauá – Farmacologia, [2]FMRP-USP – Farmacologia

06.052 Chronic ethanol consumption causes renal oxidative stress and increases susceptibility to sepsis Ricci ST, Ceron CS, Vale GT, Tirapelli CR [1]EERP-USP – Farmacologia

06.053 Pharmacological evaluation of agonist of estrogen receptor (GPR30) on skeletal muscle fatigue in male Zucker Diabetic Fat rats. Costa GC, Silva AMS, da Silva JS, Gabriel D, Sudo RT, Zapata-Sudo G UFRJ

06.059 Doxycycline-attenuation of ER-stress components: GRP78-eIF2 α is an additional mechanism to metalloproteinase inhibition in kidney protection after ischemia-reperfusion. Leal AC, Gonsalez SR, Melo PA, Lara LS UFRJ – Farmacologia

06.060 The anti-apoptotic arm of Endoplasmic Reticulum (ER) stress: GRP78/eIF2α/CHOP is involved in the survival of mesangial cells submitted to hypoxia-reoxygenation. Silva RC, Mendes LVP, Tortelote GG, Dias WB, Lara LS UFRJ

06.061 Influence of maternal exposure to Metformin on metabolic and cardiovascular parameters of male and female rat offspring. Novi DRBS[1], Forcato S[1], Vidigal CB[1], Loiola GH[1], Gerardin DC[1], Ceravolo GS[1] [1]UEL – Ciências Fisiológicas

06.062 The Venous Endothelium: A comparative study between Vena Cava and Portal Veins of Rats. Trindade MR, Assunção HCR, Torres TC, Landgraf RG, Fernandes L Unifesp-Diadema – Ciências Biológicas

06.063 Matrix Metalloproteinase (MMP)-2 contributes to early hypertrophic and eutrophic remodeling in hypertension by different regulation of Calponin-1. Parente JM, Maciel EA, Castro MM FMRP-USP – Farmacologia

06.064 Role of CGMP in early sepsis. Oliveira JG[1], Kovalski V[1], Prestes AP[1], Alves GF[1], Colarites DFR[1], Mattos JEL[1], Vellosa JCR[2], Fernandes D[1] [1]UEPG – Ciências Farmacêuticas, [2]UEPG – Análises Clínicas e Toxicológicas

06.065 Components of renin-angiotensin system in perivascular adipose tissue in thoracic aorta and mesenteric bed: Alterations promoted by high-fat diet obesity. Inada AC[1], Hashimoto CM, Silva RNO, Costa TJ, Santos-Eichler RA, Carvalho MHC, Akamine EH USP – Farmacologia

06.066 Modulation of leptin signaling in rats with cardiac dysfunction induced by hyperleptinaemia neonatal. Marques EB[1], Fernandes I[1], Fernandes-Santos C[2], Macedo FS[2], Scaramello CBV[1] [1]UFF – Fisiologia e Farmacologia, [2]UFF – Neurociências

06.067 TP receptors activation induces hydrogen peroxide production in the vascular smooth muscle cells from normotensive but not from renal hypertensive rat aorta. Santos JD[1], Grando MD[2], Bendhack LM[2] [1]FMRP-USP – Farmacologia, [2]FCFRP-USP – Física e Química

06.068 Effects of exercise on cardiovascular response to acute restraint stress in rats. Matsubara NK[1], Volpini VL[1], Veríssimo LF[1], Marques LAC[1], dos Santos DC[1], Estrada VB[1], Ceravolo GS[1], Gomes MV[2], Martins-Pinge M[1], Pelosi GG[1] [1]UEL – Ciências Fisiológicas, [2]UNOPAR – Ciências da Saúde

06.069 Mechanisms of action of metformin plus insulin treatment on high-fat diet/streptozotocin-induced diabetes in rats. Pereira ENGS, Silvares RR, Flores EEI, Estato V, Reis PA, Silva IJ, Machado MP, Neto HCCF, Tibiriçá E, Daliry A Fiocruz,

06.070 Atheroprotective effects of the enriched fraction obtained from *Ilex paraguariensis* A. St.-Hill. (n-FBIP) in rabbits. Gasparotto Júnior A, Gebara KS, Santiago PG UFGD – Toxicologia e Farmacologia Cardiovascular

06.071 Increased activity of matrix metalloproteinase (MMP)-2 in two kidney-one clip (2K-1C) hypertension-induced hypertrophic and dilated cardiac remodeling. Pereira SC, Sanchez ER, Tanus-Santos JE, Castro MM USP – Farmacologia

06.072 Simvastatin reduces endothelial adhesion molecules through 15-epi-lipoxin A4 production on a murine model of chronic Chagas cardiomyopathy. González-Herrera F[1], Pimentel P[2], Cramer A[2], Liempi A[3], Castillo C[3], Guzmán-Rivera D[1], Machado FS[2], Kemmerling U[3], Maya JD[1] [1]University of Chile – Clinical and Molecular Pharmacology, [2]UFMG – Biochemistry and Immunology, [3]University of Chile – Anatomy and Developmental Biology

06.073 G Protein-Coupled Receptor Kinase 2 (GRK2) levels are NO-dependent in septic kidney. Rosales TO, Horewicz VV, Assreuy J UFSC – Farmacologia

06.079 Evaluation of cardiovascular and renal parameters in a recovery model of hemorrhagic shock. Sordi R, Alves GF, Paiva NH, Vellosa JCR, Santos FA, Fernandes D, Gomes JR

06.080 LASSBio-788 inhibits inos-induced NF-κB expression through enos dependent signaling in aortas of hypercholesterolemic rats. Motta NAV[1], Lima GF[1], Barreiro EJ[2], Kummerle AE[3], Brito FCF[1] [1]LAFE-UFF – Fisiologia e Farmacologia, [2]LASSBio-UFRJ, [3]UFRRJ – Química

06.081 FPR2/ALX receptor activation is beneficial in pneumonia-induced sepsis. Horewicz VV, Assreuy J UFSC – Farmacologia

06.082 A new look into hypertension: A1 adenosine receptor function is potentiated in the right atrium of spontaneous hypertensive rats. Rodrigues JQD, Camara H, Jurkiewicz A, Godinho RO Unifesp-EPM – Farmacologia, [2]Unicamp

06.083 G-protein coupled estrogen receptor activation reduces cardiac, vascular and skeletal muscle dysfunction in female rats with pulmonary hypertension. Alencar AKN[1], Gabriel G[1], Silva A[1], Montes GC[1], Martinez ST[2], Fraga A[3], Wang H[4], Groban L[4], Sudo RT[1], Zapata-Sudo G[1] [1]UFRJ – Farmacologia e Química Medicinal, [2]UFRJ – Química, [3]UFRJ – Ciências Farmacêuticas, [4]Wake Forest University

06.089 The Adipokine Soluble Dipeptidyl Peptidase-4 Induces Endothelial Dysfunction Via Proteinase-Activated Receptor 2. Peiro C[1], Romacho T[2], VallejoS[1], Villalobos LA[1], Wronkowitz N[2], Indrakusuma I[2], Sell H[2], Eckel J[2], Sanchez-Ferrer CF[1] [1]Universidad Autónoma de Madrid – Pharmacology, [2]German Diabetes Center – Integrative Physiology

06.090 BK channel activation in chronic vasodilation by thiazide-like diuretics: role of the beta-1 auxiliary subunit.. Martín P[1], Ernique N[1], Rebolledo A[1], Asuaje A[1], Milesi V[1] [1]Instituto de Estudios Inmunológicos y Fisiopatológicos (IIFP CONICET-UNLP), Argentina

06.091 Vascular β-adrenoceptor desensitization in rats with blood pressure variability caused by sinoaortic denervation. Rocha ML[1], Silva BR[2], Lunardi CN[3], Ramalho LNZ[4], Bendhack LM[5] [1]UFG – Farmácia e Farmacologia, [2]FCF-USP, [3]UnB, [4]FMRP-USP, [5]FCFRP-USP

06.092 Endothelium potentiates the relaxation induced by a nitric oxide donor Martinelli AM, Vatanabe IP, Rodrigues CNS, Rodrigues GJ UFSCar – Ciências Fisiológicas

06.093 Mechanisms related to prostanoids cooperate with Nitric Oxide to maintain reduced the Angiotensin II (ANG II) responses in femoral veins of hypertensive rats (2K1C) during exercise. Ledo PBO, Oliveira PR, Chies AB FAMEMA – Farmacologia

06.094 Role for the pentose phosphate pathway in the vascular cell damage induced by high glucose Sanchez-Ferrer CF[1], Romacho T[1], Azcutia V[1], Villalobos L[1], Fernandez E[2], Bolaños JP[2], Moncada S[3], Peiro C[1] [1]Facultad de Medicina, Universidad Autónoma de Madrid – Farmacologia, [2]Universidad de Salamanca-CSIC – Instituto de Biología Funcional y Genómica, [3]University College London – Wolfson Institute for Biomedical Research

07. Endocrine, Reproductive and Urogenital Pharmacology

07.001 Spermatic evaluation in rats submitted to neonatal leptin treatment, a model of maternal malnutrition during lactation. Maia IC, Gontijo LS, Marques EB, Ribas JAS, Scaramello CBV, Marostica E UFF – Fisiologia e Farmacologia

07.002 Soluble guanylyl cyclase activation by BAY 58-2667 improves bladder function in a mouse model of interstitial cystitis. de Oliveira MG, Calmasini FB, Alexandre EC, De Nucci G, Mónica FZ, Antunes E FCM-Unicamp – Farmacologia

07.003 How important is Alpha-1 adrenoceptor in primate and rodent proximal urethra? Alexandre EC, Oliveira MG, Campos R, Kiguti LR, Calmasini FB, Silva FH, Antunes E – FCM-Unicamp – Farmacologia

07.004 Sexual dysfunction of hypertensive female rat improved with chronic ipriflavone treatment in both youth and senescence. Martins TA, Mendes JC, Rodovalho GV, Grabe-Guimarães A, Mosqueira VCF, Leite R UFOP – Ciências Farmacêuticas

07.005 Pregnant rats treated with dexamethasone show altered lipid metabolism during lactation. Mesquita FPN[1], Teixeira CJ[1], Souza DN[1], Santos-Silva JC[2], Veronesi VB[1], Ferreira DS[1], Silva PMR[1], Murata G[2], Anhê GF[1], Bordin S[2] [1]FCM-Unicamp – Farmacologia, [2]USP – Biofísica e Fisiologia

07.011 Different β-defensins display contrasting gene expression and cellular distribution patterns during rat Wolffian duct morphogenesis. Ferreira LGA[1], Ribeiro CM[1], Hinton BT[2], Avellar MCW[1] [1]Unifesp-EPM – Farmacologia, [2]University of Virginia School of Medicine

07.012 Impact of LPS- and LTA-induced epididymitis on sperm parameters in rats. Silva AAS[1], Silva GC[1], Ribeiro CM[2], Avellar MCW[2], Silva EJR[1] [1]IBB-Unesp-Botucatu – Farmacologia, [2]Unifesp-EPM – Farmacologia

07.013 Use of gene expression as a marker of efficacy in the pharmacological treatment of levothyroxine in hypothyroid individuals. Silva VA, Almeida RJ, Teixeira PVL, Silva LM, Pesquero JB, Camacho CP Uninove – Biophysics.

07.014 Effectiveness and clinical inertia in the management of type 2 diabetes mellitus in patients in Colombia. Machado-Duque M, Machado-Alba J, Ramirez-Riveros C

07.015 Histomorphometric evaluation of corpus cavernosum in spontaneously hypertensive rats with 5-α-reductase inhibitors treatment. da Silva MHA, de Souza DB, Costa WS, Sampaio FJB UERJ – Fisiopatologia e Ciências Cirúrgicas

07.016 N-Acetylcystein action on biomarkers of oxidative stress in the myocardium of diabetic rats. Kaga AK, Barbanera PO, Carmo NOL, Silva DF, Queiroz PM, Rosa LRO, Fernandes AAH IBB-Unesp-Botucatu – Química e Bioquímica

07.017 Estrogen receptors ESR2 play a role in the differentiation of Sertoli cells from 20-day-old rats. Macheroni C, Nascimento AR, Lucas TFG, Porto CS – Unifesp-EPM – Farmacologia

07.018 Prenatal dexamethasone treatment disrupts the physiological UPR-induced burst of apoptosis in islets of lactating rats. Souza DN[1], Santos-Silva JC[2], Silva PMR[1], Ferreira DS[1], Sollon CS[1], Mesquita FPN[1], Teixeira CJ[1], Gomes PR[2], Anhê GF[1], Bordin S[2] [1]FCM-Unicamp – Farmacologia, [2]ICB-USP – Biofísica e Fisiologia

07.019 The modulation of rat seminal vesicle smooth muscle by purinergic transmission. Kiguti LRA, Campos RM, Antunes E Unicamp – Farmacologia

07.020 Nitric oxide donor compound 3-(1,3-dioxoisoindolin-2-yl)benzyl nitrate reverses increased nitric oxide-mediated cavernosal relaxations in transgenic sickle cell mouse model of priapism. Silva FH[1], Karakus S[2], Musicki B[2], dos Santos JL[3], Costa FF[1], Burnett AL[2] [1]Unicamp – Hemocentro, [2]Johns Hopkins Medicine – Urology, [3]FCFar-Unesp-Araraquara

07.021 Epidermal growth factor pathway regulates androgen-induced Wolffian duct morphogenesis. Ribeiro CM[1], Hinton BT[2], Avellar MCW[1] [1]Unifesp-EPM – Farmacologia, [2]University of Virginia School of Medicine – Cell Biology

08. Respiratory and Gastrointestinal Pharmacology

08.001 Role of the TRPV1 receptor in plasma extravasation induced by captopril in rat airways. Matias-Oliveira JRJ[1], Otuki MF[1], Cabrini DA[1], Brusco I[2], Oliveira SM[2], Ferreira J[3], André E[1] [1]UFPR- Farmacologia, [2]UFSM – Bioquímica, [3]UFSC – Farmacologia

08.002 Functional evaluation of guinea-pig tracheal contractile reactivity in a model of chronic allergic asthma. Silva MCC, Vasconcelos LHC, Costa AC, Oliveira GA, Cavalcante FA, Silva BA DCF-UFPB

08.003 Evaluation of gastric healing activity of *Baccharis dracunculifolia* hidroalcoholic extract and the contribution of its isolated compounds. Costa P[1], da Silva LM[1], Boeing T[1], Somensi LB[1], Bastos JK[2], Andrade SF[1] [1]Univali – Ciências Farmacêuticas, [2]FCFRP-USP

08.004 Effect of pyridostigmine on respiratory dysfunction in mdx mouse Amancio GCS[1], Silva-Barcelos MN[1], Cazorla O[2], Grabe-Guimarães A[1] [1]UFOP – Ciências Farmacêuticas, [2]Université de Montpellier

08.005 Gastroprotective xanthones isolated from *Garcinia achachairu*: Study on mucosal defensive factors and H^+, K^+-ATPase activity Mariano LNB, da Silva LM[1], de Souza P[1], Boeing T[1], Somensi LB[1], Bonomini TJ[1], Cechinel-Filho V[1], de Andrade[1], Niero R[1] [1]Univali

08.010 Pharmacological effects of β-Phenylethylamine (β-PEA) on the contractility of stomach fundus and ileum isolated strips of rats. Oliveira TL, Rodrigues FMS, Batista-Lima FJ, Brito TS, Magalhães PJC UFC – Farmacologia e Fisiologia

08.011 Evaluation of antioxidant and gastroprotective activities of ethanolic extract of *Avicennia schaue*riana Stapf & Leechman. Rios ACM[1], Barbosa JAP[1], Melo MCS[1], Santana MAN[1], Oliveira TB[1], Bastos IVGA[1], Correa AJC[2], Souza MVB[3], Neto PPM[1], Vieira JRC[4], Silva TG[1] [1]UFPE – Antibióticos, [2]UFPE – Ciências Farmacêuticas, [3]UFPE – Química, [4]UFPE – Ciências Biológicas

08.012 Study of gastroprotective activity *Wissadula periplocifolia* L. (Malvaceae) Mice. Barros MEFX, Teles YCF, Formiga RO, Pessoa MMB, Souza MFV, Batista LM UFPB – Ciências da Saúde

08.017 Activity antiulcer extract of nebulized *Spondias mombin* (Anacardiaceae) Araruna MEC[1], Santos VL[2], Medeiros ACD[2], Silva PR[1], Rego RIA[1], Albuquerque HCP[1], Cabral ILO[1], Dantas RS[1], Medeiros FD[2], Ribeiro AP[1] [1]UEPB, [2]UEPB – Ciências Farmacêuticas

08.018 Anti-motility pathways involved in the antidiarrheal mechanisms of action of *Maytenus erythroxylon* Reissek (Celastraceae) ethanol extract in mice. Formiga RO, Machado FDF, Barros MEFX, Pessoa MMB, Quirino ZGM, Tavares JF, Batista LM UFPB

08.019 Constituents of aerial parts from *Bauhinia curvula* exert gastroprotective activity in rodents by favoring defensive factors of gastric mucosa. Beber AP[1], da Silva LM[1], Boeing T[1], Somensi LB[1], Cury BJ[1], da Silva CB[2], Simionatto E[3], Andrade SF[1] [1]Univali – Ciências Farmacêuticas, [2]UFPR- Ciências Farmacêuticas, [3]UFMS – Química

08.020 Investigation of spasmolytic and antitussive activities of essential oil from *Lippia origanoides.* Menezes PMN[1], Brito MC[2], Paiva GO[2], Lucchese AM[3], Ribeiro LAA[2], Silva FS[2] [1]UNIVASF – Recursos Naturais do Semiárido, [2]UNIVASF – Ciências Farmacêuticas, [3]UEFS – Ciências Exatas

08.021 Antispasmodic effect of *Platonia insignis* Mart. ethanolic extract on rat isolated trachea. Almendra RB[1], Santos RS[1], Rodrigues TO[1], Vieira MM[1], Costa ICG[2], Lima GM[1], Chaves MH[2], Oliveira RCM[1], Santos RF[1] [1]NPPM-UFPI, [2]UFPI – Chemistry

08.022 Airway relaxant properties of JME-173, a mexiletine analogue planned to present limited inhibitory effect on the sodium channel. Carvalho KIM[1], Joca HC[2], Souza ET[1], Cruz JD[2], Silva ET[1], Costa JCS[1], Silva PMR[1], Martins MA[1] [1]Fiocruz, [2]UFMG

08.023 Alcoholic fatty liver disease: a new promisor pharmacological treatment with *Baccharis trimera.* Lívero FAR[1], Telles JEQ[2], Franco CRC[3], Acco A[1] [1]UFPR- Farmacologia, [2]UFPR- Patologia, [3]UFPR- Biologia Celular e Molecular

09. Natural Products and Toxinology

09.001 Vasorelaxant and antioxidant effect of the hydroalcoholic fraction of *Sida santaremnensis* H. Monteiro (Malvaceae) in rodents. Souza FM[1], Santos MEP[1], Azevedo PSS[1], Moura LHP[2], Silva Filho JC[3], Costa DA[4], Sousa BM[5], Medeiros JVR[5], Oliveira AP[1] [1]NPPM-UFPI, [2]UFPI, [3]UFPI – EBSERH/HU, [4]UFCG, [5]UFPI – LAFFEX

09.002 Hematological and biochemical effects after repeated exposure to pequi oil. Traesel GK, Menegati SELT, Villas Boas GR, Kassuya CAL, Argandoña EJS, Oesterreich SA

09.003 Hydroalcoholic extract from inflorescences of Achyrocline satureoides ameliorates dextran sulphate sodium (DSS)-induced colitis in mice by attenuation in the production of inflammatory cytokines and oxidative mediators. Boeing T, Silva LM, Farias JAM, Somensi LB, Cury BJ, Santin JR, Andrade SF Univali – Ciências Farmacêuticas

09.004 Antiproliferative activity of *Melaleuca alternifolia*, (+) and (-)-Terpinen-4-ol. Maccari FLR[1], Ruiz ALTG[2], Bergamo JC[1], Carvalho JE[2], Scarpa MV[1], Oliveira AG[1] [1]FCFar-Unesp-Araraquara – Ciências Farmacêuticas, [2]Unicamp – Farmacologia

09.005 *Uncaria tomentosa* improves steatohepatitis and insulin sensitivity via inhibition of irs1 phosphorylation in serine 307. Araujo LCC, Furigo IC, Murata GM, Donato Junior J, Bordin S, Curi R, Carvalho CRO USP – Fisiologia e Biofísica

09.006 Antinociceptive and anti-inflammatory effects of the bioflavonoid peltatoside and filtered hydroalcoholic fraction from *Annona crassiflora* Mart. leaves in mice. Oliveira CC[1], Matos NA[1], Veloso CC[1], Ferreira RCM[1], Lage GA[2], Pimenta LPS[2], Klein A[1], Romero TRL[1], Perez AC[1] [1]ICB-UFMG, [2]ICEX-UFMG

09.007 Topical anti-inflammatory activity of *Sideroxylon obtusifolium* in experimental models of dermatitis in mice. de Oliveira FTB[1], Nunes PIG[1], Viana AFSC[1], dos Santos SM[2], Alves APNN[3], Silveira ER[2], Santos FA[1] [1]UFC – Farmacologia e Fisiologia, [2]UFC – Química Organica, [3]UFC – Clínica Odontológica

09.008 Reproductive toxicity of males treated with different doses rosemary essential oil. Santos LD[1], Dantas AS[2], Centeno RR[2], Silva PR[3], Mello FB[3], Mello JRB[2] [1]UFRGS – Medicina Veterinária, [2]UFRGS, [3]UFCSPA

09.009 Frutalin induces human fibroblast migration. Sousa FD[1,2,3], Brandao da Silva AF[4], Shiwen X[2], Monteiro-Moreira ACO[3], Moreira RA[1,3], Owen J[4], Abraham J[2] [1]UFC – Bioquímica, [2]University College London – Centre for Rheumatology and Connective Tissue Diseases, [3]Nubex-RENORBIO-UNIFOR, [4]University College London – Institute of Liver and Digestive Health

09.010 Gastroprotective activity of the anthocyanins-rich extracts and the flour from fruits of *Chrysophyllum cainito.* da Rosa RL[1], Boeing T[1], Somensi LB[1], Cury BJ[1], de Souza P[1], da Silva LM[1], de Andrade SF[1] [1]Univali – Ciências Farmacêuticas

09.011 A naphthoquinone from *Sinningia canescens* inhibits inflammation and fever in mice. Lomba LA, Leite MG, Souza VEP, Vogt PH, Stefanello MEA, Verdan MH, Zampronio AR UFPR

09.012 Matrix metalloproteinase-9 and -2 activity is reduced by (-)-myrtenol during healing of acetic acid-induced gastric ulcer in rats. Viana AFSC[1], Nunes PIG[1], Oliveira AA[1], Viana DA[2], Braga AD[3], Santos VG[3], Lopes MTP[3], Sousa DP[4], Oliveira RCM[5], Santos FA[1] [1]UFC – Farmacologia e Fisiologia, [2]Patologia e Medicina Forense, [3]UFMG – Farmacologia e Fisiologia, [4]UFPB – Química, [5]UFPI – Farmacologia

09.013 Phytochemical analysis and hepatoprotective activity of aqueous extract in the leaves of *Solanum torvum* Sw. (Solanaceae). Souza GR[1], de Oliveira ACAX[2], Paumgartten FJR[2], Barbi NS[3], da Silva AJR[1] [1]IPPN-UFRJ, [2]ENSP-Fiocruz, [3]UFRJ – Farmácia

09.014 Proteolytic fraction from *Vasconcellea cundinamarcensis* latex shows antitumor/antimetastatic activity probable by modulation of tumor associated macrophages. Braga AD[1], Teixeira LCR[1], Freitas KM[1], Salas CE[2], Lopes MTP[1] [1]ICB-UFMG – Farmacologia, [2]ICB-UFMG – Biochemistry and Immunology

09.015 Effects of polyanions and antibotropic serum on some activities of *Bothrops leucurus* venom. Cons BL[1,2], Tomaz MA[1,2], Strauch MA[3], Monteiro-Machado M[1,2], Tavares-Henriques MS[1,2], Cruz JMT[1,2], Saturnino Oliveira J[4], Melo PA[1,2] [1]UFRJ – Ciências da Saúde, [2]UFRJ – Farmacologia e Química Medicinal, [3]Instituto Vital Brasil – Diretoria Científica, [4]UFS – Morfologia

09.028 Investigation of Spamolytic Activity of the *Croton echioides* Ball. (Euphorbiaceae) Silva ARLFC[1], Figueiredo IAD[2], Oliveira FRMB[2], Ferreira SRD[3], Silva TMS[4], Cavalcante FA[3,5] [1]UFPB – PIVIC/CNPq, [2]UFPB – PIBIC/CNPq, [3]UFPB – PPgPNSB, [4]UFRPE – DCM, [5]UFPB – DFP

09.029 Effects of the association of crotamine and thioridazine in mice skeletal muscle contraction evaluated in ex vivo assay Porta LC[1], Lima SC[1], Duarte T[1], Campeiro JD[1], Oliveira EB[2], Rodrigues T[3], Godinho RO[1], Hayashi MAF[1] [1]Unifesp-EPM – Farmacologia, [2]FCFRP-USP – Bioquímica e Imunologia, [3]UFABC – Ciências Naturais

09.030 Effect of four categories of yellow maca aqueous extract (Lepidium meyenii**) from Huallanca (Ancash) on testis, epididymis and deferens vas sperm count in experimental animals.** Sanchez SL, Gonzales GF

09.031 Evaluation of the effects caused by different concentrations of Aflatoxin B_1 in jundiás (*Rhamdia quelen*) by hematologic evaluations. Barbosa CK, Soares RL, Régio RR, Iachinski EA, Araújo CMTD, Rocha DCC, Ribeiro DR, Anater A, Pimpão CT PUCPR – Medicina Veterinária

09.032 Evaluation of the immunomodulatory effect of essential oil obtained from *Eremanthus erythropappus* McLeish Rich In α-bisabolol and α-bisabolol isolated towards lymphocytes obtained from mice bearing experimental autoimmune encephalomyelitis *in vitro*. Silva SK[1], Alves JV[1], Silva CA[1], Silva AM[2], Rovarotto CF[3], Silva GAA[3], Silva IRS[1], Santos LMB[3], Farias AS[3], Rocha-Parise M[1] [1]UFG, [2]Instituto Federal Catarinense, [3]Unicamp

09.033 Evaluation of acute and subacute toxicities of the aqueous extract of *Chrysobalanus icaco*. Silva NM[1], Rios ACM[1], Carvalho VMF[1], Neto PPM[1], Guerra ASHS[1], Melo MCS[1], Ribeiro NE[1], Carvalho-Júnior CHR[1], Oliveira TB[1], Silva TG[1] [1]UFPE – Antibióticos

09.034 Effect of *Allium cepa* L. extract in lung and pancreas of diabetic rats streptozotocin-induced. Lemos LIC, Medeiros MA, Silva FS, Abreu BA, Bortolin RH, Rezende AA, Medeiros KCP

09.035 Oceanapia sp. Sponge Also Presents Dual Effect On Intestinal Motility In Mice Figueiredo IAD[1], Pereira JC[2], Ferreira SRD[2], Moreno GTA[1], Oliveira FRMB[1], Santos BVO[2,3], Silva BA[2,3], Cavalcante FA[2,4] [1]PIBIC/UFPB, [2]PPgPNSB/UFPB, [3]DCF/UFPB, [4]DFP/UFPB

09.036 Chemoprotector potential of the flavonoid hesperidin in the carcinogenesis model induced by 1,2-dimethylhydrazine in mice C57/BL6 Machado JLP[1], Nascimento LNS[1], Cordeiro PGA[1], Lopes MSP[1], Paz APS, Aires WC[2], Vierira V[2], Serquetto PL[3], Novaes R[4], Hamoy M[1], Mello VJ[1] [1]UFPA – Farmacologia e Toxicologia de Produtos Naturais, [2]UFPA, [3]Universidade Federal de Juiz de Fora – UFJF, [4]Unifal

09.037 *In vitro* antibacterial activity of plant extracts on pathogens of clinical importance. Melo BO[1], Maia HS[1], Nascimento OMO[1], Silva TFC[1], Carmo MS[1], Bomfim MRQ[1] [1]Universidade Ceuma – Programa de Pós-Graduação

09.038 Antimicrobial activity of *Piper bogotense* against *Salmonella cholerae-suis* and *Staphylococcus aureus* and the effect of fertilization changes on its metabolome. Rincón-Aceldas S[1], Botero-Villegas N[1], Gonzáles-Bernal V[1], Coy-Barrera E[1] [1]Universidad Militar Nueva Granada – Laboratorio de Química Bioorgánica, Facultad de Ciencias Básicas y Aplicadas

09.039 Metabolic profiling-based identification of antioxidants from bacterial endophytes isolated from *Genista monspessulana* Botero-Villegas N[1], Coy-Barrera E[1] [1]Universidad Militar Nueva Granada – Laboratorio de Química Bioorgánica, Facultad de Ciencias Básicas y Aplicadas

09.046 Macroscopic and histological evaluation of vital and reproductive organs of rats after subacute exposure to the aqueous extract of *Alibertia edulis* leaves. Menegati SELT[1], Traesel GK[1], Lima FF[1], Castro LHA[1], Souza RIC[1], Santos AC[1], Oesterreich SA[1], Vieira MC[1] [1]UFGD

09.047 Study of the gastroprotective activity of menthofuran in rodents. Alves NM[1], Martins MCC[2], Nunes PHM[2], Brito AKS[1], Sousa SS[1], Freitas MCL[2], Medina HC[2], Garcez AM[2], Pacheco JFR[2], Santos RS[1], Fernandes HB[2], Oliveira IS[1], Nunes ASS[1] [1]UFPI – Bioquímica e Farmacologia, [2]UFPI – Biofísica e Fisiologia

09.048 Anti-pruritic and anti-inflammatory effects of the salivary gland extract of the mosquito *Aedes aegypti* in mice dorsal skin. Cerqueira ARA[1], Rodrigues L[1], Teixeira SA[1], Muscará MN[1], Sá-Nunes A[2], Costa SKP[1] [1]ICB-USP – Farmacologia, [2]ICB-USP – Imunologia

09.049 Effect of *Euterpe oleracea* Mart extract (açaí) on aerobic exercise training rats. Soares RA, Bem GF, Costa CA, Santos IB, Carvalho LCRM, Okinga A, Oliveira BC, Mello JSMF, Cordeiro VSC, Rocha APM, Ognibene DT, Moura RS, Resende AC UERJ

09.050 Spasmolytic action mechanisms of the total glycoalkaloids fraction from *Solanum Crinitum* Lam. (Solanaceae) fruits on guinea pig ileum. Ferreira SRD[1], Souza ILL[1], Moreno GTA[2], Oliveira FRMB[2], Figueiredo IAD[2], Silva TMS[3], Cavalcante FA[4] [1]UFPB – PPgPNSB, [2]UFPB – PIBIC/CNPq, [3]UFRPE – DCM, [4]UFPB – DFP/PPgPNSB

09.057 Neuromuscular and hemodynamic responses to *Micrurus lemniscatus lemniscatus* (South American Coral Snake) venom. Floriano RS[1], Schezaro-Ramos R[1], Pereira BB[1], Panunto PC[1], Dias L[1], da Silva Jr NJ[2], Rowan EG[3], Hyslop S[1] [1]Unicamp – Farmacologia, [2]PUC-Goiás – Biologia, [3]University of Strathclyde – Pharmacy and Biomedical Sciences

09.058 Effects of batroxase, a metalloprotease isolated from *Bothrops atrox* snake venom, over the hemostasis of rats. Jacob-Ferreira AL[1], Menaldo DL[1], Sartim MA[1], Sampaio SV[1] [1]FCFRP-USP – Análises Clínicas, Toxicológicas e Bromatológicas

09.059 Effects of *Euterpe oleracea* Mart. (açaí) extract on metabolic changes associated with obesity: role of renin angiotensin system. Bem GF[1], Santos IB[1], Costa CA[1], Carvalho LCRM[1], Cordeiro VSC[1], Soares RA[1], Costa GF[1], Okinga A[1], Medeiros AF[1], Romão MH[1], Rocha APM[1], Ognibene DT[1], Moura RS[1], Resende AC[1] [1]UERJ

09.060 Effect of Chronic Administration of *Marrubium vulgare* in Neonates Calves. Schlemper V[1], Soares EL[1], Schlemper SRM[1], Roman Junior WA[2] [1]UFFS – Medicina Veterinária, [2]Universidade Comunitária da Regia de Chapecó – UNOCHAPECÓ – Curso de Farmácia

09.061 Hydroalcoholic crude extract from *Citrus reticulata* Blanco (HCE-CR) reduces hyperalgesia in a model of colitis induced by DSS in mice. Piovezan AP[1,2], Gysemans BM[3], Lisbôa MEM[3], Magnago RF[4], Duarte ECW[5], Cargnin-Ferreira E[6] – [1]LaNEx-UNISUL, [3]UNISUL – Medicina-UNISUL, [5]UFSC, [6]IFSC – Histological Markers

09.062 Anti-inflammatory and toxicological potential of hydrolyzed extract of *Agave sisalana* Santos L, Ondaera GK FCLAs-Unesp-Assis – Ciências Biológicas

09.063 Acute cutaneous lesions induced by *Bothrops jararacussu* snake venom in mice: Antagonism by heparina. Borges PA[1], Nogueira TA[2], Oliveira FL[3], Calil-Elias S[4], Melo PA[3,5] [1]UFRJ – Farmacologia e Química Medicinal, [2]UFF, [3]UFRJ, [4]UFF – Ciências Aplicadas a Produtos para Saúde, [5]Farmacologia e Química Medicinal

09.064 Characterization of the Anti-Helicobacter pylori activity of semi-synthetic Pyrogalloyl-flavan-3-ols obtained from polymeric proanthocyanidins of *Peumus boldus* leaves and Avocado Peels. Pastene E[1], Parada V[1], Torres E[1,2], Avello M[1], Alarcon J[3], Zuñiga F[4], Saavedra A[1], Aranda M[5], Garcia A[2] [1]Universidad de Concepción – Laboratorio de Farmacognosia, Facultad de Farmacia, [2]Universidad de Concepción – Microbiología, Facultad de Ciencias Biológicas, [3]Universidad del Bio-Bio – Facultad de Ciencias Básicas, [4]Universidad de Concepcion – Bioquímica Clínica e Inmunología, Facultad de Farmacia, [5]Universidad de Concepcion – Ciencia y Tecnología de Alimentos, Facultad de Farmacia

09.065 Effects of Açaí seed extract (*Euterpe oleracea* Mart.) on maternal and fetal changes in experimental preeclampsia. Silva AS, Carvalho LCRM, Costa CA, Bem GF, Nunes DVQ, Menezes MP, Soares de Moura R[1], Resende AC[1], Ognibene DT UERJ – Farmacologia

09.066 Anti-obesity and hipogycemic effect of *Myracrodruon urundeuva.* Calou IBF, Veloso FKS, Ribeiro DES, Araújo MC, Lima GS, Negreiros HA, Lima LAR, Lopes JP, Viana GSB

09.067 Characterization of the phenolic compounds, free radical scavenger and vasorelaxant activities induced by lyophilized grape skins waste extracts. Albuquerque JGF[1], Basilio IJLD[1], Assis VL[1], Almeida AJPO[1], Meireles

BRLA[2], Codeiro AMTM[3], Veras RC[1], Ribeiro TP[1], Medeiros IA[1] [1]UFPB – Ciências Farmacêuticas, [2]UFCG – Ciência e Tecnologia Agroalimentar, [3]UFPB – Tecnologia e Desenvolvimento Regional

10. Cancer Pharmacology

10.001 Melatonin receptors as pharmacological targets for glioma therapy. Kinker GS[1], Oba-Shinjo SM[2], Carvalho-Sousa CE[1], Muxel SM[1], Marie SKN[2], Markus RP[1], Fernandes PA[1] [1]IB-USP – Fisiologia, [2]FM-USP-Neurologia

10.002 Bioprospection of compounds isolated from *Combretum fruticosum* with antiproliferative potential in tumor cells. Moura AF[1], Lima KSB[2], Sousa TS[2], Marinho-Filho JDB[1,3], Pessoa CO[4], Silveira ER[2], Pessoa ODL[2], Moraes MD[1], Araújo AJ[1,3] [1]UFC – Fisiologia e Farmacologia, [2]UFC – Química Organica, [3]UFPI – Curso de Medicina, [4]Fiocruz

10.003 Antitumoral activity of ethanolic extract and the diterpene Fruticulin A of *Salvia Lachnostachys* in Ehrlich Solid Carcinoma model in mice. Corso CR[1], Stipp MC[1], Adami ER[1], Oliveira CS[2], Stefanello MEA[2], Acco A[1] [1]UFPR- Farmacologia, [2]UFPR- Química

10.004 Effect of TrkB Selective Blockade in A172 glioblastoma cells. Pinheiro KV[1], Silva CA[1], Gil MS[1], Duque MB[1], Thomaz ACG[1], de Farias CB[2], Roesler R[1] [1]UFRGS, [2]ICI-RS

10.005 Mechanisms underlying the anti-tumor effects of quinoxaline-derived chalcones in oral squamous cell carcinoma. Mielcke TR[1], Erig TC[1], Chiela EC[2], Mascarello A[3], Chiaradia L[3], Nunes RJ[3], Campos MM[1] [1]PUCRS, [2]UFRGS, [3]UFSC

10.006 *In vitro* Antiproliferative Effect Of 2-Quinoxalinyl-Hydrazones Derivatives In Tumor Cells Maranhão SS[1], Moura AF[1], Sousa FCE[2], Luciano MCS[2], Paier CRK[2], Nepomuceno FWAB[3], Souza MVN[4], Pessoa CO[4] [1]UFC – Fisiologia e Farmacologia, [2]UFC, [3]UNILAB, [4]Fiocruz

10.012 Copaiba oil effects on evolution of Walker 256 tumor inoculated in the female rats bladder. Botelho NM, Leite GMO, Praia WC, Nunes MP, Dórea MA UEPA – Ciências Médicas

10.013 *In vitro* cytotoxicity of synthetic hydrazones against human tumor cell lines. Brito JV[1], Oliveira AC[1], Rocha DD[1], Pessoa CO[2], Sousa NS[3] [1]UFC – Farmacologia UFC, [2]Fiocruz-CE, [3]UFRJ

10.014 Melatonergic system modulates human medulloblastoma cell growth and patient survival. Ostrowski LH[1], Kinker GS[1], Marie SNK[2], Rivara S[3], Spadoni G[4], Markus RP[1], Fernandes PA[1] [1]IB-USP – Fisiologia, [2]FM-USP – Neurologia, [3]Università degli Studi di Parma – Farmacologia, [4]Università degli Studi di Urbino "Carlos Bo" – Química Farmacêutica e Toxicológica

10.015 Effects of ML3403, a P38/MAPK inhibitor, on human glioma cell proliferation. Marchi FO, Tort ABL, Laufer S, Cappelari AR[1], Morrone FB PUCRS

10.016 Copaiba oil effect on Walker 256 tumor evolution in female rats kidney. Aguiar MMF, Nunes MP, Praia WC, Nascimento JBL, Dórea MA, Leite GMO, Gonçalves BH UEPA – Cirurgia

10.017 Chemical characterization of the Copaiba's oil essence and cell viability study. Santos JM, Souza VB, Radaic A, Mazon SB, Queiroga C, Schenk AA, Cunha IBS, Marques LA, Eberlim MN

10.023 Synergistic activity of deguelin and fludarabine in cells from chronic lymphocytic leukemia patients and in the New Zealand black murine model. Rebolleda N[1], Losada-Fernández I[1], Perez-Chacon G[2], Castejon R[3], Rosado S[3], Morado M[4], Vallejo-Cremades MT[5], Martinez A[1], Perez-Aciego P[1], Vargas JA[3] [1]Fundación LAIR, Madrid, Spain, [2]Instituto de Investigaciones Biomédicas Alberto Sols, CSIC-UAM, Madrid, Spain, [3]Servicio de Medicina Interna, Hospital Universitario Puerta de Hierro Majadahonda, IDIPHIM, Universidad Autónoma de Madrid, [4]Servicio de Hematología y Hemoterapia, Hospital Universitario La Paz, Madrid, Spain, [5]Laboratorio de Imagen, Plataforma Apoyo a la Investigación, IdiPaz, Hospital Universitario La Paz.

10.024 Lipoxin A_4 analog selectively alters the tumor-associated macrophage profile leading to control of tumor progression. Simões RL[1], de Brito NM[1], Cunha-da-Costa H[1], Morandi V[1], Fierro IM[1], Roitt IM[2], Barja-Fidalgo TC[1] [1]UERJ , [2]Middlesex University – London, UK

10.025 Dysregulation of redox enzymes in Barrett's oesophagus and gastro-intestinal cancer. Simpson L[1], Battle DM[1], Dias-Gunasekara S[1], Viswanath YKS[2], Benham AM[1] [1]Durham University – Biological and Biomedical Sciences, [2]James Cook University Hospital

11. Clinical Pharmacology, Pharmacokinetics, Pharmacogenomics and Toxicology

11.001 Fixed-dose single-pill formulation of nebivolol plus hydrochlorothiazide and separated formulations in human subjects: a bioequivalence study. Iwamoto RD[1], Vespasiano CFP[1], Laurito TL[1], Moreno RA[2], Mendes GD[3], De Nucci G[1] [1]Unicamp – Farmacologia, [2]Galeno Research Unit, [3]UniCastelo

11.002 Toxicological evidences of methanolic extract from leaves of Rubus imperialis in DSS-induced colitis in mice and cytotoxic potential of its components niga-ichigoside F1, tormentic acid and 2β, 3β, 19α-trihydroxyursolic acid.. Somensi LB[1], da Silva LM[1], Boeing T[1], Niero R[1], Andrade SF[1] [1]Univali – Ciências Farmacêuticas

11.003 The yerba-mate (Ilex paraguariensis A. St.-Hil.) extract consumption influence cardiovascular endpoints: A clinical study. Gebara KS[1], Cardozo Júnior EL[2], Gasparotto Júnior A[1], Costa TA[2], Schimidt WO[1], Gozzi PT[2], Mello MRF[2] [1]UFGD – Ciências da Saúde, [2]Unipar – Ciências Médicas, Biológicas e da Saúde

11.004 Differential EDN2 expression induced by plasma from nonresponsive preeclamptic patients in endothelial cells. Dias MC, Cavalli RC, Deffune E, Sandrim VC

11.005 Reproductive toxicity assessment of *Origanum majorana* essential oil in Wistar rats. Dantas AS[1], Santos LD[1], Mello FB[1], Mello JRB[1] [1]UFRGS – Farmacologia e Toxicologia

11.006 Pharmacokinetics and pharmacodynamics evaluation of tramadol in thermoreversibles gels. Papini JZB[1], Tófoli Gr[2], Pedrazzoli J, Calafatti SA, Araujo D – [1]USF – Farmacologia Básica e Clinica, [2]USF – Farmacologia e Fisiologia

11.007 Effect of caffeine in adenosine receptors expression in inflammation induced by copper in zebrafish larvae. Cruz FF, Leite CE, Kist LW, Bogo MR, Bonan CD, Campos MM, Morrone FB PUCRS

11.020 Bioequivalence study of two formulations of Enalapril 10 mg tablets in healthy volunteers of both sexes under fasting conditions. Lima MCN[1], Lemos APD[1], Pontes AV[1], Souza ACC, Leite ALAS, Nascimento DF, Frota Bezerra FA, Moraes MO, Moraes MEA[1] UNIFAC-UFC

11.021 Analysis of the pathogenicity factors of *Sporothrix pallida* to identification targets for drug design. Sastre IS[1], Cabrera OG[2], Nascimento LC[3], Tiburcio RA[2], José J[2], Beretta ALRZ[1] [1]Centro Universitário Hermínio Ometto – UNIARARAS – Microbiology, [2]IB-Unicamp – Genômica e Expressão Genética, Evolução e Bioagentes, [3]Unicamp – Processamento de Alto Desempenho

11.022 Enoxaparin does not modulate pharmacokinetics of digoxin in patients with heart failure. Souza FC, Alvim-Silva T, Scaramello CBV UFF – Fisiologia e Farmacologia

11.023 Impact of genetic polymorphisms related to asymmetrical dimethylarginine metabolism on sildenafil responsiveness in erectile dysfunction. Milanez-Azevedo AM[1], Viana-Figaro F[2], Molina CAF[3], Andrade MF[4], Muniz JJ[2], Tanus-Santos JE[1], Tucci Jr S[3], Lacchini R[2] [1]FMRP-USP – Farmacologia, [2]EERP-USP – Enfermagem Psiquiátrica e Ciências Humanas, [3]FMRP-USP – Cirurgia e Anatomia, [4]FMRP-USP – Cirurgia, Ortopedia e Traumatologia

11.024 From pharmacogenetics to personalized medicine: A proposal of Cuban pharmacogenomic guidance. Remirez D

11.025 Analysis of pharmacological secondary prevention measures implemented in patients with a history of Acute Coronary Syndrome in a Colombian population Machado-Alba J, Machado-Duque M, Medina-Morales D, Giraldo C.

11.026 CYP1A2*1F polymorphism influences the response to clozapine treatment. Ghedini PC, de Brito RB UFG – Farmacologia

12. Drug Discovery and Development

12.001 New insights in the mode of action of erythrinian alkaloids: electrophysiological studies. Gelfuso EA[1], Galan D[2], Peigneur S[2], Lebbe E[2], Pereira AMS[1], Beleboni RO[1], Tytgat J[2] [1]UNAERP – Biotecnologia, [2]Universidade de Leuven – Toxicologia & Farmacologia

12.002 Design, synthesis and characterization of novel analogs of Bradykinin. Rodriguez DY, Costa-Neto CM, Parreiras-e-Silva LT, Oliveira EB FMRP-USP – Bioquímica

12.003 Computational modeling approach of polymeric nanoparticles as platelet antiaggregants carriers. Matus MF[1], Palomo I[1], Vilos C[2] [1]University of Talca – Laboratory of Hematology and Immunology, Department of Clinical Biochemistry and Immunohematology, Faculty of Health Sciences, [2]University Andres Bello – Laboratory of Nanomedicine and Targeted Delivery, CIMIS-Faculty of Medicine, CBIB-Faculty of Biological Sciences

12.004 Comparison of LDT5, a multi-target lead compound for the treatment of benign prostatic hyperplasia, and tamsulosin binding at the D_3 and 5-HT_{1A} receptors. Quaresma BMCS[1,2], Figueiredo CDM[1], Silva ACS[3], Romeiro LAS[4], Silva CLM[1], Noël F[1] [1]UFRJ – Farmacologia Bioquímica e Molecular, [2]UFRJ – Farmacologia e Química Medicinal, [3]IFRJ – Farmacologia Bioquímica e Molecular, [4]UnB – Ciências Farmacêuticas

12.009 Studies on the bioadhesion and safety of a nanocarrier for intraductal delivery of drugs for chemoprevention and treatmentof breast cancer. Migotto A, Carvalho VFM, Lemos DP, Depieri LV, Bentley MVLB, Lopes LB

12.010 *In silico* study of biological activity and lipophilicity for quinazolines proposed as EGFR inhibitors. Fernandes GS, Pereira BMP, Antunes JE UFJF

12.011 Evaluation of Neuroprotective Effect of a New Anticholinesterasic Drug in Mice Submitted to Intra-hippocampal Injection of Amyloid-B 1-40 Oliveira LR, Bellozi PMQ, Junior WOC, Campos AC, Machado RP, Viegas C, Oliveira ACP

12.012 Favorable toxicological profile for a novel series of anti-tuberculosis quinoloxyacetamide-based compounds. Danesi GM[1,2], Sperotto ND[3,4], Erig TC[5], Machado P[4], Pissinati K[4], Campos MM[6,2], Basso LA[4],

Rodrigues-Junior V[4], Santiago DS[4] [1]PUCRS – Faculdade de Medicina, [2]INTOX-PUCRS, [3]INCT-TB-CPBMF- PUCRS), [4]INCT-TB-CPBMF-PUCRS, [5]INTOX-PUCRS, [6]PUCRS – Odontologia

12.013 Leishmanicidal activity of new 2-N,N'-dialkylamino-1,4-naphthoquinone derivatives. Silva KCJ[1], Santos JM[1], Araujo MV[1], David CC[2], Oliveira LAPL[1], Silva TMS[2], Camara CA[2], Moreira MSA[1] [1]UFAL- Ciências Biológicas e da Saúde, [2]UFRPE

12.014 Acetylcholinesterase inhibition and anti-amnesic effects of new dual compounds candidates for Alzheimer's disease treatment. Souza INO[1], dos Santos FP[1], da Silva FMR[1], Viegas Junior C[2], Castro NG[1], Neves G[1] [1]UFRJ, [2]Unifal

12.015 Multifunctional nanoemulsions improve cytotoxicity and skin co-localization of antitumor agents. Carvalho VFM[1], de Lemos DP[1], Zanoni TB[2], Maria-Engler SS[2], Costa-Lotufo LV[1], Lopes LB[1] [1]ICB-USP – Farmacologia, [2]FCF-USP – Análises Clínicas e Toxicológicas

12.016 Swelling of microemulsions and *in vivo* transition into nanostructured gels for sustained drug release. Santos RA[1], Ribeiros PF[1], de Lemos DP[2], Steiner A[3] [1]ICB-USP – Farmacologia, [2]ICB-USP, [3]ICB-USP – Imunologia

12.017 *In vitro* activity of a chalcone (LZ46) AGAINST *Candida albicans*: microdiluition, fungicidal activity and time-kill curve studies. Lima WG, Andrade JT, Sousa CDF, Santos FRS, Villar JAFP, Araújo MGF, Souza ACS, Ferreira JMS UFSJ-Centro-Oeste

12.022 Polymer blending systems as strategies for nerve regeneration: biocompatibility evaluation. Nicoletti NF[1], Amaral MEA[2], Valente CA[3], Basso NR[3], Campo MM[1], Silva JLB[4] [1] PUCRS – Medicina e Ciências da Saúde, [2]PUCRS –Biologia Celular e Molecular,[3] PUCRS – Química, [4]PUCRS – Medicina

12.023 Anti-inflammatory activity of the synthetic compound 1-nitro-2-phenylethene (NPA). Sugimoto MA[1], Silva MJA[2], Brito LF[1], Vago JP[1], Borges RS[3], Silva EL[2], Sousa LP[1] [1]UFMG, [2]UFAM, [3]UFPA

12.024 Cytotoxic potential of synthetics chalcones-sulfonamides. Moura AF[1], Araújo AJ[1,2], Barret FS[1], Castro MRC[3], Perez CN[3], Pessoa CO[4], Moraes MO[1] [1]UFC – Fisiologia e Farmacologia, [2]UFPI – Curso de Medicina, [3]UFG – Química, [4]Fiocruz

12.025 Anticancer and antimicrobial activity of essential oil from *Pilocarpus microphyllus* leaves. Marinho-Filho JDB, Araújo AJ, Mendes MGA, Costa KRL, Barbosa MS, Cruz J, Lima-Neto JS, Véras LMC UFPI

12.026 The effect of small molecules on skin regeneration. Horinouchi CDS[1,2], Oostendorp C[2], van den Bogaard EH[3], Schalkwijk J[3], van Kuppevelt TH[2], Daamen WF[2] [1]CAPES Foundation, [2]Radboud University Medical Center – Bioquímica, [3]Radboud University Medical Center – Dermatology

12.027 Zebrafish (Danio Rerio) an emerging tool for drug discovery in mood disorders and nicotine addiction. Iturriaga Vasquez P[1], Viscarra F[1], Paillalil P[1], Quiroz G[2], Reyes Parada M[3] [1]Universidad de La Frontera – Ciencias Quimicas y Recursos Naturales, [2]Universidad de Chile – Farmacologia, [3]Universidad de Santiago de Chile – Medicina

13. Pharmacology Education and Technology

13.002 A piece of pharmacology rescued from the digitalis information in the bibliography available at the first School of Pharmacy in Brazil. Grabe-Guimarães A, Santos V, Assis LGS, Borges I, Leite R UFOP

13.003 Case report: teaching Pharmacology to High School Students from the Coxilha Rica Rural Community, State of Santa Catarina, Brazil. Linder AE[1], Pavesi E[1], Silva ML[1], Scoz-Silva R[1], Tonussi CR[1], Ramos A[2] [1]UFSC Farmacologia, [2]UFSC – Biologia, Embriologia e Genética

13.004 Case to Instigate (CI) Method in 5 steps: an active methodology to teach Pharmacogy in a Medical school. Nascimento FP Unila – Ciências Médicas

14. Pharmacology: Other

14.001 N-acylhydrazone derivative (LASSBio-785) antagonizes *Apis mellifera* venom activity in mice. Tavares-Henriques MS[1], Teixeira-Cruz J M[1], Monassa de Souza P[1], Monteiro-Machado M[1], Cons BL[1], Barreiro EJ[2], Fraga CAM[2], Melo PA[2] [1]UFRJ – Farmacologia, [2]UFRJ – Farmacologia e Química Medicinal

14.002 Antimicrobial activity of Selin-11-en-4α-ol isolated from *Nectandra grandiflora* essential oil. Rodrigues P[1], Garlet QI[2], Pires LC[1], Spall S[1], Gressler LT[3], Bandeira Júnior G[3], Vargas APC[3], Heinzmann BM[1] [1]UFSM – Farmácia e Farmacologia, [2]UFSM – Farmacologia, [3]UFSM – Medicina Veterinária

14.003 Cationic liposomes containing antioxidants reduces pulmonary injury in experimental model of sepsis. Araujo MP, Pereira CFC, Araújo RB, Galvão AM, Maia MBS UFPE – Farmacologia de Produtos Bioativos

14.004 Evaluation of the influence of CYP2C19*17 polymorphism on the major depression disorder remission in patients receiving escitalopram treatment. Nascimento LRS[1], Vianello RP[2], Ghedini PC[1], de Brito RB[1] [1]UFG – Farmacologia, [2]Embrapa

14.005 Preliminary data about the influence of CYP2C19*2 polymorphism on the response to escitalopram treatment. Alves GLD[1], Vianello RP[2], Ghedini PC[1], de Brito RB[1] [1]UFG – Farmacologia, [2]Embrapa – Agricultura

14.010 Metabolic evaluation of obese mice treated with lipid nanoparticle of sclareol. Cerri GC[1], Lima LCF[2], Ferreira LAM[3], Santos SHS[1] [1]ICB-UFMG – Farmacologia e Fisiologia, [2]UFES – Morfologia, [3]UFMG – Pharmaceutical Products

14.011 Evaluation of influence of CYP2C19*2 and CYP2C19*17 polymorphisms on response to clozapine treatment. Semedo AT[1], DeBrito RB[1], Vianello R[2], Ghedini PC[1] [1]UFG – Farmacologia, [2]Embrapa – UFG

14.012 Evaluation physicochemical and potential antifungal of *Camellia sinensis* Infused (L.) Kuntze isolated against clinical dermatophytes Silva SL[1], Carmo ES[2], Souza JBP[2] [1]UFPB – Farmácia, [2]UFCG

14.013 Evaluation of antinociceptive activity of oleoresin of Copaifera reticulata Almeida Junior JS[1], Silva EBS[1], Araujo JA[1], Sartoratto A[2], Moraes TMP[1], Oliveira ECP[3], Moraes WP[1] [1]ISCO-Ufopa – Saúde Coletiva, [2]UNICAMP – CPQBA, [3]IBEF-Ufopa – Biodiversidade e Florestas

14.014 Involvement of TRPV1 in the wound healing of skin lesion after irradiation with a Blue-LED Hemostatic Device. De Siena G[1,2], Alfieri D[3], Magni G[2], Tripodi C[3], Tatini F[2], Geppetti P[1], Rossi F[2] [1]University of Florence – Department of Health Sciences, [2]National Research Council – Institute of Applied Physics, [3]Light4tech Firenze S.r.l.

14.015 Long-term non-steroidal anti-inflammatory therapy in Colombia. Portilla A[1], Pérez JJ[2], Montealegre AC[3], Lozano Y[3] [1]Audifarma S.A – Gerencia de Investigación Farmacoepidemiológica, [2]Audifarma S.A. – Gerencia de Investigación Farmacoepidemiológica, [3]Fundación Universitaria de Ciencias de la Salud – Dirección de Posgrados – Especialización en Enfermería Nefrológica

14.016 Use of Thiamine during epidemic Chikungunya and Zika in Colombia, Torres DR[1], Laverde LA[2], Cortés CD[2] [1]Audifarma S.A – Gerencia de Investigación Farmacoepidemiológica, [2]Audifarma S.A. – Gerencia de Investigación Farmacoepidemiológica

14.017 CTK 01512-2, a recombinant isoform of the n-type calcium channel blocker phα1β induce antinociception in different chronic pain model in mice .Rigo FK[1], Rossato MF[2], Trevisan G[3], Dal Toe S[3], Ferreira J[4], Gomez MV[5] [1]UNESC – Farmácia e Farmacologia, [2]EERP-USP – Farmácia e Farmacologia, [3]UNESC – Farmacologia Bioquímica e Molecular, [4]UFSC – Farmacologia, [5]Instituto de Ensino e Pesquisa da Santa Casa de Belo Horizonte – Farmacologia Bioquímica e Molecular

01. Cellular and Molecular Pharmacology

01.007 Characterization of the serotonin receptors mediating contraction of the rat distal cauda epididymis. Mueller A[1,2], Kiguti LR[3], Silva EJ[1], Pupo AS[1] [1]IBB-Unesp-Botucatu – Farmacologia, [2]UFMT – Ciências da Saúde, [3]FCM-Unicamp – Farmacologia

01.008 β2-adrenoceptor agonists modulate neuromuscular transmission through the extracellular cyclic AMP-adenosine pathway. Duarte T, Pacini ESA, Godinho RO Unifesp-EPM – Farmacologia

01.009 Antioxidant supplementation with tempol attenuates gain in the physical performance of trained rats. Maia IC[1], Brum PC[2], Angelis K[3], Marostica E[1], Soares PPS[1] [1]UFF – Physiology and Pharmacology, [2]USP – Biodynamic of the Movement of the Human Body, [3]Uninove – Laboratory of Translational Physiology

01.010 Verapamil modulates skeletal muscle contraction via activation of adenylyl ciclase/cAMP/PKA signaling pathway. Silveira SS[1], Duarte T[1], Paredes-Gamero EJ[2], Godinho RO[1] [1]Unifesp-EPM – Farmacologia, [2]Unifesp-EPM – Bioquímica

01.011 A new functional role of extracellular cyclic AMP in the contraction of vascular, non-vascular and airway smooth muscle. Pacini ES, Moro RP, Godinho RO Unifesp-EPM – Farmacologia

01.012 Co-expression of Olfr287 in a CD36-positive subpopulation of olfactory sensory neurons Xavier AM, Ludwig RG, Nagai MH, Almeida TJ, Watanabe HM, Hirata MY, Rosenstock TR, Papes F, Malnic B, Glezer I. Unifesp-EPM

01.025 Annexin A1 Modulates Peroxisome Proliferator-Activated Receptor γ Expression in BV2 murine microglial cell line. Rocha GHO, Pantaleão LN, Farsky SHP USP – Análises Clínicas e Toxicológicas

01.026 Ouabain-induced hypertension promotes unique alterations of Na/K-ATPase from different rat organs. Feijó PRO[1], Neto AF[2], Rossoni LV[2], Noël F[1], Quintas LEM[1] [1]ICB-UFRJ, [2]USP – Farmacologia

01.027 Extracellular cyclic AMP-adenosine pathway: a promising therapeutic target for treating muscle wasting disorders Eloi FR, Chiavegatti T, Andrade-Lopes AL, Godinho RO Unifesp-EPM – Farmacologia

01.028 Glucocorticoid Receptor Signaling in Wolffian Duct Morphogenesis. Thimoteo DS[1], Ribeiro CM[1], Silva EJR[2], Hinton BT[3], Avellar MCW[4] [1]Unifesp-EPM – Farmacologia, [2]Unesp – Farmacologia, [3]University of Virginia, School of Medicine – Cell Biology, [4]Unifesp-EPM – Farmacologia

01.029 Calcium mobilization in smooth muscle and endothelial cells cultures from rats with different plasmatic Angiotensin I Converting Enzyme (ACE) activity phenotypes Pisano Dias ASES[1], Nering MB[1], Fernandes L[2], Souccar C[1], Lapa AJ[3], Lima-Landman MTR[1] [1]Unifesp-EPM – Farmacologia, [2]Unifesp-Diadema – Farmacologia e Inflamação, [3]UEA

01.030 From discovering "calcium paradox" to Ca^{2+}/cAMP intracellular signaling interaction, and its impact in human health and disease. Bergantin LB, Caricati-Neto A Unifesp-EPM – Farmacologia

01.031 Hyperplastic prostate cell growth mediated through the transactivation of epidermal growth factor receptor by Alpha1-Adrenoceptors is inhibited by LDT5 *in vitro.* Nascimento-Viana JB[1], Alcántara-Hernández R[2], García-Sáinz JA[2], Romeiro LAS[3], Noël F[1], Silva CLM[1] [1]UFRJ – Farmacologia Bioquímica e Molecular, [2]UNAM – Instituto de Fisiología Celular, [3]UnB – Desenvolvimento de Estratégias Terapêuticas

01.032 Immune response during differentiation of embryonic neural progenitor cells obtained from APPswe/PS1dE9 Alzheimer's disease mouse model: role of the kinin-B2 receptor. Pillat MM, Ulrich H USP – Bioquímica

01.033 Estradiol improves endothelial function through estrogen receptor alpha. Hermenegildo C, Mompeon A, Perez-Cremades D, Vidal-Gomez X, Oltra M, Novella S – University of Valencia and INCLIVA Biomedical Research Institute – Physiology

01.034 Regulation of Calponin-1 by Matrix Metalloproteinase (MMP)-2 contributes to hypertension-induced early vascular remodeling. Belo VA, Parente JM, Tanus-Santos JE, Castro MM FMRP-USP

02. Neuropharmacology

02.013 WNT/β-Catenin as prospective signaling pathway on inflammaging. Orellana AM, Leite JA, Kinoshita PF, Vasconcelos AR, de Sá Lima L, Andreotti DZ, Munhoz CD, Kawamoto EM, Scavone C ICB-USP – Farmacologia

02.014 Involvement of adrenergic receptors in the dorsal periaqueductal gray matter on behavior of rats exposed to elevated T-Maze. Estrada VB[1], Matsubara NK[1], Bonancéa AM[2], Soffientini DKM[2], Gomes MV[3], Corrêa FMA[4], Pelosi GG[1] [1]UEL – Ciências Fisiológicas, [2]UENP, [3]UENP- Ciências da Reabilitação, [4]FMRP-USP – Ciências Biológicas

02.015 Anxiolytic Effects of Riparin III in mice exposed to chronic stress. Vasconcelos AS[1], Oliveira ICM[2], Oliveira NF[2], Chaves RC[2], Capibaribe VCC[2], Lima FAV[2], Rodriges GC[3], Barbosa Filho JM[4], Araujo MA[2], Silva

DMA[2], Lopes IS[2], Valentim JT[2], Fernandes ML[2], Sousa FCF[2] [1]UFC – Fisiologia e Farmacologia, [2]UFC – Fisiologia e Farmacologia, [3]UFC, [4]UFPB

02.016 Maternal physical exercise effects on sociability and anxiety in adult mice. Andreotti DZ, Cabral-Costa JV, Scavone C, Kawamoto EM ICB-USP – Farmacologia

02.017 Altered monoamines concentrations in the brain of dystrophin-deficient mice. Frangiotti MIB[1], Silva JDP[1], Castro-Neto EF[2], Sousa PVV[2], Naffah-Mazzacoratti MG[3], Souccar C[1] [1]Unifesp-EPM- Farmacologia, [2]Unifesp-EPM- Neurologia e Neurocirurgia, [3]Unifesp-EPM- Bioquímica

02.018 ODQ and Methylene blue as antidyskinetic compounds in 6-OHDA-lesioned rats. Bariotto-dos-Santos K[1], Padovan-Neto FE[2], Tumas V[1], Raisman-Vozari R[3], Bortolanza M[4], Del Bel EA[4] [1]FM-USP – Neurociências, [2]University of Medicine and Science North Chicago – Neuroscience, [3]INSERM, [4]FORP-USP – Morfologia, Fisiologia e Patologia Básica

02.029 MIR-7 And MIR-34A are modulated in the rat striatum after injury by rotenone. Horst CH, Montenegro NA, Rocha AP, Domingues ACM, Sousa LL, Schlemmer F, Titze-de-Almeida SS, Titze-de-Almeida R UnB

02.030 Investigation of the effects of Riparin IV in the oxidative stress markers. Valentim JT, Silva DMA, Oliveira NF, Vasconcelos AS, Chaves RC, Lopes IS, Oliveira ICM, Capibaribe VCC, Sousa FCF UFC – Fisiologia e Farmacologia

02.031 Antioxidant effect of citronelyl acetate in mice: involvement of reduced glutathione. Silva DMA, Santos LKX, Carmo MOC, Fernandes ML, Melo FHC, Lopes IS, Valentim JT, Sousa FCF UFC – Fisiologia e Farmacologia

02.032 The antiretroviral drug efavirenz induces depressive-like behavior in rodents and affects monoamines levels in striatum. Oliveira JVS, Cavalcante GIT, Filho AJMC, Souza DAA, Carvalho MAJ, Gaspar DM, Fonteles MMF UFC – Farmacologia e Fisiologia

02.033 Lutein prevents ethanol-induced memory deficit in rats. Tonding FF[1], Geiss JMT[2], Sagae S[3], Bonfler ML[4], Fariña LO[5], Paz EDR[4], Freitas ML[6], Souto NS[7], Furian AF[7], Oliveira MS[6], Guerra GP[2] [1]UNIOESTE, [2]UTFPR – Tecnologia de Alimentos, [3]UNIOESTE – Biofísica e Fisiologia, [4]UNIOESTE – Fisiologia, [5]UNIOESTE – Ciências Médicas e Farmacêuticas, [6]UFSM – Farmacologia, [7]UFSM – Tecnologia e Ciência dos Alimentos

02.034 Analysis of nitrergic system in astrocytes after stimulation of ATP receptors: involvement of A1 adenosine receptor. Marra KL[1], Vaz S[2], Sebastião AM[2], Fior-Chadi DR[1] [1]IB-USP – Fisiologia, [2]Instituto de Medicina Molecular – Neurociências

02.041 The interesterified fat consumption during early life periods can impair responses related to morphine administration in adult rats. Milanesi LH, Roversi K, Antoniazzi C, Davila LF, Kronbauer M, Segat H, Trevizol F, Burger ME UFSM – Farmacologia e Fisiologia

02.042 Investigation of Thymol on behavioral models of depression in mice: involvement of serotonergic and noradrenergic system. Capibaribe VCC, Fernandes ML, Melo FHC, Santos LKX, Cito MCO, Lopes IS, Silva DMA, Vasconcelos AS, Chaves RC, Oliveira NF, Valentim JT, Oliveira ICM, Sousa FCF – UFC – Farmacologia

02.043 LQFM181 ameliorates aluminum chloride-induced cognitive dysfunction via alleviation of hippocampal oxidative stress. Neri HFS, Brito AF, Costa EA, Santos FCA, Ghedini PC, Menegatti R UFG – Ciências Biológicas

02.044 Prelimbic cortex mediates context-induced relapse to alcohol. Palombo P[1], Leão RM[2], Bianchi PC[1], Carneiro-de-Oliveira PE[1], Planeta CS[1], Cruz FC[3] [1]FCFar-Unesp-Araraquara – Farmacologia, [2]UFBA – Biorregulação, [3]Unifesp – Farmacologia

02.045 Roles of TLR4 on biochemical and behavioral effects of intermittent fasting. Paixão AG[1], Vasconcelos AR[1], Mattson MP[2], Scavone C[1], Kawamoto EM[1] [1]ICB-USP – Farmacologia, [2]NIA

02.055 The REM-enhancing ventral pontine reticular area is inhibited by tuberomammillary histaminergic neurons. Garzon M[1], Diez-Garcia A[1], Gonzalez-Escobar S[1], Nuñez A[1] [1]Universidad Autónoma de Madrid – Anatomía, Histología y Neurociencia

02.056 Study of depression model in rats treated with corticosterone in the postnatal period. Viana GKB[1], Araujo EP[1], Mesquita DS[2], Barriga JRM[2], Jucá MM[3], Vasconcelos SMM[3], Honório Júnior JER[2] [1]Unichristus – Enfermagem, [2]Unichristus – Biomedicina, [3]UFC – Farmacologia

02.057 Discovering the role of vasopressin system in the lateral septum of amphetamine-conditioned male and female rats. Mendez AM, Bahamondes C, Tapia S, Tobar F, Cruz G, Sotomayor-Zárate R, Renard GM Universidad de Valparaíso – Centro de Neurobiología y Plasticidad Cerebral – Instituto de Fisiología – Facultad de Ciencias

02.058 Orbitofrontal cortex mediates context-induced relapse to alcohol. Leão RM[1], Bianchi PC[2], Palombo P[2], Carneiro-de-Oliveira PE[2], Planeta CS[2], Cruz FC[3] [1]ICS-UFBA – Biorregulação, [2]FCFar-Unesp-Araraquara – Farmacologia, [3]Unifesp – Farmacologia

02.059 Role of amygdala neuronal ensembles in context-induced reinstatement of alcohol self-administration in rats. Cruz FC[1], Tavares LC[2], Bianchi PC[3], Palombo P[3], Carneiro-de-Oliveira PE[3], Planeta CS[3], Leão RM[4] [1]Unifesp – Farmacologia, [2]IFSC-USP, [3]FCFar-Unesp-Araraquara – Farmacologia, [4]ICS-UFBA – Biorregulação,

02.060 Corticotrophin Releasing Factor (CRF) and Protein Kinase A (PKA) role in hippocampus: anxiety-like behaviors evaluation of mice exposed to elevated plus maze. Miguel TT, Bertagna NB, Queiroz RM, Fernandes GJD UFU – Farmacologia

02.061 Role of Accumbens core in context-induced reinstatement of alcohol-seeking in rats. Tavares LC[1], Bianchi PC[2], Leão RM[3], Palombo P[2], Carneiro-de-Oliveira PE[2], Planeta CS[2], Cruz FC[4] [1]USP-São Carlos, [2]FCFar-Unesp-Araraquara – Farmacologia, [3]UFBA – Ciências da Saúde, [4]Unifesp – Farmacologia

03. Psychopharmacology

03.006 Environmental enrichment differentially modulates social and reward processes: involvement of the oxytocinergic system. Rae MB[1], Zanos P[2,3], Georgiou P[2,3], Bailey A[2,4], Camarini R[1] [1]USP – Farmacologia, [2]University of Surrey – Health & Medical Sciences, [3]University of Maryland Baltimore – Psychiatry, [4]St George's University of London – Institute of Medical and Biomedical Education

03.007 Mechanisms involved in the cannabidiol antipsychotic profile. Pedrazzi JFC[1], Issy AC[2], Guimarães FS[3], Del Bel EA[2] [1]FMRP-USP – Neurociências, [2]FORP-USP – Fisiologia, [3]FMRP-USP – Farmacologia

03.008 Panicogenic-like effect induced by intra-PAG microinjection of ketamine. Silote GP[1], Oliveira SFS[2], Joca SRL[1], Beijamini V[2] [1]USP – Física e Química, [2]UFES – Ciências Farmacêuticas

03.009 Antidepressant-like effect induced by S-adenosyl-l-methionine. Sales AJ[1], Joca SRL[2] [1]FMRP-USP – Pharmacology, [2]FCFRP-USP – Physics and Chemistry

03.010 The PDE4-inhbitor roflumilast improves episodic memory: findings from a translational perspective Heckman PRA[1], Van Duinen MA[1], Vanmierlo T[1], Sambeth A[1], Ogrinc F[1], Tsai M[1], Lahu G[1], Uz T[1], Blokland A[1], Prickaerts J[1] [1]Department of Psychiatry and Neuropsychology, School for Mental Health and Neuroscience, Maastricht University, Maastricht, The Netherlands

03.023 SK3 channel overexpression decreases survival and neuronal fate in the dentate gyrus of adult mice. Scarante FF[1], Martin S[2], Lazzarini M[2], Prado LA[3], Stühmer W[2], Del Bel EA[4], Campos AC[1] [1]FMRP-USP – Farmacologia, [2]Max Planck Institute of Experimental Medicine – Molecular Biology of Neuronal Signals, [3]Max Planck Institute of Experimental Medicine – Oncophysiology Group, [4]FORP-USP – Morfologia, Fisiologia e Patologia

03.024 Intra-dorsal periaqueductal gray injection of noradrenaline induces anxiolytic-like effects in the light-dark transition test Souza DO[1], Carvalho JJV[2], Beijamini V[1,2], Martins JM[1,2], Bortoli VC[1,2] [1]UFES – Pharmaceutical Sciences, [2]UFES – Bioquímica e Farmacologia

03.025 Effect of nNOS inhibition in 5-HT1A receptor expression of the animals exposed to the learned helplessness model Roncalho AL[1], Ribeiro DE[1], Joca SRL[2] [1]FMRP-USP – Farmacologia, [2]FCFRP-USP – Física e Química

03.028 Effect of Diabetes and Taurine Administration on GABA and glutamate *in vivo* Efflux in the Hippocampus of rats exposed to the Forced Swimming Test. Caletti G[1], Henn JG[2], Quinteros D[3], Bandiera S[3], Péres V[2], Barros HMT[1,2], Gomez R[1,3,4] [1]UFCSPA – Ciências da Saúde, [2]UFCSPA – Farmacociências, [3]UFRGS – Farmacologia e Terapêutica, [4]UFRGS – Farmacologia

04. Inflammation and Immunopharmacology

04.031 Gedunin modulates LPS-induced astrocyte activation. Costa TEMM[1,2], Seito LN[1], Henriques MG[1,2,3], Penido C[1,2] [1]Farmanguinhos-Fiocruz – Farmacologia Aplicada, [2]CDTS-INCT-Fiocruz, [3]INCT-IDN

04.032 Nimesulide attenuates pentylenetetrazol-induced seizures and increases IL-10 levels in the cerebral cortex and hippocampus. Temp FR, Marafiga JR, Jesse AC, Duarte T, Milanesi LH, Hessel AT, Londero AL, Mello CF UFSM – Farmacologia

04.033 Tumor-associated macrophages are modulated toward a M1 phenotype by paclitaxel through a TLR-4 dependent mechanism. Wanderley CWS[1], Colon DF[2], Luiz JPM[2], Oliveira FFB[1], Viacava PR[2], Cunha TM[3], Cunha FQ[3], Lima-Júnior RCP[1] [1]UFC – Farmacologia e Fisiologia, [2]FMRP-USP – Biochemistry and Immunology, [3]FMRP-USP – Farmacologia

04.034 Progression of Systemic Metabolic Alterations Induced by Colonic Inflammation in DSS-model Silveira ALM[1], Oliveira MC[2], Menezes DM[2], Rodrigues DF[2], Lana JP[2], Rachid MA[3], Ferreira AVM[2], Teixeira MM[1] [1]UFMG – Biochemistry and Immunology, [2]UFMG – Nutrition, [3]UFMG – General Pathology

04.035 The acute exposure to the ambient pollutant 1,2-Napththoquinone regulates human and mice eosinophil chemotaxis. Feitosa KF[1], Santos KT[1], Favaro RR[2], Santana FPR[3], Prado CM[3], Sato ASP[4], Ferreira HHA[4], Zorn TMT[2], Muscará MN[1], Costa SKP[1] [1]ICB-USP – Farmacologia, [2]ICB-USP – Biologia Celular e do Desenvolvimento, [3]Unifesp-Diadema – Biociências, [4]São Leopoldo Mandic – Inflamação

04.037 Role of regulatory T-cells in Irinotecan-induced intestinal mucositis. Fernandes C[1], Wanderley CWS[1], Muniz HA[1], Silva CMS[1], Teixeira MA[1], Souza NRP[1], Cândido AGF[1], Ribeiro RA[1], Almeida PRC[2], Lima-Júnior RCP[1] [1]UFC – Farmacologia e Fisiologia, [2]UFC – Patologia e Medicina Legal

04.038 The tyrosine kinase inhibitor dasatinib inhibits airway inflammation, mucus exacerbation and peribronchial fibrosis in a mouse model of asthma non- responsive to glucocorticoids. Serra MF[1], Cotias AC[1], Pimentel AS[1], Arantes ACS[1], Silva PMR[1], Rocco P[2], Martins MA[1] [1]Fiocruz – Fisiologia e Farmacodinâmica, [2]UFRJ

04.039 The role of neutrophils in the chronification of the immune response using an antigen induced arthritis model. Uribe-Alvarez R, Amaral FA, Teixeira MM UFMG – Biochemistry and Immunology

04.040 Comparison of bone regeneration in male and female Type 1 Diabetic mice: effects of Vitamin D supplementation. Cignachi NP[1], Machado GDB[2], Ribeiro A[1], Silva RBM[2], Campos MM[1] [1]PUCRS – Odontologia, [2]PUCRS – Medicina

04.042 Plasmin induces macrophage reprogramming and contributes to features of inflammation resolution. Ribeiro ALC, Sugimoto MA, Costa BRC, Vago JP, Lima KM, Carneiro FS, Ortiz MMO, Lima GLN, Carmo AAF, Rocha RM, Perez DA, Reis AC, Pinho V, Miles LA, Teixeira MM, Garcia CC, Sousa LP UFMG

04.043 Increased reactive oxygen species formation in platelets of lipopolysaccharide-injected mice is dependent on tumor necrosis factor-alpha production. Naime ACA, Sollon C, Bueno PI, Bonfitto PHL, Lopes-Pires ME, Anhê GF, Antunes E, Marcondes S FCM-Unicamp – Farmacologia

04.044 A new animal model of radiation proctitis induced by high-dose rate brachytherapy: possible involvement of IL-6 and IL-8 Leite CHB[1], Lopes CDH[2], Leite CAVG[1], Terceiro DA[1], Freitas JA[1], Wong DVT[3], Almeida PRC[3], Cunha FQ[4], Lima-Júnior RCP[2] [1]Hospital Haroldo Juaçaba, [2]UFC – Fisiologia e Farmacologia, [3]UFC – Patologia e Medicina Legal, [4]FMRP-USP – Farmacologia

04.045 Biocompatibility evaluation of polypyrrole using zebrafish as a model organism. Costa KM[1], Soares JC[1], Valente CA[2], Cruz FF[3], Basso NRS[2], Bogo MR[1] [1]PUCRS – Biologia Celular e Molecular, [2]PUCRS – Química, [3]PUCRS – Farmacologia

04.046 Assessment of neutrophil chemotaxis in patients with severe sepsis or septic shock admitted an Intensive Care Unit. Resende C[1], Rezende B[1], Borges I[2], Carvalho E[1], Santos A[2], Nobre V[1], Pinho V[1], Teixeira MM[1] [1]ICB-UFMG, [2]UFMG

04.047 Anti-inflammatory synergistic effect of diclofenac associated with terpinolene on subchronic inflammation in rats. Macedo EMA[1], Piauilino CA[1], Santo WC[1], Sousa Neto BP[1], Reis Filho AC[1], Sousa DP, Oliveira FA[1], Almeida FRC[2] [1]UFPI, [2]UFPI – Bioquímica e Farmacologia

04.048 Atypical chemokine receptor ACKR2 contributes to the development of lung fibrosis in silicotic mice. Dias DF[1], Correa AMC[1], Pereira JG[1], Arantes ACS[1], Cordeiro RSB[1], Graham G[2], Martins MA[1], Silva PMR[1] [1]Fiocruz – Inflammation, [2]University of Glasgow – Infection, Immunity and Inflammation

04.049 Alpha-1-Acid glycoprotein inhibits human neutrophil response by a sialic acid dependent mechanism. Lorenzini CB[1], Cardoso F[1], Colón D[2], Cunha FQ[2], Spiller F[1] [1]UFSC – Immunobiology, [2]FMRP-USP – Inflammation and Pain

04.050 Effects of augmented O-GlcNAcylation on activation and differentiation of macrophages. Zanotto CZ[1], Olivon VC[2], Pereira CA[1], Mestriner FLAC[1], Alves-Filho JC[1], Carneiro FS[1], Tostes RC[1] [1]FMRP-USP – Farmacologia, [2]Uniderp

04.063 Effect of 17-beta estradiol and of the selective estrogen receptor modulator (SERM) tamoxifen, on neutrophil migration in mice with zymosan-induced arthritis. Silva LA, Alves JC, Souza EV, Ferreira RB, Grespan R UFS – Ciências Fisiológicas

04.064 Nebulized gold nanoparticles down-regulates inflammation, mucus exacerbation and lung remodeling in a murine model of steroid-resistant asthma. Serra MF[1], Pimentel AS[1], Cotias AC[1], Lanzetti M[1], Hickmann J[2], Arantes ACS[1], Silva PMR[1], Cordeiro RSB[1], Barreto E[2], Martins MA[1] [1]Fiocruz – Fisiologia e Farmacodinâmica, [2]UFAL

04.065 Arginase 1 importantly contributes to lung fibrogenesis in silicotic Swiss-Webster mice. Correa AMC, Dias DF, Ferreira TPT, Ciambarella BT, Arantes ACS, Martins MA, Martins PMRS [1]Fiocruz

04.066 Role of oxidative stress and intestinal microbiota in the pathogenesis of experimental steatohepatitis induced by irinotecan. Muniz HA[1], Aragão KS[1], Almeida PRC[2], Melo AT[1], Costa ML[1], Lopes CDH[1], Carvalho CBM[3], Ribeiro RA[1], Lima-Júnior RCP[1] [1]UFC – Physiology and Pharmacology, [2]UFC, [3]UFC – Medical Microbiology

04.067 Warifteine, an alkaloid of cissampelos sympodialis, inhibits histological parameters in an allergic rhinitis model. Pereira RF[1], Gadelha FAAF[1], Paiva-ferreira LKD[1], Vieira GC[1], Bozza PT[2], Piuvezam MR[1] [1]UFPB, [2]Fiocruz

04.068 Effect of 1,4- cineol in acute lung injury model. Gadelha FAAF, Leite FC, Pereira RF, Vieira GC, Piuvezam MR UFPB

04.083 Effects of binge-like ethanol exposure during adolescence on febrile response in rats. Telles TMBB[1], Oliveira BMT, Lomba LA, Leite-Avalca MCG, Correia D, Zampronio AR UFPR- Farmacologia

04.084 Everolimus, a mTOR inhibitor, enhance irinotecan-induced experimental intestinal mucositis by activation of proinflammatory cytokine.s Carvalho LL[1], Wong DVT[2], González RH[1], Batista GLP[1], Fernandes C[1], Nobre LMS[1], Teixeira MA[1], Magalhães V[1], Silva KO[1], Almeida PRC[2], Lima-Júnior RCP[1] [1]UFC – Fisiologia e Farmacologia, [2]UFC – Patologia e Medicina Legal

04.085 Anti-hyperalgesic and anti-inflammatory activity of ethanolic extract obtained from *Piper glabratum* in mice. Leitão MM[1], Navarini VJ[1], Mota J[2], Kassuya CAL[1] [1]UFGD – Ciências da Saúde, [2]UEMS – Química

04.086 Aerobic training associated to low level laser contribute for the protection of the cardiovascular system in experimental monoarthritis. Zamuner LF, Silva A, Silva MP, Sanches IC, Angelis KD, Chavantes MC, Zamuner SR Uninove

04.087 Anti-inflammatory activity of aqueous extracts of *Mikania glomerata* (Sprengel) and *Mikania laevigata* (Schultz Bip. ex. Baker). Pereira CS[1], Antunes E[2], Iwamoto R[2], Sawaya A[3], Landucci E[1] [1]FCM-Unicamp – Farmacologia, [2]FCM-Unicamp , [3]Unicamp

04.088 Synergistic effect of IL-13 and adenosine (ADO) on lung fibroblast activation is dependent on A2A receptor. Sá YAPJ, Ciambarella BT, Silva PMR, Martins MA Fiocruz

04.096 The docosapentaenoic acid derivatives $PD1_{n\text{-}3DPA}$ and $RvD5_{n\text{-}3DPA}$ are novel effectors of intestinal protection. Gobbetti T[1], Dalli J[1], Colas R[1], Aursnes M[2], Vergnolle N[3], Deraison C[3], Hansen TV[2], Serhan CN[4], Perretti M[1] [1]The William Harvey Research Institute, [2]University of Oslo, [3]INSERM, [4]Harvard Medical School, Boston

04.097 A novel monocyte subset contributes to clearance of damage tissue during sterile inflammation in the liver. Dal-Secco D[1], Jenne C[1], Wang J[1], Wong C[1], Petri B[1], Kolaczkowska E[1], Ransohoff R[2], Charo I[3], Kubes P[1] [1]University of Calgary – Immunology Research Group, Snyder Institute of Infection, Immunity and Inflammation, [2]Lerner Research Institute – Neuroinflammation Research Center, Department of Neurosciences, [3]University of California – 3Gladstone Institute of Cardiovascular Disease and Cardiovascular Research Institute, Department of Medicine

04.098 Evaluation of the effect of the ruthenium NO donor ([Ru(bpy)2(NO)SO3](PF6)) in gouty arthritis induced by monosodium urate crystals in mice. Rossaneis AC[1], Vendrameto CZS[2], Balbinot DTL[2], Staurengo-Ferrari L[2], Calixto-Campos JE[2], Bertozzi MM[2], Verri Junior WA[2] [1]UEL – Ciências da Saúde, [2]UEL – Patologia

04.099 Melatonin prevents weight gain induced by acute high-fat diet feeding in rats. da Silveira Cruz-Machado S, Pereira EP, Rocha VA, Fernandes PA, Markus RP IB-USP – Fisiologia

04.100 Irinotecan-induced steatohepatitis: protective effect of probiotics. Melo AT[1], Aragão KS[1], Wong DVT[2], Freitas JA[1], Mourao LTC[1], Pereira VBM[1], Carvalho LL[1], Silva CMS[1], Almeida PRC[2], Lima-Júnior RCP[1] [1]UFC – Physiology and Pharmacology, [2]UFC – Pathology and Forensic Medicine

04.101 Suppression by the dominant-negative inhibitor of soluble TNF XPro 1595 of experimental silicosis in mice. Ciambarella BT[1], Arantes AC[1], Teixeira TPT[1], Szymkowski DE[2], Martins MA[1], Silva PMR[1] [1]Fiocruz – Inflammation, [2]Xencor

05. Pain and Nociception Pharmacology

05.021 Role of C5a/C5aR in the peripheral and spinal signalling for the development of neuropathic pain Quadros AU[1], Violante VD[1], Ferreira MD[2], Sagar DR[3], Meesawatsom P[3], Cunha FQ[1], Chapman V[3], Cunha TM[1] [1]FMRP-USP – Farmacologia, [2]FMRP-USP – Bioquímica e Imunologia, [3]University of Nottingham – School of Life Sciences

05.022 Peptides participation in control opioids endogenous peripheral inflammatory pain induced different inflammatory mediators Quintão JLD, Gonzaga ACR, Romero TRL, Duarte IDG UFMG – Farmacologia e Fisiologia

05.023 Neurotransmission Systems Involved in the Transcranial Direct Current Stimulation (tDCS) antiallodynic effect in mice. Cioato SG[1], de Souza A[2], Martins D F[3], Medeiros LF[4], Nucci C[5], Martins TC[6], Siteneski A[6], Caumo W[4], Santos ARS[6], Torres ILS[1] [1]UFRGS – Farmacologia e Terapêutica, [2]Unilasalle – Saúde e Desenvolvimento Humano, [3]UNISUL – Neurociências, [4]UFRGS – Ciências Médicas, [5]UFSC – Neurobiologia da Dor e Inflamação, [6]UFSC – Neurociências

05.024 Diabetes mellitus hastens the establishment of oxaliplatin-related experimental peripheral sensory neuropathy. Silva CMS[1], Pereira LMS[1], Pereira AF[1], Silva CMP[1], Silva KO[1], Aguiar LA[1], Pereira AC[1], Almeida PRC[2], Pontes RB[3], Lima-Júnior RCP[1], Vale ML[1] [1]UFC – Farmacologia e Fisiologia, [2]UFC – Patologia, [3]UFC – Morfologia

05.025 Essential oil from *Piper aleyreanum* C.DC. (Piperaceae) reduces chronic pain induced by parcial sciatic nerve ligation in mice. Nascimento LF[1], Nucci-Martins C[2], Tizziani T[1], Pizzolatti MG[1], Facundo VA[3], Santos ARS[1] [1]UFSC, [2]Unicamp, [3]UNIR

05.026 A1 Adenosine Receptor (A1R) agonist ameliorate tactile allodynia and thermal hyperalgesia in STZ-induced diabetic neuropathy. Santos BLR[1], Lima CKF[2], Jesus CHA[3], Calcut NA[4], Miranda ALP[2] [1] PPGCF-LEFEx-FF-ICB-UFRJ, [2]LEFEx-FF-UFRJ – Biotecnologia Farmacêutica, [3]UFSC – Farmacologia, [4]UCSD – Pathology

05.027 Quercetin inhibited Granulocyte-Colony Stimulating Factor (G-CSF)-induced mechanical hyperalgesia in mice: effect on cytokine production and NO-Cyclic GMP-Protein Kinase G-ATP-sensitive potassium channel signaling pathway and NFκB activation Carvalho TT, Mizokami SS, Ferraz CR, Manchope MF, Calixto-Campos C, Borghi SM, Verri Junior WA UEL – Ciências Patológicas

05.028 Antihyperalgesic synergistic effect of celecoxib associated with terpinolene in inflammatory pain in rats. de Macedo EMA, Santos WC, Araujo JM, Lopes EM, Reis Filho AC, de Sousa DP, Oliveira FA, Almeida FRC UFPI – Bioquímica e Farmacologia

05.029 Resolution of inflammatory response is not associated with reduction of hypernociceptive response during antigen-induced arthritis in mice. Gonçalves WA[1], Rezende BM[1], Ribeiro LS[2], Amaral FA[2], Souza DG[3], Teixeira MM[2], Cunha TM[4], Pinto V[1] [1]ICB-UFMG – Morfologia, [2]ICB-UFMG – Bioquímica e Imunologia, [3]ICB-UFMG – Microbiologia, [4]FMRP-USP – Farmacologia

05.030 Investigation of the protective role of interleukin 27 (IL-27) on the genesis and maintenance of neuropathic pain. Fonseca MD[1], Santa-Cecília FV, Ferreira DW, Oliveira FFB, Kuzuda R, Ferreira-Davoli M, Cunha FQ, Cunha TM – FMRP-USP – Farmacologia

05.037 Analysis of astrocyte activation in the amygdala succeeding cfa-induced chronic tooth pulp inflammation in rats. Scalzilli PA, Freitas RDS, Costa KM, Filippini HF, Campos MM PUCRS

05.038 Evaluation of Antinociceptive Activity of Methanolic Fractions of Sugarcane Juice (*Saccharum officinarum* L.) Soares MA[1], Silva NLC[1], Gomes ACC[2], Simas NK[1], Kuster RM[3], Miranda ALP[1], Tributino JLM[1] [1]UFRJ, [2]IFRJ, [3]UFES

05.039 Evaluation of antinociceptive activity of the essential oil of *Stevia Serrata.* Cordeiro MS[1], Simas DLR[1], Taracena E[2], Reyes MM[2], Wug MM[2], Oliva B[2], Martínez JV[2], Silva AJR[1], Fernandes PD[1], Giorno TBS[1] [1]UFRJ, [2]Universidad de San Carlos de Guatemala

05.040 Differential contribution of TRP channels in antinociceptive and nociceptive effects of jambu. Dallazen JL[1], Maria-Ferreira D[1], Nascimento AM[2], Cipriani TR[2], de Souza LM[3], Geppetti P[4], Werner MF[1] [1]UFPR-Farmacologia, [2]UFPR- Bioquímica e Biologia Molecular, [3]Instituto de Pesquisa Pelé Pequeno Príncipe, [4]Universidade de Florença

05.041 Dimetil fumarate treatment failed to reduce hyperalgesia in a model of HIV-related neuropathy. Ferreira AM, Luckenmeyer DD, Tonello R, Prudente AS, Ferreira J UFSC – Farmacologia

05.050 Evaluation of antinociceptive effect of coumarins umbelliferone and mammeisine in mice. Vieira L[1], Saldanha AA[1], Pedro LP[1], Melo CM[1], Marcondes HC[2], Taylor JG[2], Araújo MGF[1], Souza ACS[1] [1]UFSJ- Centro-Oeste, [2]UFOP

05.051 Involvement of muscarinic receptors, opioid system/K^+_{ATP} and L-arginine/NO/cGMP pathway in the isopulegol acute antinociceptive effect in mice. Próspero DFA[1], Piauilino CA[1], Libâno LL[1], Fontenele RV[1], Reis Filho AC[1], Alcântara AEL[1], Lopes EM[1], Sousa DP[2], Ameida FRC[1] [1]UFPI – Bioquímica e Farmacologia, [2]UFPB – Ciências Farmacêuticas

05.052 Hydrogen sulfide (H_2S) donors alleviate pruritus induced by activation of type-2 protease activated receptors (PAR-2) in mice. Coavoy-Sánchez SA[1], Rodrigues L[1], Teixeira SA[1], Soares AG[1], Wood M[2], Whiteman M[2], Costa SKP[1], Muscará MN[1] [1]ICB-USP – Pharmacology, [2]University of Exeter Medical School

05.053 Investigation of pathophysiology of trigeminal neuropathic pain model in rats. Finamor F[1], Macedo IC, Callai E, Scarabelot VL, Oliveira C, Soares J, Silveira N, Souza A, Caumo W, Torres ILS UFRGS

05.054 Effects of binge-like ethanol exposure during adolescence on hyperalgesia during sickness syndrome. Oliveira BMT[1], Telles TMBB[1], Correia D[2], Zampronio AR[1] [1]UFPR- Farmacologia, [2]UFMG – Biologia Geral

05.055 Isopulegol anti-inflammatory activity involves inhibition of the histamine/serotonin and prostaglandin E2 induced edema, leukocytes migration and myeloperoxidase activity Próspero DFA, Leite LCTF, Pires LF, Araújo JM, Lima MPD, Sousa Neto BP, Oliveira FA, Sousa DP, Almeida FRC UFPI

05.065 Quinolinic Acid modulates mice medular neuronal activity Dagostin ALA[1], Souza GR[1], Cunha FQ[1], Leão RM[2], Cunha TM[1] [1]FMRP-USP – Farmacologia, [2]FMRP-USP – Fisiologia

05.066 Nociceptive Alterations in the Offspring of Diabetic Rats. Campos-Lima T, Guimarães BV, Lotufo CMC ICB-UFU

05.067 Alterations in BDNF and NGF brainstem levels of rats submitted to orofacial pain model treated with melatonin. Scarabelot VL[1], Medeiros LF[2], Oliveira C[2], Cioato SG[3], Adachi LS[2], Macedo IC[4], de Souza A[5], Caumo W[2], Torres ILS[3] [1]UFRGS – Farmacologia, [2]UFRGS – Ciências Médicas, [3]UFRGS – Farmacologia e Terapêutica, [4]UFRGS – Fisiologia, [5]Unilasalle – Saúde e Desenvolvimento Humano

06.027 β_1-adrenergic receptor activation induces vascular oxidative stress and hypertension in a model of chronic ethanol consumption. Vale GT[1], Tirapelli CR[2] [1]FMRP-USP – Farmacologia, [2]EERP-USP – Enfermagem Psiquiátrica e Ciências Humanas

06.028 AT_1 receptor activation induces vascular oxidative stress and hypertension in a model of ethanol withdrawal. Gonzaga NA[1], Tirapelli CR[2] [1]FMRP-USP – Farmacologia, [2]EERP-USP – Enfermagem Psiquiátrica e Ciências Humanas

06.029 Phosphodiesterase-5 inhibitors and novel N-acylhydrazone derivative agonist of adenosine A2A receptor ameliorate pulmonary hypertension-induced impairment of skeletal muscle function in rats. Silva AMS, Carvalho FIS, Alencar AKN, Fraga CAM, Barreiro EJ, Zapata-Sudo G, Sudo RT UFRJ

06.030 Antiplatelet effects of MK571 (MRP4 inhibitor) and bay 60-2770 (soluble guanylyl cyclase activator) in human platelets: A new perspective in cardiovascular therapeutics. Silvério-Mendes CM[1], Sollon CS[2], Anhê GF[2], De Nucci G[2], Mónica FZ[2], Antunes E[2] [1]Unicamp – Farmacologia, [2]Unicamp

06.031 Protective effect of rimonabant against the increased reactivity to vasopressin after induction of sepsis by the cecal ligation and puncture (CLP) model. Leite MCG[1], Souza P[2], da Silva-Santos JE[2], Zampronio AR[1] [1]UFPR- Farmacologia, [2]UFSC – Farmacologia

06.032 Function of AT1 and AT2 Receptors in atrial contractions from hypertensive or diabectis induced-STZ RATS. Musial DC[1], Miranda-Ferreira R[1], Pena MGG[1], Bomfim GHS[1], Arranz JA[2], Padín JF[2], Jurkiewicz A[1], García AG[2], Jurkiewicz NH[1] [1]Unifesp-EPM – Farmacologia, [2]Universidad Autónoma de Madrid – Farmacologia

06.033 THE Cav1-BKCa interaction involved in the negative feedback control of the contraction of mesenteric arteries is lost in hypertensive humans. Garcia DCG[1], Costa ED[2], Rezende BA[3], Wainstein AJA[3], Lemos VS[2], Côrtes SF[1] [1]ICB-UFMG – Farmacologia, [2]ICB-UFMG – Biofísica e Fisiologia, [3]Faculdade de Ciências Médicas – BH – Ciências da Saúde

06.034 The NO-sGC-cGMP pathway is impaired in mesenteric arteries from rats with periodontitis. Jesus FN, Teixeira SA, Napolitano M, Costa SKP, Muscará MN USP – Farmacologia

06.035 Bradykinin increases blood pressure in endotoxemic rats Anton EL, Corrêa T, Fernandes D, Assreuy J, da Silva-Santos JE UFSC – Farmacologia

06.036 Effects of adjuvant induced arthritis on THE ANG II responses in rat aorta Tozzato GPZ[1], Chies AB[2] [1]IBB-Unesp-Botucatu, [2]FAMEMA – Farmacologia

06.037 Differential modulation of iNOS-derived nitric oxide on alpha-1 adrenergic agonists-induced vascular contraction in sepsis Bernardelli AK[1], da Silva-Santos JE[1] [1]UFSC – Farmacologia

06.038 Simvastatin Induces Cardiac Repairment Through Notch 1 Activaction In Chronic Chagas Cardiomyopathy Guzmán-Rivera D, González-Herrera F, Lapier M, Pesce B, Maya JD University of Chile – Molecular and Clinical Pharmacology Program, Biomedical Sciences Institute (ICBM), Faculty of Medicine.

06.039 Sodium nitrate decreases xanthine oxidoreductase nitrite reductase activity and the antihypertensive effect of sodium nitrite. Angelis CD[1], Pinheiro LC[2], Tanus-Santos JE[2] [1]FCM-Unicamp, [2]FMRP-USP

06.040 The impact of protein (de)nitrosylation in septic shock Benedet PO[1], Menegatti ACO[2], Horewicz VV[1], Gonçalves MC[1], Terenzi H[2], Assreuy J[1] [1]UFSC – Farmacologia, [2]UFSC – Bioquímica

06.041 NOS-1 long-lasting inhibition caused by a nanoemulsion of 7-nitroindazole Barp CG[1], Mendes C[2], Lemos-Senna E[2], Assreuy A[1] [1]UFSC – Farmacologia, [2]UFSC – Farmácia

06.054 Aldosterone-induced NLRP3 inflammasome activation Ramalho FN, Ferreira N, Zanotto CZ, Alves-Filho JC, Tostes RC, Bruder-Nascimento T FMRP-USP – Farmacologia

06.055 Effects of tramadol hydrochloride in oxidative stress in ischemia and reperfusion injury on kidney of rats Monteiro AM[1], Gonçalves BH[1], Rocha CRO, Barros EMN, Brandão FMV, da Silva HC, Junior JBLN, da Silva LL, Pinto LCS, de Oliveira RCS, Couteiro RP, Junior RFGR UEPA –Cirurgia Experimental

06.056 Characterization of the vasodilatior effects of organic nitrates GTN, NTHF, NCOE and BIS-NTHF in human umbilical veins. Silva TAF[1], Alustau Fernandes MC[2], Melo MP[1], Maciel PMP[3], Machado NT[3], Gomes SM[4,5], Mendes-Junior LG[3], Mendes-Neto JM[6], Furtado FF[7], Queiroz TM[8], Brandão MCR[9], Athayde-Filho PF[9], Medeiros IA[10] [1]UFPB – Acadêmico, [2]UFCG-CFP/ESTC, [3]UFPB – PPgPNSB, [4]FAMENE, [5]Médico-Residente, [6]UFS – PROCFIS, [7]UFPB – ETS, [8]UEPB, [9]UFPB – CCEN, [10]UFPB – CCS/DCF

06.057 Effects of low dose of hydrocortisone in rats with hemorrhagic shock Khayat YF[1], Tavares MLC[2], Monteiro AM[2], Mainardi CR[2], Feijó DH[2], Dias DV[2], Junior RFGR[2], Brito MVH[2], Bohne MR [1]CESUPA, [2]UEPA

06.058 Long-term treatment with carvacrol produces antihypertensive effects and improvement of endotelial function in spontaneously hypertensive rats. Dantas BPV, Almeida AJPO, Santos PF, Lima FO, Castro MVEA, Carvalho CA, Ribeiro TP, Medeiros IA UFPB – Pharmaceutical Sciences

06.074 Combined therapy with an adenosine A_{2A} receptor agonist and a phosphodiesterase 5 inhibitor ameliorates monocrotaline-induced pulmonary hypertension in rats. Carvalho FIS[1], Silva A[1], Alencar AKN[1], Martinez ST[2], Fraga AM[1], Barreiro EJ[1], Zapata-Sudo G[1], Sudo RT[1] [1]UFRJ – Farmacologia, [2]UFRJ – Química

06.075 Tumor necrosis factor-alpha modulates thrombocytopenia, platelet aggregation and adhesion in experimental model of sepsis. Bueno PI, Naime ACA, Abreu A, Bonfitto PHL, Marcondes S FCM-Unicamp – Farmacologia

06.076 Acute and chronic effects of northeastern Brazilian red wine on platelet aggregation Vieira RLP[1], Machado-Calzerra NT[1], Bezerra LS[1], Maciel PMP[1], Melo PM[1], Assis KS[1], Rezende MSAR[1], Azevedo FLAA[1], Medeiros FA[1], Veras RC[1], Medeiros IA[1] [1]UFPB

06.077 Action of PDE5 Inhibitors (Tadalafil) in the Treatment of Lower Urinary Tract Symptoms in Heart Failure Rats. Mora AG, Tartarotti SP, Andrade DR, Barbosa JWP, Gonçalves TT, Janussi SC, Claudino MA

06.078 Evaluation of the toxicological and renal effects caused by oncocalyxone isolated from *Auxemma oncocalyx* Taub. Nogueira Júnior FA[1], Costa LLM[1], Costa PHS[1], Silveira JAM[1], Alves NTQ[1], Silva PLB[1], Pessoa ODL[2], Evangelista JSAM[3], Alves RS[4], Monteiro HSA[1] [1]UFC – Physiology and Pharmacology, [2]UFC, [3]UECE – Veterinary, [4]UFC –Clinical and Toxicological Analysis

06.084 Sodium nitrite antihypertensive effects in renovascular hypertensive rats are independent of oral bacteria Pinheiro LC, Ferreira GC, Amaral JH, Passo MA, Portela RL, Tanus-Santos JE [1]FMRP-USP – Farmacologia

06.085 A novel role of LASSBio-788 in inhibiting NF-KB mediated signaling in platelet of hypercholesterolemic rats. Motta NAV, Lima GF, Oliveira AFR, Barreiro EJ, kummerle AE, Brito FCF LAFE-UFF – Fisiologia e Farmacologia

06.086 Cilostazol exerts antiplatelet and anti-inflammatory effects through AMPK activation and NF-κB inhibition on hypercholesterolaemic rats. Motta NAV, Lima GF, Brito FCF UFF – Fisiologia e Farmacologia

06.087 Glycosylation with N-acetylglucosamine in lymphomononuclear cells of type 2 diabetic patients undergoing caloric restriction and a hypoproteic diet Rassi DM[1], Zanotto C[1], Conceição R[2], Mestriner F[1], Barreto PA[1], Donadi EA[2], Foss-Freitas MC[2], Tostes RC[1] [1]FMRP-USP – Farmacologia, [2]FMRP-USP – Clínica Médica

06.088 Cilostazol exerts vasodilatory and anti-inflammatory effects through cAMP independent signaling pathway on hypercholesterolemic rats. Motta NAV, Lopes RO, Oliveira AFR, Jappour LA, Brito FCF LAFE-UFF – Fisiologia e Farmacologia

06.095 Acute restraint stress increases carotid reactivity in Type-I diabetic rats by enhancing nox4/nadph oxidase functionality. Moreira JD, Moreira RP[1], Pernomian L[2], Gomes MS[3], Prado AF, Pernomian L[4], de Oliveira A[4] [1]UNIFAP, [2]FCFRP-USP – Pharmaceutical Sciences, [3]FCFRP-USP – Ciências Farmacêuticas, [4]FCFRP-USP

06.096 Clinical trial on resistant hypertension: pharmacometabolomic evaluations of antihypertensive drugs Bueno C, Faria H, Figueiredo E, Krieger JE, Krieger EM, Pereira AC, Santos PCJL

06.097 Angiotensin II-induced mononuclear cell arrest is CXCR6/CXCL16 mediated. implications in abdominal aortic aneurysm (AAA) Formation Sanz MJ[1], Collado A[1], Rius C[1], Marques P[1], Escudero P[1], Piqueras L[2] [1]University of Valencia. Institute of Health Research INCLIVA – Pharmacology, [2]Institute of Health Research INCLIVA

06.098 Mast cell and testosterone interaction on kidney fibrosis induced by unilateral ureteral obstruction in rats. Oliveira-Silva GL, Morais IBM, Alvarez MMP, França-Silva N, Galo JA, Balbi APC, Hiraki KRN, Bispo-da-Silva LB ICB-UFU

06.099 VAsorrelaxant effect of R(+)-pulegone in rats. Alustau Fernandes MC[1], Mendes-Neto JM[2], Santos-Vidal R[2], Correia NA[3], Albuquerque KLG[3], Capettini LAS[4], Lauton-Santos S[5] [1]CFP-ESTC-UFCG, [2]PROCFIS-UFS, [3]CCS-DFP-UFPB, [4]UFMG, [5]UFS

07. Endocrine, Reproductive and Urogenital Pharmacology

07.006 Hyperlipidic diet establishes a rat model of erectile dysfunction: mechanisms underlying the endothelial damage. Souza ILL[1], Barros BC[2], Oliveira GA[2], Vasconcelos LHC[1], Silva MCC[1], Andrade LFLI[3], Cavalcante FA[1,4], Silva BA[1,5] UFPB

07.007 ALPHA-1 adrenoceptors in an experimental model of epididymitis in rats. Mueller A[1,2], Silva EJR[1], Pupo AS[1] [1]IBB-Unesp-Botucatu – Farmacologia, [2]UFMT

07.008 Fetal dexamethasone exposure increased hepatic AKT2 and impaired glucose and lipid metabolism in fasted rats. Teixeira CJ[1], Murata G[2], Pantaleão LC[2], Vieira JC[2], Santos-Silva JC[2], Payolla TB[2], Mesquita FPN[1], Souza DN[1], Guimarães DED[2], Gomes PRL[2], Anhê GF[1], Bordin S[2] [1]FCM-Unicamp – Farmacologia, [2]ICB-USP – Fisiologia e Biofísica

07.009 Expression and Immunolocalization of the antimicrobial β-Defensin 1 in the mouse epididymis. Freitas GA[1], Scavone C[2], Avellar MCW[1] [1]Unifesp-EPM – Pharmacology, [2]ICB-USP – Pharmacology

07.010 Cilostazol causes inhibition of contraction in the iliac artery and potentiates the cGMP pathway. Justo AFO[1], Calmasini FB[1], Alexandre EC[1], Campos RM[1], De Nucci G[1] [1]FCM-Unicamp – Farmacologia

07.022 Antidiabetics Prescription Patterns and Costs in a Group of Patients from Colombia, 2015 Gaviria-Mendoza A, Machado-Alba J, Medina-Morales D, Sanchez-Duque J Audifarma S.A. – Investigacion Farmacoepidemiológica

07.023 Fluoxetine exposure effect during pregnancy and lactation on corticotrophic axis in rats. Bacchi AD[1], Barbosa MA[1], Crespigio J[2], Mazzuco TL[2], Stabile GRV[3], Moreira EG[1] [1]UEL – Ciências Fisiológicas, [2]UEL – Clínica Médica, [3]UEL

08. Respiratory and Gastrointestinal Pharmacology

08.006 Eucalyptol attenuates oxidative stress and inflammation on mouse lung. Kennedy-Feitosa E[1], Cattani-Cavalieri I[2], Valente M[3], Romana-de-Souza B[2], Lanzetti M[1], Gitirana LB[1], Valença SS[1] [1]UFRJ – Ciências Biomédicas, [2]UERJ, [3]UFRJ – Microbiologia

08.007 Assessment of gastroprotective components of the *Dalbergia brasiliensis*. Dalarmi L, Burci LM[1], Silva CB, Boeing T, Bordignon L, dos Santos SCS, da Silva LM, de Andrade SF[2], Miguel MD [1]UFPR- Ciências Farmacêuticas, [2]Univali – Ciências Farmacêuticas

08.008 Relaxant activity of flavonoid galetin 3,6-dimethyl ether on non-asthmatic and asthmatic Guinea-pig trachea Vasconcelos LHC, Martins IRR, Silva MCC, Souza ILL, Oliveira GA, Santos BVO, Cavalcante FA, Silva BA UFPB

08.009 Is it possible to treat GERD with natural products? Novel approach of a versatile biopolymer obtained from *Anacardium occidentale* L. Nicolau LAD[1,2], Batista-Lima FJ[2], Santana APM[2], Medeiros JV[3], Silva DA[3], Santos AA[2], Sifrim D[1], Souza MHL[2] [1]Queen Mary University of London – Barts and the London School of Medicine and Dentistry, [2]UFC – Fisiologia e Farmacologia, [3]UFPI – Biotechnology and Biodiversity

08.013 Evaluation of the antidiarrheal activity and effects in the gastrointestinal motility of p-cymene in mice. Pessoa MMB, Formiga RO, Barros MEFX, Sobral MV, Batista LM UFPB – Ciências da Saúde

08.014 Evaluation of tracheal relaxant reactivity from chronic allergic asthmatic Guinea-pig. Costa AC, Vasconcelos LHC, Silva MCC, Oliveira GA, Cavalcante FA, Silva BA UFPB

08.015 Extract polysaccharide from *Ximenia americana* Barks prevents indomethacin-induced gastric damage via inibition of neutrophil migration. Pantoja PS[1], Silva RO, França FV, Matos VEA[2], Pereira MG[1], Soares PMG[2] [1]UECE, [2]UFC – Fisiofarmacologia do Aparelho Gastrintestinal

08.016 Effect of a hyperlipidic diet in the contractile reactivity and morphology of rats ileum. Oliveira GA, Souza ILL, Barros BC, Ferreira ES, Vasconcelos LHC, Queiroga FR, Silva PM, Andrade LFLI, Cavalcante FA, Silva BA UFPB

08.024 Pre-clinical evaluation of antiulcerogenic activity of the crude ethanol extract of Spondias mombin (Anacardiaceae) in mice. Araruna MEC, Dantas RS, Albuquerque HCP, Cabral ILO, Rêgo RIA, Silva TD, Almeida MCF, Silva PR, Medeiros AC, Medeiros FD, Santos VL UEPB – Farmácia

08.025 The ruthenium complex nitric oxide donor presents higher relaxing effect than sodium nitroprusside in isolated trachea from asthmatic rats. Castro PFS[1,2], Batista AC[3], Silva RS[4], Rocha ML[1] [1]UFG – Farmácia, [2]Universo, [3]UFG – Faculdade de Odontologia, [4]FCF-USP

08.026 Atorvastatin and simvastatin promoted mouse lung repair after cigarette smoke-induced emphysema. Pinho-Ribeiro V[1], Melo AC[1], Kennedy-Feitosa E[1], Graça-Reis A[1], Barroso MV[2], Cattani-Cavaliere I[3], Carvalho GMC[4], Zin WA[4], Porto LC[3], Gitirana LB[1], Lanzetti M[5], Valença SS[5,1] [1]ICB-UFRJ, [2]UFRJ – Microbiologia, [3]UERJ, [4]UFRJ – Biofísica, [5]UFRJ – Farmacologia e Química Medicinal

08.027 Effect of the aqueous and ethanolic extracts of *Capsicum pubescens*, "Rocoto" on experimental gastric ulcers. Castañeda B, Ibañez L, Taxa L II-FMH-USMP

09. Natural Products and Toxinology

09.016 Study of antiparasitic effect of (-)-alpha-bisabolol on epimastigote forms of *Trypanosoma Cruzi* Menezes RRPPB[1], Sampaio TL[1], Tessarolo LD[2], Canuto JA[2], Medrado KA[2], Azevedo IEP[2], Martins AMC[2] [1]UFC – Fisiologia e Farmacologia, [2]UFC – Análises Clínicas e Toxicológicas

09.017 Acute Oral toxicity of Gum Arabic *Anacardium Occidentale* Silva AH[1], Rodrigues Filho JMS[1], Freitas LBN[1], Azevedo HMC[2], Ferreira MVP[3], Leal LKAM[1] [1]UFC – Centro de desenvolvimento de medicamentos e cosméticos/ Farmácia, [2]Empresa Brasileira de Pesquisa Agropecuária – Embrapa, [3]UFC – patologia e medicina legal/Medicina

09.018 Protective effect of 2-phenylquinoline derivatives on experimentally induced gastric ulcers in mice. Breviglieri E[1], da Silva LM[1], Boeing T[1], Somensi LB[1], Benhur C[1], Gimenez A[2], Valdez IL[2], Cechinel-Filho V[1], Andrade SF[1] [1]Univali – Ciências Farmacêuticas, [2]Universidad Mayor de San Andrés

09.019 Pharmacological action of Crotalus durissus cascavella venom on cardiac tissue of spontaneously hypertensive rats. Simões LO[1], Alves QL[1], Jesus RLC[2], Dantas SCD[2], Barreto BC[2], Silva LLC[2], Macambira SG[2], Couto RD[3], Silva DF[2] [1]Centro de Pesquisa Gonçalo Moniz – CPqGM-Fiocruz-BA, [2]UFBA, [3]UFBA – Farmácia

09.020 Spirulina platensis improves reactivity parameters no pathway and antioxidant action Ferreira PB[1], Brito AF[1], Silva AS[2], Silva MCC[1], Souza AA[2], Felix GS[2], Souza ILL[1], Pereira RA[2], Sampaio RS[1], Araujo LCC[3], Silva BA[4] [1]UFPB – PPgPNSB, [2]UFPB – DEF, [3]UFPB – PPgBCM, [4]UFPB – DCF

09.021 Biophysical and biological properties of small linear peptides derived from crotamine Dal Mas C[1], Pinheiro D[2], Campeiro JD[1], Oliveira V[3], Oliveira EB[4], Miranda A[3], Perez KR[3], Hayashi MAF[1] [1]Unifesp-EPM – Farmacologia, [2]Unifesp-EPM, [3]Unifesp-EPM – Biofísica, [4]FM-USP – Bioquímica e Imunologia

09.022 Anti-inflammatory and antinociceptive activity of an isolated naphthoquinone from *Sinningia reitzii* Barbosa FL[1], Silva AS[2], Stefanello MEA[2], Zampronio AR[1] [1]UFPR- Farmacologia, [2]UFPR

09.023 Effect of a standardized extract of Baccharis trimera (Less) DC. On DSS-induced acute colitis in mice Silva RV[1], Nogueira FM[1], Silva JDP[1], Tanae MM[1], Landman G[2], Lima-Landman MTR[1], Lapa AJ[3], Souccar C[1] [1]Unifesp-EPM- Farmacologia, [2]Unifesp-EPM- Patologia, [3]Unifesp-EPM& UEA- MA – Farmacologia

09.024 Evaluation of the antihypertensive effect of a phenolic-rich fraction of syrah red wine from São Francisco Valley Region Figueiredo EA[1], Alves NFB[1], Braga VA[1], Oliveira EJ[2] [1]UFPB, [2]UFVJM

09.025 Neuromuscular Activity of *Micrurus surinamensis* **(Aquatic Coral Snake) Venom in Avian and Mammalian Preparations *In Vitro*** Schezaro-Ramos R[1], Floriano RS[1], Silva Junior NJ[2], Rodrigues-Simioni L[1], Rowan EL[3], Hyslop S[1] [1]FCM-Unicamp – Farmacologia, [2]PUC-Goiás – Biologia, [3]University of Strathclyde – Pharmacy and Biomedical Sciences

09.026 BJ-PI2, a P-I Class Metalloproteinase from *Bothrops jararaca* **Venom, causes thrombocytopenia without affecting coagulation parameters in anesthetized rats.** Tamascia ML[1], da Silva IRF[1], Baldissera Jr L[1], Huaco FDT[1], Hyslop S[1] [1]FCM-Unicamp – Farmacologia

09.027 Fruit juice, a rich source of polyphenols, induces endothelium-dependent relaxations in mesenteric arteries and antioxidant activities Assis KS[1], Almeida AJPO, Monteiro LS, Azevedo FLAA, Maciel PMP[1], Machado NT[1], Ribeiro TP[1], Medeiros IA UFPB – Ciências Farmacêuticas

09.040 Trypanocidal effect of violacein from *Chromobacterium violaceum* Canuto JA[1], Azevedo IEP[1], Menezes RRPPB[2], Batista AH[1], Nogueira PCN[3], Grangeiro TB[4], Silveira ER[3], Nogueira NAP[1], Martins AMC[1] [1]UFC – Análises Clínicas e Toxicológicas, [2]UFC – Fisiologia e Farmacologia, [3]UFC – Química Orgânica e Inorgânica, [4]UFC – Biologia

09.041 Antioxidant activity of extracts obtained from red grape pomace. Karling M, Merlin N, Bicas TC, Carpes ST, Oldoni TLC UTFPR – Química

09.042 Evaluation of the copaiba oil (*Copaifera reticulata***) on the healing process on the bladder of rats.** Rocha IRO[1,2], Feitosa-Júnior DJS[2], Carvalho LTF[2,3], Brito CN[2], Moreira RA[2], Barros CAV[2] [1]CESUPA, [2]UEPA – Cirurgia Experimental, [3]UFPA

09.043 Pharmacological Screening of *Zornia Brasiliensis* **Vogel. (Leguminosae) on different smooth muscle models.** Oliveira FRMB[1], Figueiredo IAD[1], Silva ARLFC[1], Ferreira SRD[1], Silva ADS[2], Tavares JF[1], Cavalcante FA[1] [1]UFPB, [2]UFAL

09.044 Leishmanicidal evaluation of extracts and isolated compounds from propolis collected in the São Francisco River Valley Region, PE and their effects on the inhibition of topoisomerases (LCTOPIB And HTOPIB). Silva LB[1], Cavalcante GM[2], Silva JKS[1], Dias GS[1], Silva ES[3], Yamamoto SM[3], Camara CA[2], Silva TMS[2], Moreira MSA[1] [1]UFAL- Ciências Biológicas e da Saúde, [2]UFRPE, [3]UNIVASF

09.045 Spasmolytic Effect of Essential Oils From Mesosphaerum suaveolens (L.) Kuntze and Medusantha martiussi (Benth) on Guinea Pig Ileum and Rat Aorta Barros BC[1], Souza ILL[2], Ferreira PB[2], Costa VCO[3], Silva MS[2,4], Silva BA[2,4] [1]UFPB – PIBIC, [2]UFPB – PPgPNSB, [3]UFPB – IPeFarM, [4]UFPB – DCF

09.051 Copaiba oil effects associated with microneedling in the skin of rats. Carneiro FRO, Botelho NM, Palheta CSA, Alho BCN, Garcia da Silva PR, Pereira da Silva WM, Silva AMF, Souza RMT, Dias DV, Martins Neto ES, Banna de Oliveira MH, Bengtson KL, Dórea MA, Couteiro RP

09.052 Effect of copaiba oil (*Copaifera officinalis***) at bone integration of flocculated resin-castor oil (***Ricinus communis***) on rats jaw.** Peres ACR[1], Brito MVH[1], Pontes FSC[1], Oliveira LCM[1], Ramos SR[2], Yamanaka CM[1], Rodrigues FMS[1], Afonso NR[2], Bengtson KL[2], Oliveira MHB[2] [1]UEPA, [2]CESUPA

09.053 Profile of phenolic antioxidants from *Moringa oleifera* **Leaves** Merlin N[1], Karling M[1], Morales RGF[2], Oldoni TLC[1] [1]Universidade Tecnológica Federal do Paraná – UTFPR, [2]Empresa de Pesquisa Agropecuária e Extensão Rural de Santa Catarina (Epagri), Estação Experimental de Itajaí

09.054 Phytochemical and toxicological effects of *Euphorbia tirucalli* **Linneau latex.** Uchôa MBR[1], Figueiredo CSSS[1], Fernandes ES[1], Silva LCN[1], Grisotto MAG[1] [1]Ceuma

09.055 L-Amino acid oxidase from *Bothrops jararaca* snake venom induces cytotoxicity and apoptosis in rat lung macrophages. Pereira BB, Panunto PC, Fonseca FV, Torres-Huaco FD, Hyslop S Unicamp – Farmacologia

09.056 Short-term carcinogenesis evaluation of a medicinal plant used by Brazilian Unified Health System (SUS). Palozi RAC[1], Lívero FAR[1], Traesel GK[1], Tirloni CAS[1], Gasparotto Júnior A[1] [1]UFGD – Ciências da Saúde

09.068 Antimicrobial activity of essential oil of *Pelargonium odoratissimum* (L) L'Hér (Geraniaceae) Pombo LM, Borrego P

09.069 *Conyza trihecatactis* and *Ageratina vacciniaefolia* exhibit a high cytotoxicity activity on mammalian tumoral cells Borrego P, Pombo LM, Robles J, Hernandez J, Rojas L

09.070 Antibacterial activity of *Thymus vulgaris* L., *Origanum vulgare* L and *Minthostachys mollis* (Benth.) Griseb's essential oils in combination with EDTA on methicillin-resistant *Staphylococcus aureus* Rojas J, Ruiz J, Almonacid R, Ortiz J, Palomino M, Huaroto L, Collahua E

09.071 Investigation of mechanism action spasmolytic of essential oil from *Lippia alnifolia* Silva BAO[1], Ribeiro LAA[1], Menezes PMN[1], Lucchese AM, Silva FS[1] [1]UNIVASF

09.072 Toxicological evaluation of the methanol extract of *Pentaclethra macroloba* in rats Nascimento AA[1], Vira Neto RA[1], Correa FRFB[1], Cabral GNV[1] [1]Unifap – Ciências Biológicas e da Saúde

10. Cancer Pharmacology

10.007 Estrogen receptor ESR2 and beta-catenin mediate cell migration in androgen-independent prostate cancer cell PC-3. Lombardi APG, Vicente CM, Porto CS[1] [1]Unifesp – Endocrinologia

10.008 Effect of simvastatin on the MUC1 expression in vivo study of experimental mammary carcinogenesis Cardelli AJN[1], Belato KK[2], Coutinho SP[1], Rennó A[3], Franchi JG[4], Nowill A[5], Nascimento FC[6], Latuffi FP[4], Vassalo J[4], Malagoli RR[6], Souza BV, Schenka AA[2] [1]FCM-Unicamp – Fisiopatologia, [2]FCM-Unicamp – Farmacologia, [3]Faculdade de Jaguariúna, [4]Centro de Investigações em Pediatria – CIPOI UNICAMP, [5]FCM-Unicamp , [6]Hospital do Cancer ACCamargo

10.009 Detection of the Breast Cancer Stem and Progenitor Cell Markers CD10 and CD133 after treatment with Simvastatin in MCF-7 xenografts. Belato KK[1], Cardelli AJN[2], Rennó A[3], Nascimento FC[4], Latuffi FP[5], Vassalo J[4], Malagoli RR[4], Souza BV, Schenka AA[1] [1]FCM-Unicamp – Farmacologia, [2]FCM-Unicamp – Fisiopatologia, [3]Faculdade de Jaguariúna, [4]Hospital do Cancer ACCamargo, [5]CIPOI-UNICAMP

10.010 Proteolytic fraction from *Vasconcellea cundinamarcensis* latex induces differentiation in mouse melanoma B16F10 cell line. Santos VG[1], Lemos FO[1], Salas CE[2], Lopes MTP[1] [1]ICB-UFMG – Farmacologia, [2]ICB-UFMG – Bioquímica e Imunologia

10.011 Protective Effect of Ethanolic Extract of *Chuguiraga spinosa* on DMBA-induced Breast Cancer in Rats Arroyo JL[1], Herrera O[2], Chavez R[3], Anampa A[4], Chumpitaz V[5], Ruiz E[5], Rojas C[6] – [1]Universidad Nacional Mayor de San Marcos – Lima, Peru – Institute of Clinical Research / Pharmacology Laboratory, [2]Universidad Nacional San Luis de Gonzaga, Ica, Peru – Pharmacy and Biochemistry, [3]ADIECS-Universidad Nacional Mayor de San Marcos, Lima – Peru – Association for the Development of Student Research in Health Sciences, [4]Universidad Nacional Mayor de San Marcos, Lima – Peru –Medicine, [5]Universidad Nacional Mayor de San Marcos, Lima – Peru – Faculty of Odontology, [6]Universidad Nacional Mayor de San Marcos, Lima – Peru –Pharmacy and Biochemistry

10.018 Antineoplastic effects of the soluble fraction of polysaccharide (SFP) from red wine in Walker-256 tumor-bearing rats Stipp MC[1], Corso CR, Livero F[1], Lomba LA[1], Bezerra I[2], Telles JE[3], Cavalieri E[3], Klassen G[3], Sassaki G[2], Acco A[1] [1]UFPR- Farmacologia, [2]UFPR- Bioquímica, [3]UFPR- Patologia

10.019 Estrogen receptor mediates the regulation of the N-Cadherin in androgen-independent prostate cancer cell PC-3. Silva RS, Lombardi APG, Porto CS Unifesp-EPM – Farmacologia

10.020 Role of dermcidin in Zelboraf / Vemurafenib acquired resistance in melanoma cells Montoya JE, Belizário JE ICB-USP – Farmacologia

10.021 Modulation assessment of purinergic receptor P2Y12 BY clopidogrel in glioma cells Vargas P[1], Cappellari AR[1], Corte T[3], Ferreira J[1], Kunde M[1], Morrone F[2] [1]PUCRS – Farmacologia Bioquímica e Celular, [2]PUCRS – Farmacologia Bioquímica e Celular, [4]PUCRS – Ciências Farmacêuticas

10.022 Evaluation of the synergistic effect of sodyum butyrate and tyrphostin AG1478 in glioblastoma cell lines proliferation Buendia M[1], Thomaz A[1], Pinheiro KV[1], Brunetto AL[2], de Farias CB[2], Roesler R[3] [1]UFRGS, [2]Instituto do Câncer Infantil, [3]UFRGS – Farmacologia

11. Clinical Pharmacology, Pharmacokinetics, Pharmacogenomics and Toxicology

11.008 Detection of adverse cutaneous drug reactions – A Pharmacovigilance study Hernández Caffot MS[1], Martinez F[1], Montrull H[1], Moya M[1], Brizuela N[1] [1]Universidad Nacional de Córdoba –Farmacología General – Facultad de Ciencias Médicas

11.009 Investigation of the association of CYP1A2*1C polymorphism with super-refractory schizophrenia. Rodrigues-Silva C[1], Vianelo RP[2], de Brito RB[1], Ghedini PC[1] [1]UFG – Farmacologia, [2]EMBRAPA

11.010 Evaluation of prostate permeability of tadalafil. Campos RM[1], Gonzalez PG, Cara A, Rojas Moscoso JAM, Iwamoto RD, Monica FT, De Nucci G Unicamp – Farmacologia

11.011 Montecarlo simulations to predict the outcome of meningites treatment associated to criptococcus neoformans Alves I, Silva CM, Rates S, Dalla Costa T, Araujo BV UFRGS

11.012 *In Vitro* skin irritation assay of medical devices in the context of ISO 10993-10. Pellevoisin C[1], Tornier C[1], Alonso A[1], De Vecchi R[1,2], Seyler N[1] [1]EPISKIN Academy, [2]L'Oréal Research & Innovation

11.013 Oral acute toxicity of the oil extracted from the pulp of *Attalea phalerata* Mart. in rats Lima FF[1], Traesel GK[1], Menegati SELT[1], Maciel VDT[2], Júnior PSVS[3], Aquino DFS[1], Oesterreich SA[1], Vieira MC[4] [1]UFGD – Farmacologia e toxicologia de produtos naturais, [2]Centro Universitário da Grande Dourados – Farmácia, [3]UFGD – Ciências Médicas, [4]UFGD – Ciências Agrárias

11.014 Negative results associated with medication in diabetic and hypertensive patients in Manaus, AM, Brazil Cristino JS[1], Corrêa JWN[2], Melo LDS[1], Patrício RSO[1], Pinto EO[1], Lourenço GA[2], Cruz LO[1] [1]UFAM, [2]UFAM – Ciências Farmacêuticas

11.015 Negative outcomes associated with medication in diabetic and hypertensive patients as a result of poor adherence to drug treatment Melo LDS[1], Corrêa JWN[2] [1]UFAM, [2]UFAM – Ciências Biológicas

11.016 Study of acute toxicity of Hpa-05 in Swiss Mice Ramalho LSN[1], Sá CB[1], Ramalho JA[1], Silva RJ[1], Lira AB[1], Oliveira KM[1], Sousa RC[1], Souza SA[2], Lira BF[2], Filho PFA[2], Lima CMBL[1], Ramalho MEN[1], Guedes EJRCE[1], Neto GEG[1], Costa AC[1], Diniz MFFM[1] [1]UFPB – Ensaios Toxicológicos, [2]UFPB – Pesquisa em Bioenergia e Síntese Orgânica

11.017 Epidemiology profile of ciproheptadine intoxication's assistance service registrated by *Centro de Informações Toxicológicas do Amazonas* in children, age 0-10 years old Camargo GB[1], Lobo AMG[2], Martins TAA[1], Silva MSN[1], Paiva CDP[1], Noronha HM[1] [1]UFAM, [2]CIT-UFAM – Farmacologia e Toxicologia

11.018 Evaluation of genotoxicity of biodegradable nanocapsules Costa B[1], Baierle M[1], Göethel G[1], Cestonaro LV[1], Nascimento S[1], Andrade M[2], Pohlmann A[3], Guterres S[1,4], Garcia SC[1] [1]UFRGS – Análises Clínicas e Toxicológicas, [2]Hospital de Clínicas de Porto Alegre, UFRGS – Centro de Cardiologia, [3]UFRGS –Química, [4]UFRGS – Produção e Controle de fármacos

11.019 Assessment of Toxicity of Benzo(b)fluoranthene Present in Asphalt Fumes in the Nematode *Caenorhabditis elegans* Flecsh I[1], Göethel G[1], Souto C[1], Bohrer D[2], Charão MF[3], Arbo M[1], Garcia SC[1] [1]UFRGS – Análises Clínicas e Toxicológicas, [2]UFSM – Química, [3]Universidade FEEVALE – Análises Clínicas e Toxicológicas

12. Drug Discovery and Development

12.005 Synthesis and pharmacological screening of pyridopyrimidines as new effective inhibitors of cyclic nucleotide synthesis. Zaminelli T, De Nucci G FCM-Unicamp – Farmacologia

12.006 New family of antibacterials, ubiquinone analogues, with activity against clinical isolate of *Staphylococcus aureus* and *Enterococcus* spp. multiresistant Campanini-Salinas J[1], Andrades-Lagos J[1], Hinojosa N[1], Alarcon P[2], Gonzalez-Rocha G[3], Vásquez-Velásquez D[4] [1]Universidad de Chile – Laboratorio de Desarrollo de Fármacos, Facultad de Ciencias Químicas y Farmacéuticas, [2]Instituto de Salud Pública de Chile – Gram-Positive coccus Laboratory, [3]Universidad de Concepción – Laboratorio de investigación en agentes antibacterianos, Facultad de Ciencias Biológicas, [4]Universidad de Chile – Laboratorio de Desarrollo de Fármacos, Facultad de Ciencias Químicas y Farmacéuticas

12.007 Synthesis, antibacterial activity and structure-activity relationship study of functional analogues of ubiquinone. Andrades J[1], Campanini J[1], Poblete F[1], Gutierrez C[1], Pessoa H[2], Vásquez D[1] [1]Universidad de Chile – Drug Development Laboratory, Faculty of Chemical and Pharmaceutical Sciences, [2]Universidad de Chile – Reaction Mechanisms Laboratory, Faculty of Chemical and Pharmaceutical Sciences

12.008 Development and validation of analytical method by HPLC for determination of caspofungin in formulations. de Paula DCC, Garcia GM, Lima MSR, Silva JES, Leite EA, Grabe-Guimarães A

12.018 Conformation Analysis of HIV-1 Wild-Type Protease Bound and Unbound to Nelfinavir Inhibitor Holanda LHC[1,2], Pinheiro GLM[2,3], Gomes GC[2,4], Lameira J[2], Sousa MS[1] [1]UFPA – Biologia Molecular, Núcleo de Medicina Tropical [2]UFPA – Planejamento e Desenvolvimento de Fármacos, [3]UFPA-Marajó – Faculdade de Ciências Naturais, [4]ICB-UFPA

12.019 Putative microsomal prostaglandin E synthase-1 (mPGES-1) inhibitors identified by virtual screening show in vivo antipyretic activity Froes TQ[1], Castilho MS[1], Melo MCC[2], de Souza GEP[2], Soares DM[1] [1]UFBA – Medicamentos, [2]FCFRP-USP

12.020 The quinoxaline-derived chalcone N9 displays potential antiproliferative effects in breast cancer cells. Erig TC[1], Mielcke TR[1], Mascarello A[2], Chiaradia LD[2], Nunes RJ[2], Basso LA[1], Campos MM[1] [1]PUCRS, [2]UFSC

12.021 Pre-clinical evaluation of new encapsulated places anesthetic formulations with liposomes ionic gradient and internal transmembrane gradient Carvalho CR, Papine J, Couto V USF

13. Pharmacology Education and Technology

13.001 Experimental Model of nebulization for small rodents Lima PDL[1], Mardock CBJ[1], Bengtson KL[2], Rodrigues IAS[1], Rocha CRO[2], Rocha ABM[1], Oliveira MHB[2] [1]UEPA, [2]CESUPA

14. Pharmacology: Other

14.006 Electromyographic evaluation of Thiocolchicoside and ethanol drug interaction Cordeiro PGA[1], Sousa PHS[1], Souza DS[1], Lobato AMV[1], Martins MFC[1], Pereira EHS[1], Machado JLP[1], Nascimento LNS[1], Lopes MSP[1], Farias RAF[1], Jóia-Mello V[1], Hamoy M[1] [1]UFPA – Farmacologia e toxicologia de produtos naturais

14.007 Assessment to drug therapy in patients with chronic diseases users of SUS in Novo Hamburgo, RS Bigolin C[1], Vieira I[1], Betti AH[1], Perassolo MS[1], Raach JR[1], Vargas TG[1], Schimidt A[1], Vanzzela S[1], Seibel LM[1] [1]Universidade Feevale – Instituto de Ciências da Saúde

14.008 Human thioredoxin influences Staphylococcus aureus virulence in vitro Silva BLR[1], Mendes SJF[1], Pereira DMS[1], Ferro TAF[1], Monteiro-Neto V[1], Fernandes ES[1,2] [1]Ceuma – Programa de Pós-Graduação, [2]King's College London – Cardiovascular Division

14.009 Evaluation of chromones as inhibitors of acetylcholinesterease through molecular docking and molecular dynamics. Orduz-Diaz LL, Rincón S, Coy-Barrera E Facultad de Ciencias Básicas y Aplicadas, Universidad Militar Nueva Granada – Laboratorio de Química Bioorgánica

Courses:

Basis of Anesthesia and Pain Management in Animal Experimentation (Fundamentos de Anestesiologia em Experimentação Animal). Paulo de Assis Melo (UFRJ)

Animal experimentation in the preclinical development of new drugs or techniques in biomedical research is a challenger. Most of the effects need to be confirmed in animals before to move ahead and perform human tests. It is mandatory that you can evaluate their behavior under anesthesia and the pain treatment in experimental conditions. Our purpose in this short course is to present and discuss the anatomical and physiological basis and the pathophysiology of pain with focus on animal perceptions and reactions. Learn about the basic manifestation and animal reaction to the tissue damage and the evaluation methods and techniques to measure acute and chronic pain. Another point will be to discuss the fundaments of pharmacodynamic and pharmacokinetic of the main group of drugs that have been used in the control of pain and anesthesia in animal experimentation. It will raise the positive and negative points of each drug, their limitations, and how to use and get the best of each agent, as well as, to avoid the common pitfalls of the misuse. Some animals can express the response to the noxious stimulus by a grimace or facial expression. Very difficult issues to discuss are: How to use pain killer drugs without interfere on the judgments or in the results of the investigation? How to learn and quantify the animal noxious response and acquire it as a valorous step to minimize the use of analgesic drugs in animals

How to write a Scientific Paper: Theory and practice. Y S Bakhle (NHLI, Imperial College London, UK)

This Course of three sessions will discuss the Theory and Practice of writing Scientific Manuscripts for publication in peer-reviewed Journals, drawing on the experience of the speaker as Senior Editor and Press Editor of the British Journal of Pharmacology over the last 15 years. Each component of the manuscript will be discussed in turn, identifying commonly occurring defects and deficiencies and suggesting preferred solutions. Particular emphasis is placed on simple, clear and accurate use of English (because it is now the most important language of biological science), along with an equally simple, clear and accurate layout of the manuscript.

Another critical factor in the publication of scientific papers is peer-review, a central component of high quality Journals. Most research scientists are also reviewers, spending considerable time and effort, without recompense, assessing manuscripts submitted by other research scientists, as a normal part of their profession. This task of reviewing is also made much shorter and easier, even enjoyable, when the manuscript is presented in a simple, clear and accurate form. An easy review increases the probability of a positive review, an outcome all authors desire.

The advances in molecular biology over the last 20 years have uncovered many new drug targets, both proteins and processes, with potential in physiology and pathophysiology. However, these successes in basic science have not led to the expected increase in new, clinically useful, therapeutic agents. It is this deficit in translation that has, in the last decade, forced high quality Journals to be more specific about the content of manuscripts they accept and publish, in order to increase clarity in the data published and objectivity in the interpretation. This means that Journals are generating more rigorous criteria for acceptable experimental design and analysis. What these new criteria mean for the author and how they can be most effectively met will also be discussed.

PK-PD Modeling: Fundamentals and Applications (Modelagem PK/PD: Fundamentos e aplicações). Bibiana Verlindo de Araujo (UFRGS) e Profa. Teresa Dalla Costa (UFRGS)

In recent years several technologies have been developed to optimize drugs R&D processes, among which pharmacokinetic/pharmacodynamic (PK/PD) data modeling and simulation have become an attractive research topic. PK/PD allows identifying the interdependence between pharmacological properties of a new chemical entity, its physiological target and the characteristics of systemic exposure, and helps answering questions like: (a) is the new chemical entity reach receptor site? (b) if so, is the intended pharmacological effect accomplished? (c) how can preclinical data be applied in the prediction of doses subsequently tested? This course addresses the essential role of the popularization of PK/PD as a leverage point in Brazilian scenario of R&D, and discusses some examples of success in practical applications of the technique. The course is split in three parts: a) PK modeling: concepts, models and applications; b) PD modeling: concepts, models and applications; and c) Integrating PK and PD: building PK/PD models for linear, non-linear and mixed effects.

Conferences

One hundred years of heparin and yet uncovered structural and functions attributes. RP Cavalheiro, MCZ Meneghetti, JL Dreyfuss, EA Yates, ILS Tersariol, MA Lima and HB Nader. Instituto de Farmacologia e Biologia Molecular, Escola Paulista de Medicina, Universidade Federal de São Paulo

This year we are celebrating the centenary of the Heparin discovery by McLean and Howell. Heparin (Hep) is in medical use for more than 70 years mainly due to its anticoagulant activity. However its activities go way further than coagulation. Hep is a pleiotropic drug due to peculiar structural characteristics that allow its interactions with different protein networks. Hep as well as heparan sulfate (HS) are members of a broad family of sulfated, linear complex polysaccharides, the glycosaminoglycans. While HS is ubiquitously found in the cell surface of all tissues and species, the distribution of Hep is scattered throughout the evolutionary tree, being found only in the cytoplasmatic granules of mastocyte-like cells of some invertebrate and vertebrate species. Using orthogonal methodologies such as enzymatic and chemical depolimerization, spectroscopy and many others, it was possible to propose the sequence of disaccharides in these sulfated polymers and correlate them with selected biological functions showing that both saccharides are active in a range of developmental, regulatory and pathophysiological events. Furthermore, the molecular interactions involved in the binding to proteins related to these events have been characterized to various degrees, including the identification of heparin-binding motifs in some proteins as well as the minimum saccharide sequence in the Hep/HS polysaccharide chain. The gathered data shows that HS and Hep have considerable potential structural heterogeneity and it is apparent that the relationship between structure and activity involves redundancy, even though their biosynthesis is strongly regulated. The structure, activities and current thinking on the structure-activity relationship of these molecules will be discussed. Thus, after 100 years of studies and medical use, it becomes clear that there are still structural peculiarities and biological functions to be revealed. Heparin as a medication has still a well-built place in the future since new indications are arising from the ongoing studies. Funded by FAPESP, CNPq, CAPES, FINEP, NIH, NSF, Diamond Light Source

Negative Regulation on Inflammatory Cytokines and Chemokines as a general mechanism of inhibition and resolution of inflammation. Alberto Mantovani (Humanitas University, Humanitas Clinical and Research Center)

Inflammatory cytokine play a key role in the pathogenesis of diverse human diseases ranging from autoimmunity and autoinflammation, to cancer, to cardiovascular disorders, to neurodegenerative disease.
Members of IL-$_1$ and IL-$_1$ Receptor superfamily serve as a paradigm for inflammatory cytokines. Decoy receptors have emerged as a general strategy to regulate inflammations. In the chemokine side as a typical chemical (ACK)has been an identified and scavenging function. Cytokine- and chemokine- sustained smoldering non-resolving inflammation is an essential component of a tumor microenvironment. The decifering of negative regulation has and will provide tools for pharmacological intervention including promotion of resolution. Selected references: 1. THE INTERLEUKIN-1 FAMILY: BACK TO THE FUTURE, Garlanda et al, Immunity, 2013; 2. CANCER-RELATED INFLAMMATION, Mantovani et al, Nature, 2008; 3. THE INTERACTION OF ANTICANCER THERAPIES WITH TUMOR-ASSOCIATED MACROPHAGES MANTOVANI AND ALLAVENA, J Exp Med, 2015; 4. PTX3 IS AN EXTRINSIC ONCOSUPPRESSOR REGULATING COMPLEMENT-DEPENDENT INFLAMMATION IN CANCER, Bonavita et al, Cell, 2015

Orphan Drug Development for Duchenne Muscular Dystrophy by Protein Crystallization in Space. Yoshihiro Urade (University of Tsukuba, Japan)

Duchenne muscular dystrophy (DMD) is one of the most common types of muscular dystrophy, affecting about 1 out of 3,500 boys. DMD is a severe X-linked muscle disease characterized by progressive skeletal muscle atrophy and caused by mutations in the gene of dystrophin, a cytoskeletal protein. There is still no cure for this disastrous disease. We found that hematopoietic prostaglandin (PG) D_2 synthase (H-PGDS) was induced in the skeletal muscle with grouped necrotic muscle fibers in patients with DMD to aggravate muscular inflammation by producing a potent inflammatory mediator, PGD_2. We obtained high quality crystals of human recombinant H-PGDS in complexes with inhibitors, by the counter-diffusion method under a microgravity condition within the International Space Station (see http://www.nasa.gov/mission_pages/station/research/news/crystals). We determined the detailed three-dimensional structures of H-PGDS/inhibitor complexes by X-ray diffraction analysis of the space-grown crystals using an intense X-ray at SPring-8 synchrotron facility, Harima, Japan. Based on the fine structure of the inhibitor within the catalytic pocket of human H-PGDS, novel potent inhibitors TFC-007, TAS-204 and TAS-205 were developed, whose IC_{50} value was about 20 nM. Those compounds markedly prevented the expansion of muscular necrosis and muscle atrophy without any side effects by chronic treatment of dystrophin-deficient *mdx* mice and DMD beagle dogs. Clinical trials of TAS-205 for treating DMD patients have begun sponsored by Taiho Pharmaceutical Co. Ltd. at National Center of Neurology and Psychiatry in Japan from Sept in 2014.

Phase 1 study of single and multiple doses of TAS-205 in 21 patients was successfully finished to confirm the safety of this drug (see the entry in clinicaltrials.gov, NCT02246478). This is a real milestone to establish drug therapy for DMD patients. We believe that TAS-205 is able to slow down the progression of DMD boys. The fine structure of the drug-binding pocket of human H-PGDS is useful to theoretically and inexpensively develop follow-up compounds, whose chemical structures and metabolism are different from TAS-205.

Deciphering neural circuits to develop new anti-anxiety medications. Andrew Holmes (NIH, USA)
Trauma-related and anxiety disorders are the most prevalent group of psychiatric diseases, and there is growing medical need to improve on the effectiveness and the side effect profile of existing anti-anxiety drugs. Many years of preclinical pharmacological research has generated a huge amount of data and has led to numerous clinical trials – but this has led to very few translational success stories. There is therefore an urgent need to find a more productive dialog between preclinical models and clinical studies that is powered by an ever-developing appreciation of the shared neural circuits and genetic architecture that moderate anxiety-related behaviors across species. Innovative approaches will be discussed, using recent case studies, which have the potential to deliver a new generation of risk biomarkers and therapeutic strategies for trauma- and anxiety disorders.

Label-Free, Immobilization-Free Interaction Studies Using Microscope Thermophoresis. Daniel Maturana (Nanotemper Tecnologies)
The analysis of bio-molecular interactions and their quantification in the early stages of the drug discovery allows faster and more efficient development of therapeutics. Here we present Microscale Thermophoresis (MST), a novel label-free and tether-free technology, for the analysis of the affinity, stoichiometry and binding energetics of biomolecular interactions in a pM to mM affinity range. MST analyzes the directed movement of molecules in optically generated microscopic temperature gradients in working buffers or complex bioliquids, such as cell lysates and blood serum. This thermophoretic movement is determined by the entropy of the hydration shell around the molecules. Almost all interactions and biochemical processes relating to a change in size, charge, and conformation of molecules alter this hydration shell and are thus detectable by MST. Here we show examples of how MST can be used in industry settings by using either fluorescently labeled targets, or in a label-free manner, using the intrinsic tryptophane fluorescence of proteins.

The joy of discovery: My life in Pharmacology. Salvador Moncada (University of Manchester, UK)
I will describe the journey that took us from the discovery of the mechanism of action of aspirin like drugs, to the discovery of Thromboxane synthase and that of Prostacyclin. I will, from there, go on to discuss how we then moved to the study of Endothelium Derived Relaxing Factor (EDRF), our identification of this substance as Nitric Oxide and the elucidation of its biosynthesis. I will put these findings in context and discuss some of their biological implications especially in relation to health and disease.

Natural Product-Based Drugs: Crossing the Valley of Death in Their Development as Drugs. Newman D Newman Consulting LLC
In the development of drugs and in particular, drugs based on natural product sources, irrespective of whether they are from marine, microbial or plant sources, the major "unrecognized" problem for scientists involved in their discovery and subsequent development, is SUPPLY. This is the major problem that is usually not appreciated by scientists at the "front end" of discovery work, or those synthesizing derivatives, though the latter often realize it when they do not have enough original material to continue. This presentation will cover examples from marine organisms, microbes and plants, showing the problems that development scientists had to overcome in order to translate their initial discoveries into approved drugs and potential drug candidates entering clinical trials. These examples are designed to help teachers in the many disciplines that today make up pharmacology, demonstrate to their students how problems that are not even considered in Schools of Pharmacology, can be overcome.

New paradigms in vascular redox biology and oxidative stress in hypertension. Rhian M Touyz MD, PhD. Institute of Cardiovascular and Medical Sciences, Univ of Glasgow, UK
Reactive oxygen species (ROS), including O_2^- and H_2O_2, are signaling molecules important in the regulation of many biological processes including host defense, aging and cellular homeostasis. Increased ROS bioavailability and altered redox signalling (oxidative stress) have been implicated in the onset and/or progression of chronic diseases including hypertension. Although oxidative stress may not be the only cause of hypertension, it amplifies blood pressure elevation in the presence of other pro-hypertensive factors, such as salt loading, activation of the renin-angiotensin-aldosterone system and sympathetic hyperactivity, at least in experimental models. A major source for cardiovascular ROS is a family of NADPH oxidases, including the prototypic Nox2-based NADPH oxidase, and Nox family members: Nox1, Nox4 and Nox5. Other sources of cardiovascular ROS include mitochondrial electron transport enzymes, xanthine oxidase, cyclooxygenase, lipoxygenase and uncoupled nitric oxide synthase (NOS). While extensive experimental data support a role for oxidative stress in the pathogenesis of hypertension, there is still no convincing evidence that reactive oxygen species play a causative role in human hypertension. This is further observed in the many large clinical anti-

oxidant trials, which failed to demonstrate protective or beneficial effects on cardiovascular outcomes. Nevertheless what is becoming increasingly evident is that ROS and oxidative stress are important in the pathophysiological processes associated with endothelial dysfunction, vascular remodeling and inflammation in hypertension and that high blood pressure itself can contribute to oxidative injury. Noxs appear to be particularly important in vascular oxidative stress and activation of redox-sensitive signaling pathways such as protein tyrosine phosphatases, Src tyrosine kinase and MAPKs influence the vascular phenotype in hypertension. Here we discuss molecular and cellular mechanisms whereby ROS influence vascular function and blood pressure regulation with a focus on the role of Nox isoforms, oxidative modification of proteins and anti-oxidant Nrf2-regulated genes. In particular new insights related to the enigmatic Nox isoform, Nox5, will be highlighted and the importance of oxidative modification of vascular proteins in hypertension will be introduced.

G Protein-Coupled Receptor Allostery in the New Millennium. Arthur Christopoulos, Drug Discovery Biology, Monash Institute of Pharmaceutical Sciences, Monash University, Australia.

It is now well established that G protein-coupled receptors (GPCRs) possess spatially distinct and druggable allosteric sites that can be found at extracellular, transmembrane-spanning or intracellular domains. Targeting such allosteric sites has the potential to lead to novel modes of GPCR subtype selectivity, signal-pathway-selective (biased) modulation and, importantly, a "saturability" to the allosteric effect that can be exploited to "fine-tune" drug responsiveness in a positive or negative direction. However, many of these theoretical advantages of allosteric drugs have yet to be optimally explored in the context of pathophysiology, and this represents a significant next step for the field. For instance, allosteric modulators can have different effects on orthosteric ligand affinity relative to signaling efficacy, as well as directly activating the receptor themselves, and it is likely that such differences in mode of action will affect the successful targeting of different disease states with allosteric drugs. In addition, the sensitivity of allosteric ligands to cellular "context" is increasingly being recognized as a major consideration in the appropriate preclinical translation of such molecules (either alone or as potential "add-on" therapies), and data are emerging to suggest that endogenous allosteric substances may have a major, hitherto unappreciated, impact on GPCR functionality in health and disease. Excitingly, structural biology studies are starting to identify the molecular mechanisms that underlie the pharmacological effects of allosteric modulators, and chemical biology approaches are generating novel tools for manipulating GPCR functionality, including "bitopic" ligands that concomitantly bridge orthosteric and allosteric sites.

Symposia and Round Tables

Bridging the gap between academia and industry: Model for drug development in Brazil. Thomas Gerlach (Biozeus)

Biopharmaceutical innovation is global and happens all around the world, nevertheless, bridging the gap between academia and industry is difficult and the drug development process starting from research to commercialization is challenging as it is long, risky and expensive. Because of that, most of the academic projects, even those with global commercial potential, will never reach the market. BIOZEUS was created by the Brazilian venture capital fund BBI financial to fill this gap in Brazil and to translate promising innovative biopharmaceutical projects coming from Brazilian universities, into new therapies that reach the global market. BIOZEUS licenses early-stage technologies from universities and research institutions and then develop them with the oversight of an experienced team and network of partners until clinical proof of concept and then passes the project to bigger companies to complete development and for commercialization. The company combines the expertise in selecting and in-licensing promising Brazilian academic projects; translating them into human drugs; funding (coordinate multiple private and public funding sources); project management and at the end reaching out to potential pharmaceutical and biotechnology industry partners/ licensees. Since the foundation, end 2012, Biozeus has captured and analyzed more than 500 projects and has currently three in development and has proven that this concept works.

Knowledge-Intensive Business Services in Brazil: Entrepreneurship in a stimulating scenario. Thais Guaratini (Lychnoflora)

The economic development and competitiveness of a nation are related to the capability of its companies to innovate and to upgrade. The consequent interest in the results has contributed to the establishment of national policies that encourage the creation and maintenance of favorable scenarios for innovation. Thus, Brazil has been implementing improvements since 1980's focusing on industrial development. An important step towards promoting innovation in Brazil was the passage of the Technological Innovation Act, Law No. 10,973 on Dec. 2, 2004. This document was meant "to provide incentives to increase innovative activities, as well as to facilitate scientific and technological research by private companies, especially by Small and Medium-sized Enterprises (SMEs)." In this scenario, a group of academic researchers gathered to initiate a business. They had at that time, besides scientific knowledge, some promising results, which have encouraged them to submit their project to a funding agency in Brazil (FINEP) that focused on projects for the

development of medicines for neglected diseases. After funding approval, they applied to an incubator program with well-established relations with universities. The business model is based on two complementary goals: development of products for technology transfer and scientific knowledge-based services. At this time, the support of two other Brazilian funding agencies (FAPESP and CNPq) is essential for a healthy and sustainable growth. After eight years, the company has overcome challenges and is now known as a knowledge-intensive service business, acting as a facilitator, carrier, or source of innovation, interacting symbiotically with clients, and providing scientific solutions to pharmaceutical, veterinary and cosmetic industries, via an innovative model, for Brazil. Moreover, they have also created other companies, as Avita for the market of synthesis and inspired another people to entrepreneurship. This article gives reflections on the nature and the relevance of innovation in Brazil as well as the experience of researchers and entrepreneurs who offer chemical solutions to industries.

Molecular mechanisms of anticancer drug toxicities as opportunity for better therapeutic approaches. Roberto César Pereira Lima Junior (UFC)

Cancer is a leading cause of death worldwide. The World Health Organization expects about 17 million deaths and 75 million people living with cancer by 2030. The incorporation of new anticancer chemotherapeutic agents and targeted therapies (antibodies and tyrosine kinase inhibitors) have contributed to increasing patient's quality of life and survival. However, patients generally experience some levels of toxicities due to cancer treatment, including mucositis, diarrhea, interstitial pneumonitis, esteatohepatitis, hemorrhagic cystitis and several others. These toxicities have impacted negatively on therapeutic outcomes, leading to delayed chemotherapy cycles, dose reductions and treatment interruption, which increase the costs to the health system due to tumour relapse. In the United States, it is estimated an annual economic impact of 100-330 billion dollars related to lack of adherence to cancer treatment. The knowledge of the underlying molecular mechanisms of both cancer and treatment-related side effects might contribute to reduce the high economical costs associated with these conditions, and also opens perspectives for revealing new pharmacological targets. The Laboratory of Inflammation and Cancer Pharmacology (LAFICA) was founded in 1994 by Prof Ronaldo de Albuquerque Ribeiro (in memoriam) with the mission to study the pathogenesis of cancer chemotherapy toxicities. This presentation focuses on the main scientific contributions of Prof. Ronaldo Ribeiro over the past two decades in this area. Financial support: CNPq, Funcap

A Importância do Estudo da Toxicidade de Terapias Oncológicas na Realidade dos Pacientes com Câncer. Helano de Freitas (Hospital A. C. Camargo)

O grupo liderado pelo prof. Ronaldo Ribeiro tem sido um dos poucos no mundo com foco no estudo das toxicidades relacionadas à terapia oncológica. Fármacos utilizados no tratamento do câncer estão associados a efeitos adversos (EA) limitantes. Náuseas e vômitos cederam espaço como os EA mais relatados e temidos dos tratamentos oncológicos para outros sintomas dos agentes clássicos, como astenia, diarréia e mielotoxicidade, mas também para EAs de agentes mais recentes como a neuropatia relacionada a taxanes e a oxaliplatina. Além disso, as novas terapias alvo (TA) não eliminaram os temidos EAs, apenas modificaram o perfil de sintomas. Síndrome mão-pé, rash cutâneo, cardiotoxicidade e hiperglicemia são alguns dos EAs das novas TA. Há mais de 20 anos o Laboratório de Farmacologia da Inflamação e do Câncer (LAFICA), comandado pelo professor Ronaldo Ribeiro, vem desenvolvendo e aperfeiçoando modelos experimentais para estudar toxicidades de agentes antineoplásicos como ciclofosfamida e ifosfamida, fluorouracil e capecitabina, metotrexate, irinotecano, doxorrubicina, paclitaxel, oxaliplatina, imatinibe, sorafenibe e trastuzumab. O impacto da toxicidade da terapia na qualidade de vida dos pacientes durante o período de tratamento e, muitas vezes, como sequela que pode durar anos denota a importância da elucidação da fisiopatologia do EAs. O conhecimento gerado ao longo desses anos no LAFICA carece ainda de transferência para a clínica, para benefício mais direto aos pacientes. Globalmente, o desenvolvimento de novas estratégias de tratamento sistêmico exige *expertise* específico, grande quantidade de recursos financeiros e também demanda tempo. No Brasil, as barreiras vão do financiamento à burocracia na aprovação de estudos, com claro impacto na pesquisa translacional no país.

Purinergic endothelial signaling and the role of NO in vascular dilatation.. Huidobro-Toro, JP and Donoso, Verónica. Lab of Nucleotides, Department of Biology and CEDENNA, Faculty of Chemistry and Biology, and CEDENNA, Universidad de Santiago de Chile

Vascular beds are under the continual influence of shear stress forces that impact endothelial cells in the inner layer of conductance and resistance vessels. It is our working hypothesis that mechanical stimuli elicit the release of ATP from endothelial cells; the nucleotide indirectly activates nitric oxide synthase to produce nitric oxide (NO) which diffuses to the vascular smooth muscle layer vasodilating through the NO/cGMP pathway. To test this hypothesis, we either perfused the rat arterial mesenteric bed with nucleotides or mechanically stimulated endothelial cell cultures to measure the release of extracellular NO. Perfusion of the mesentery bed with ATP, 2-MeSATP, 2MeSADP, UTP, UDP and other related nucleotides elicited rapid and concentration-dependent vasodilatations associated to a time-dependent rise in perfusate NO; vascular relaxation was transient. Pipetting the cell media of endothelial cells elicited within 30 sec a rise in

extracellular ATP which peaked by 1 min (from basal 40±7 pmol/mg to 268±38 pmol/mg protein (n=25, p<0.001). Nucleotides decreased to basal levels within 15 min. The ratio of stimulated/basal at 1 min was 5.3±0.5 (n=25). The ATP peak was paralleled by a rise in NO. The same maneuver performed in endothelial cells derived from rats treated for 4 weeks in a potassium rich diet (Kdiet) and cell culture in medium high K, increased by 60% the release of extracellular ATP (Basal 39±10.4 pmol/mg protein (n=15) to 317±59 pmol/mg protein (n=16), with a 1 min ratio of 8.1±1.5 (n=16), p< 0.05, implying that a Kdiet favors the release of endothelial vasodilators. These results are compatible with the notion that endothelial cells sense mechanical changes and elicit the release of ATP, which via purinoceptor activation, gate NO release. The response to mechanical stimulation is favorably influenced by dietary potassium.
Funded by Fondecyt grant 114-1132 and CEDENNA 0807 program project.

Purinergic modulation of astrocytic function. Ana M Sebastião (Instituto de Farmacologia e Neurociências. Faculdade de Medicina e Instituto de Medicina Molecular, Universidade de Lisboa, Portugal)
Astrocytes shape synaptic signaling by releasing gliotransmitters and neuromodulators, as well as by participating in the shutdown of the action of the neurotransmitters. In turn, astrocytes respond to neuronal activity giving rise to calcium signals that propagate to other astrocytes leading to a calcium wave that induces the release of gliotransmitters and neuromodulators to affect synaptic synalling a few synapses apart. An efficient trigger of astrocytic calcium waves is ATP. Indeed, astrocytes express metabotropic ATP (P2Y) receptors that regulate cytoplasmic Ca^{2+} levels through the PLC-PKC pathway. ATP-induced calcium waves lead to further release of ATP, in a positive-feedback process. I will report recent evidence obtained by us (Jaclob et al., 2014 - Glia 62:1211-1226) suggesting that astrocytic calcium signalling can also operate a negative feedback loop by inhibiting GABA uptake by astrocytes, thus contributing to enhance extracellular levels of this inhibitory neurotransmitter. In addition, ATP can be breakdown into adenosine, which by operating A1/A2A adenosine receptor heteromers finely adjusts GABA uptake by astrocytes (Cristóvão-Ferreira et al., 2013 - Purinergic Signaling, 9:433-449). GABA uptake by nerve endings is influenced by A2A but not A1 adenosine receptors (Cristóvão-Ferreira et al, 2009 - Neurochem 109:336-347). Adenosine A2A receptors in astrocytes also gate the action of Brain-Derived Neurotrophic Factor to control the levels of GABA transporters at the astrocytic membranert (Vaz et al., 2011 - J Biol Chem 286:40464-4076). In summary, I will provide evidence for the influence of astrocytic calcium signalling, ATP and adenosine in the control the extracellular levels of the predominant inhibitory neurotransmitter in the brain, GABA. The work was supported by Fundação para a Ciência e Tecnologia, Portugal, the Network of European Neuroscience Schools (NENS) and European Union through the COST B30 concerted action and SynaNet Twinning action of H2020.

The extracellular cyclic AMP–adenosine pathway: Another dimension to cAMP signaling. Dept of Pharmacology, Escola Paulista de Medicina Universidade Federal de São Paulo, São Paulo, Brazil.
G protein-coupled receptors (GPCRs) linked to stimulatory G (Gs) proteins (GsPCRs) mediate increases in intracellular cyclic AMP as consequence of activation of nine adenylyl cyclases , which differ considerably in their cellular distribution and activation mechanisms. Once produced, cyclic AMP may act via distinct intracellular signaling effectors such as protein kinase A and the exchange proteins activated by cAMP (Epacs). More recently, attention has been focused on the efflux of cAMP through a specific transport system named multidrug resistance proteins that belongs to the ATP-binding cassette transporter superfamily. Outside the cell, cAMP is metabolized into adenosine, which is able to activate four distinct subtypes of adenosine receptors, members of the GPCR family: A1, A2A, A2B, and A3. Taking into account that this phenomenon occurs in numerous cell types, as consequence of GsPCR activation and increment in intracellular cAMP levels, in this presentation, we will discuss the impact of cAMP efflux and the extracellular cAMP-adenosine pathway on the regulation of GsPCR-induced cell response

Mitochondrial dynamics and mitophagy: novel targets in cardiovascular pharmacology. Advanced Center for Chronic Diseases & Center for Molecular Studies of the Cell, Facultad Ciencias Quimicas y Farmaceuticas & Facultad Medicina, Universidad de Chile, Santiago, Chile & Department of Internal Medicine (Cardiology Division), University of Texas Southwestern Medical Center, Dallas, TX, USA
Cardiac hypertrophy is an adaptive response to myocardial injury or stress, and allows the heart to meet an increased work demand. Although initially beneficial, cardiac hypertrophy can contribute to the progression of cardiac disease, leading to a decrease in ventricular function (heart failure). Cardiac metabolism has emerged

as key mechanism involved in the development and progression of pathological heart remodeling. As the heart is a highly oxidative tissue, mitochondria play a key role in maintaining the heart function. The processes of mitochondrial fusion, fission, biogenesis and mitophagy are known collectively as mitochondrial dynamics. They determine mitochondrial morphology, quality and abundance. Studies link mitochondrial dynamics to the balance between energy demand and nutrient supply, suggesting that changes in mitochondrial morphology may act as a mechanism for bioenergetic adaptation during cardiac pathological remodeling. Another critical function of mitochondrial dynamics is the removal of damaged and dysfunctional mitochondria through mitophagy, The latest findings regarding the impact of mitochondrial dynamics and mitophagy on the development and progression of cardiovascular pathologies and how these findings can be applied to improve the treatment and prevention of cardiovascular diseases will be discussed. FONDAP 1513011, Conicyt, Chile.

Dynamic O-GlcNAcylation and its roles in the cellular stress response and homeostasis. Kamau Fahie, Michael Wolfgang, Natasha E. Zachara. The Department of Biological Chemistry at the Johns Hopkins University School of Medicine, Baltimore, MD 21205.

The modification of intracellular proteins by monosaccharides of O-linked β-N-acetylglucosamine (O- GlcNAc) has emerged as a regulator of cytoprotection, including cardiac ischemia reperfusion injury (IR/I). Although enhanced O-GlcNAc signaling suppresses the hallmarks of IR/I the molecular mechanism(s) mediating cytoprotection/carioprotection are uncharacterized. Since cardiac autophagy and cellular O-GlcNAc levels are both increased with ischemic preconditioning, we sought to determine whether a causal relationship exists between protein O-GlcNAcylation and autophagy. We have generated engineered forms of O-GlcNAc transferase (OGT) and O-GlcNAcase, the enzymes that catalyze the addition and removal of O-GlcNAc, to regulate protein O-GlcNAcylation via biologically inert small molecules. We show that enhancing wildtype OGT expression is protective against peroxide stress and increases basal and peroxide-induced autophagy. Consistent with these data, pharmocological augmentation of O-GlcNAc levels raises autophagosome levels in mouse hearts and H9C2 cells. Autophagosome accumulation corresponds to increased proautophagic signaling measured by AMP-activated protein kinase (AMPK) and ULK1 activation. The increase in autophagy was curtailed by AMPK supression, indicating that O-GlcNAc signaling regulates autophagy at or above AMPK. As such, we assessed the O-GlcNAcylation state of these autophagy regulators. AMPKα and ULK1 are O-GlcNAc modified or associate with O-GlcNAc modified proteins in a stress dependent manner. Together, our data suggests that O-GlcNAc can positively regulate autophagy at multiple points along the pathway. Support: This work was supported by grants from the National Institutes of Health (CA199806 and P01HL107153-01) to NEZ, as well as a post-doctoral fellowship to KF from the American Heart Association (13POST17100083).

O-GlcNAcylation bridges metabolic reprogramming and regulatory T cell development. José Carlos Alves-Filho. Department of Pharmacology, Ribeirão Preto Medical School, University of São Paulo, Ribeirão Preto, Brazil

Regulatory T cells (Tregs) play a crucial role in the control of immune homeostasis, suppressing deleterious excessive immune responses and maintaining immunological tolerance to self-antigens. Reduced frequency and impaired function of Tregs has been reported in patients with autoimmune diseases. Thus, the development of therapies to regulate the differentiation and/or function of Tregs could be targeted to treat autoimmune diseases. Recent studies indicate that the transition of resting naive T cell into activated and proliferative effector T cells requires substantial metabolic reprogramming. In particular, Th17 cells have been found to strongly engage aerobic glycolysis for their development and maintenance, stimulated by hypoxia-inducible factor 1α (HIF-1α) activity downstream of the activation mTOR. In contrast, mitochondrial lipid oxidation through AMPK is considered the predominant metabolic program for the differentiation of Tregs. Therefore, the understanding of the molecular events that regulate the metabolic reprogramming of T cells may provide new insight to develop novel interventions for the treatment of autoimmune diseases. The glycolytic intermediate fructose 6-phosphate can diverge into the HBP, yielding glucosamine-6-phosphate, via the enzyme glutamine:fructose 6-phosphate amidotransferase (GFAT). The end-product of the HBP is uridine diphosphate-N-acetylglucosamine (UDP-GlcNAc), which is used as the substrate for *O*-linked glycosylation (O-GlcNAcylation) of proteins. O-GlcNAcylation is a reversible post-translational modification, such as phosphorylation, that regulates the activities of intracellular proteins through the attachment of O-linked β-*N*-acetyl glucosamine (O-GlcNAc) to serine or threonine hydroxyl moieties. O-GlcNAc is added to and removed from target proteins by the enzymes O-GlcNAc transferase (OGT) and O-GlcNAcase (OGA), respectively. Notably, it was recently demonstrated that inhibition of O-GlcNAcylation disrupts activation of AMPK, suggesting OGT and AMPK may cooperatively regulate nutrient-sensitive intracellular processes that mediate cellular metabolism, proliferation, and/or function. However, despite the overwhelming evidence suggesting that specific metabolic alterations are associated with T cell differentiation and functions, the role of O-GlcNAcylation in the Treg differentiation remain unknown. We hypothesized that increased O-GlcNAcylation of proteins via HBP activation might represent an additional regulator of the differentiation and function of Tregs. Here we investigate the role of HBP and O-GlcNAcylation on Treg differentiation, stability and function.

Science, Art and Drug Discovery, a Personal Perspective. Sir Simon Campbell CBE FRS Former SVP for WW Discovery at Pfizer

At the start of our research programme that lead to amlodipine, a once-daily calcium antagonist for the treatment of angina and hypertension, there were over 90 published patents around the parent dihydropyridine ring system which posed a significant challenge for innovative drug design. Moreover, all agents of the class suffered poor pharmacokinetics, and there was little information on how these might be improved. However, rational medicinal chemistry led to a novel series of dihydropyridines with potent calcium antagonist activity which displayed high, and uniform bioavailability, together with long plasma half-lives. After extensive pharmacological profiling, UK 48,340 (amlodipine) was selected for clinical development and subsequently received worldwide approval as Norvasc™ for the treatment of hypertension and angina. Norvasc™ became the world's leading antihypertensive agent and the fourth best-selling drug, with some billions of patient days of therapy achieved since launch. Sildenafil, the first oral treatment for male erectile dysfunction, was the result of a cardiovascular research programme to block the action of PDE 5 and increase tissue levels of cGMP, even though the endogenous ligand that stimulated guanylate cyclase was unknown at the time. Starting from zaprinast, a weak and non-selective PDE 5 inhibitor, computer modelling guided rational medicinal chemistry to achieve significant increases in potency and selectivity within a novel series of pyrazolopyrimidones. Optimisation of SARs and pharmacokinetics led to UK 92,480 (sildenafil) that was essentially devoid of cardiovascular activity in clinical trials. However, the emerging role of nitric oxide and cGMP in controlling blood flow in the penis suggested that sildenafil would have a beneficial effect on erectile dysfunction. This hypothesis was confirmed by extensive clinical trials in nearly 5,000 patients and sildenafil was approved as Viagra™ for the treatment of male erectile dysfunction. Viagra™ became one of the most widely prescribed medicines, and has been used by 100s of millions of patients throughout the World. These research programmes will be discussed from a personal perspective that will highlight the importance of multidisciplinary project teams, challenges that arose during discovery and development, and factors that influenced key decisions.

Translational approach in the development of new anti-T. cruzi drugs: Trying to surpass the "Hit-to-Lead" phase. Hugo Cerecetto. Área de Radiofarmacia, Centro de Investigaciones Nucleares, Facultad de Ciencias-Universidad de la República, Montevideo, Uruguay

Chagas disease, or American Trypanosomiasis, remains the major parasitic disease burden in Latin America, despite recent advances in the control of its vectorial and transfusional transmission. The chemotherapy to control this parasitic infection remains unsatisfactory being the current specific treatments based on old and quite unspecific drugs, Nifurtimox (Lampit®, recently discontinued by Bayer) and Benznidazole (Rochagan®, Roche) associated with long-term treatments that may give rise to severe side effects. The search for candidate drugs is a continuous matter for surpass the investigation phase of drugs. In this process we look forward agents with non-mutagenic capacity as the cut-off decision criterion. Behind this concept we investigate a series of aromatic heterocycles containing thiadiazole systems. The in vitro anti-T. cruzi activity, unspecific mammalian cytotoxicity, mutagenicity, teratogenicity, stability in solution and in simulating biological conditions and in vivo anti-Chagas activity were studied identifying a candidate (GAT1088) with an excellent drug-like profile. Additionally, in order to know the in vivo biodistribution of GAT1088 a derived fluorescent-probe was developed finding significant results in the relevance of the administration via. Studies with GAT1088 are presented as a case of study. Financial support: ANII, PEDECIBA, CSIC-UdelaR

Role of glycine receptors on ethanol behavior. Aguayo LG[1], Muñoz B[1], Lovinger DM[2], and Homanics GE[3]. [1]University of Concepcion, Concepcion, Chile [2]National Institute on Alcohol Abuse and Alcoholism, National Institutes of Health, Bethesda, MD, USA [3]University of Pittsburgh, Pittsburgh, PA 15261 USA

Alcoholism affects millions of people worldwide causing major social, medical and economic burdens. The available pharmacotherapy is limited, have low adherence and cause serious side effects, which emphasizes the search for novel, mechanistically oriented therapies. Basic residues in the intracellular loop of the $\alpha 1$ subunit (316-320 and 385/386) are important to regulate the sensitivity of glycine receptors (GlyRs) to low concentrations of ethanol (5-50 mM). The pharmacological effects of the mutations are specific for ethanol, since the sensitivity to neurosteroids, isoflurane, propofol and Zn^{2+} are unchanged. Therefore, we generated and studied a Knock In (KI) mouse for $\alpha 1$ GlyRs with mutations in residues 385/386 of the receptor. The KI mice had normal behavior and most importantly did not display a hyperexcitable phenotype indicating that the mutation is primarily silent. The study of spinal and brain stem neurons with electrophysiological techniques showed that native GlyRs were less affected by ethanol- and G??-

mediated modulations. The data also showed that a tonic α1 GlyR-mediated current in accumbal neurons, that modulates neuronal excitability, was exclusively sensitive to ethanol only in WT mice. Behavioral studies demonstrated that the KI mice have higher binge drinking and conditioned place preference indicating that normally GlyRs in the nAc have a protective role against abuse. Interestingly, the mice exhibited a reduced loss of righting reflex (LORR) time when compared with wild type mice. Using the DID protocol, we found that the KI mice went into binge drinking from day 1 of exposure drinking three times more than the WT. In conclusion, we identified important amino acids that participate in the modulation of GlyRs by ethanol. The study opens a novel opportunity for pharmacotherapy development to treat alcohol use disorders. Supported by Fondecyt DPI 20140008 grant

Mechanisms responsible for the behavioral effects of cannabidiol. Guimaraes, F.S. Department of Pharmacology, FMRP-USP Ribeirão Preto, SP, 14040900, Brazil

Cannabidiol (CBD) is a major cannabinoid present in the *Cannabis sativa* plant that, although usually described as non-psychoactive, can produce anxiolytic, antidepressant and antipsychotic effects. Studies employing animal models of psychiatric disorders show that these effects involve distinct pharmacological mechanisms such as facilitation of 5HT1A-mediated neurotransmission, blockade of anandamide metabolism/uptake, and activation of TRPV1 receptors. Moreover, repeated administration of CBD produce cellular changes that include facilitation of hippocampal neurogenesis and prevention of stress-induced decrease in hippocampal dendrite spines, which could help to explain its anti-stress effects. Finally, neuroimmunomodulation, represented by a decrease in microglia activation induced by chronic treatment with an NMDA non-competitive receptor antagonist (MK801), has been associated with the antipsychotic effects of CBD. In conclusion, CBD clearly possess multiple pharmacological targets that could help to explain its wide range of potential therapeutic properties.

Therapeutic opportunities from the nitrate-nitrite-nitric oxide pathway in cardiovascular disease. Amrita Ahluwalia. Deputy Director, The William Harvey Research Institute. Editor-In-Chief, British Journal of Pharmacology Prof of Vascular Pharmacology Barts & The London Medical School Queen Mary University of London Charterhouse Square, London, EC1M 6BQ Funded by British Pharmacological Society

An alternative pathway for endogenous NO generation through the sequential reduction of nitrate to nitrite to NO has been described and proposed to offer a novel approach for NO delivery in cardiovascular disease. At a pre-clinical level the reduction of nitrite to NO provides a source of beneficial NO that limits the damage caused by reperfusion injury in numerous organs. Evidence suggests that this chemical reduction is due to the activity of one of a range of nitrite reductases most notably xanthine oxidoreductase and myoglobin. In addition, a substantial body of evidence suggests that dietary nitrate also delivers NO to the cardiovascular system to provide blood pressure lowering, anti-platelet and improved vascular activity through its sequential reduction involving importantly the enterosalivary circuit and the nitrate-reducing capacity of commensal bacteria located in the oral cavity. More recently this work has been translated to the clinical level with trials demonstrating the beneficial effects of nitrite in patients presenting with ST-elevated myocardial infarction to reduce infarct size and blood pressure lowering, anti-platelet and vascular effects of once daily dietary nitrate in hypertensive, aged and hypercholesterolemic patients. Together these studies highlight the potential of the nitrate-nitrite-NO pathway in the therapeutics of cardiovascular disease and will be discussed in this presentation.

Vascular pharmacology of Nitric Oxide released from NO donors. Lusiane Bendhack (USP)

In this presentation, we evaluate the cellular signaling of nitric oxide (NO) and reactive oxygen species (ROS) produced and released by the vascular cells and their modulation of vasodilation induced by NO donors. NO is a well-known second messenger involved in many cellular functions. NO donors can release different NO species such as radicalar NO (NO^0) or nitroxyl ion (NO^-). NO released should modulate the activation of the soluble guanylyl-cyclase (sGC) enzyme and potassium (K^+) channels. However, these mechanisms seem to be impaired by ROS in some pathological states such as in hypertension. Also, the vascular cells signaling could differ between arteries and veins vasodilatation induced by NO. The biological actions and short half-life of NO is determined by its interaction with a broad range of biomolecules, in particular their reaction with ROS. Endothelial nitric oxide synthase (eNOS) generates NO and also superoxide anions, which are converted by superoxide dismutase to hydrogen peroxide (H_2O_2). This mediator and NO can increase K^+ conductance and causing cells membrane hyperpolarization and relaxation of the vascular smooth muscle. In the last ten years, our research group has studied the vasodilator effects of ruthenium-derived NO releasers and their vascular cells mechanisms involved in the vascular smooth muscle relaxation. In most of the studies, we have compared the new NO donors synthesized by our research group to sodium nitroprusside (SNP).

Role of dietary nitrate on systemic and local changes induced by oral inflammation. Daniel Fernandes. Universidade Estadual de Ponta Grossa, Brazil. Queen Mary University of London, UK

Evidence supports an association between periodontal disease and cardiovascular disease (CVD) risk. Periodontal disease is thought to cause vascular dysfunction contributing to atherogenesis and resulting in an increased risk of stroke and coronary heart disease. Safe therapeutics that might improve vascular function in such patients to reduce risk of CVD is a current unmet need. It is thought that a critical step in the increased CVD risk relates to a periodontitis-induced endothelial dysfunction. Evidence suggests that the intervention of dietary nitrate, to elevate circulating nitrite levels, improves endothelial function. We investigated whether dietary nitrate might provide a method for prevention or reversal of the endothelial dysfunction induced by periodontitis. Male mice were either untreated or randomly assigned to receive KNO3 or KCl (15 mmol/L; in the drinking water) either 7 days prior or 7 days post ligature placement (periodontitis) or a sham procedure. After 14 days blood samples were collected for assessment of circulating cell types and activation state using flow cytometry. The vasoreactivity of aortic rings were assessed ex vivo. Maxillae were removed for alveolar bone loss measurement. When compared to sham animals, ligature-induced periodontitis resulted in alveolar bone loss. This was associated with neutrophilia and endothelial dysfunction, reflected by a reduction of acetylcholine-induced relaxation. Vascular responses to the endothelium-independent vasorelaxant were unchanged. Dietary nitrate treatment improved endothelial function when given either as prophylaxis or reversal therapy. These improvements were not associated with any changes in ligature-induced bone loss but were associated with reduced numbers and activation of circulating neutrophils. Dietary nitrate improves vascular function in periodontitis in mice and thus may represent an alternative treatment in the cardiovascular complications associated with this condition. Financial Support: Capes Foundation (Brazil) and Translational research portfolio of the National Institute for Health Research Cardiovascular Biomedical Research Unit at Barts and the London School of Medicine and Dentistry.

Drug development in Brazil: The internationalization of Brazilian origin technologies in the area of drugs and health. Arnaldo da Silva Junior ScieNova Consultoria e Gestão de Projetos

O Brasil ocupa uma posição de destaque no mercado mundial de saúde e medicamentos, porém a indústria farmacêutica de capital nacional não está proporcionalmente desenvolvida de acordo com a nossa importância econômica. A maioria dos ingredientes farmacêuticos e diversos medicamentos acabados são importados. Esta situação provoca dependência tecnológica, traz riscos de segurança nacional e causa impactos negativos na balança comercial de produtos de alto valor agregado. Houve um grande estímulo para o desenvolvimento da indústria farmacêutica nacional a partir de 1999 com a aprovação da Lei 9.787 que regulamentou a comercialização dos medicamentos genéricos. Hoje temos empresas nacionais que detém grande fatia do mercado brasileiro, porém estão dedicadas quase que exclusivamente à comercialização de genéricos. Para combater este quadro diverso foram os estímulos para o fortalecimento da área de pesquisa e desenvolvimento de medicamentos no Brasil visando à criação de tecnologia nacional neste setor. Os estímulos à inovação no Brasil muito dependem de uma maior interação entre a academia, que se concentra no setor público, e o setor produtivo. Entretanto, a cultura dos pesquisadores brasileiros é excessivamente orientada para a publicação em periódicos, na maior parte das vezes sem o monitoramento da instituição a que são vinculados e sem a oportunidade de uma avaliação e proteção prévia dos resultados na forma de um pedido de patente. Com isso a maioria das oportunidades de inovação em medicamentos é anulada pela impossibilidade de proteção provocada por publicações precoces. Na indústria química, farmacêutica e de biotecnologia, as patentes são equivalentes ao produto como um todo e o seu depósito é praticamente obrigatório para defender os pesados investimentos em pesquisa e testes clínicos. Portanto, uma das maneiras de se monitorar a internacionalização de tecnologias do setor farmacêutico é através da análise do depósito de patentes de origem brasileira em países desenvolvidos. A presente abordagem busca verificar quais resultados das iniciativas de fomento à inovação na área de saúde e medicamentos no Brasil estão chegando ao ponto de gerar investimentos em proteção internacional.

Modulation of metabolizing systems and transporters as novel pharmacological targets in cancer therapy, its impact in the human health. IRodeiro[1], I Hernandez[1], JA Herrera[2], R Delgado[2], MD Fernandez[1], MT Paz[3], W Vanden Bergue[4] - [1]Centro de Bioproductos Marinos - Departamento de Farmacologia, [2]Universidad de la Habana, [3]Universidad Federal Minas Gerais, [4]Department Biomedical Sciences, PPES Lab of Protein Chemistry, Proteomics and Epigenetic Signaling - Antwerp University

Altering the pharmacodynamic or pharmacokinetic drug pattern can be lead to significant changes in therapeutic response in patients. Pharmacological interactions possibly derive from the modulation in expression and/or activity of two major pharmacokinetic disposition systems, namely cytochrome P450 (CYP) and the multidrug transporters as P-glycoprotein or genetic polymorphisms of these systems are identified as the major factors responsible of these alterations. Frequently, the therapy failure or the apparition of adverse effects in cancer patients is associated to them. Both synthetic and natural drugs have been identified as substrates, inhibitors or inducer of cytochromes and/or transporters in humans. This works offers an overview of the knowledge about evidences on the in vitro and in vivo effects of natural products with antitumor

properties on human P450 enzymes and the human variability in the modulatory response in patients with cancer. Effects observed on P450 system and P-glycoprotein after evaluation of Cuban natural products with antitumor properties is presented. The performed studies confirm that elucidation of these modulations may be important not only to predict possible undesirable effects on clinical practice, but also a way to increase the bioavailability and efficacy of drugs that are P-gp substrates, as example.

Promises and challenges of phytochemicals as epigenetic modifiers in cancer prevention, treatment and therapy sensitization. Vanden Berghe W[1], Rodeiro I[2], Delgado R[3] - [1]University Antwerp - Epigenetic Signaling Lab PPES - Belgium - Biomedical Sciences, [2]Centro de Bioproductos Marinos (CEBIMAR), La Habana, Cuba - Departamento de Farmacología, [3]3. Centro de Estudios Investigaciones y Evaluaciones Biológicas (CEIEB), Instituto de Farmacia y Alimentos (IFAL) - Universidad de la Habana, Cuba

Today, spices and herbal phytochemicals are known to have a major influence on both the development, treatment and prevention of cancer. Moreover, there has been a renewed interest in the use of natural compounds as lead compounds for anti-cancer drug development. Recently, the field of "epigenetics" has added a new dimension to the field of clinical oncology. Besides genetic instructions encoded in DNA which allow correct synthesis of functional protein/RNA molecules, epigenetic instructions which modify the DNA structure further determine the relative amounts of each protein/RNA molecule to be synthesized by the cell. The growing interest in cancer epigenetics is largely due to the reversible nature of epigenetic changes which tend to alter during the course of carcinogenesis and upon treatment. Major epigenetic changes including DNA methylation, chromatin modifications and miRNA regulation play important roles in the tumorigenic process. Furthermore, cancers harbor significant epigenetic heterogeneity and patterns of relapse following many therapies are due to evolved resistance to treatment. As such, several epigenetically active synthetic molecules such as DNA methyltransferase (DNMTs) and histone deacetylases (HDACs) inhibitors are being tested in clinical trials in cancer treatment or to restore therapy response. However, most of the synthetic inhibitors show adverse side effects and are relative expensive. Hence, bioactive phytochemicals, which are widely available with lesser toxic effects, are being tested for epigenetic reprogramming of adverse cancer hallmarks. Of particular interest, the steroidal withanolide Withaferin A isolated from *Withania Somnifera* (Ashwagandha) alter epigenetic status and expression of various key tumor suppressor genes, tumor promoter genes and oncogenes through modulation of DNA methylation and chromatin modification in cancer. These withanolides and other classes of bioactive anti-cancer phytochemicals (mangiferin isolated from *Mangifera Indica*, thalassiolin isolated from *Thalassia Testudinum*) either alone or in combination with other chemotherapeutic drugs (paclitaxel) show promising results against various (therapy resistant) cancers (breast, leukemia, neuroblastoma, colon). Promises and challenges of phytochemical anti-cancer therapy will be discussed from a pharmacoepigenetic perspective.

Isolated mitochondria as a useful experimental system in drugs-toxicological researches of natural products. Pardo Andreu GL[1], Marin Prida J[1], Becquer MA[1], De La vega Hernandez K[1], Delgado Hernandez R[1], Herrera E[1], Cuesta Rubio O[1] [1]University of Havana - Institute of Food and Pharmacy

In addition to their well-known critical role in energy metabolism, mitochondria are now recognized as the location where various catabolic and anabolic processes, calcium fluxes, various oxygen-nitrogen reactive species, and other signal transduction pathways interact to maintain cell homeostasis and to mediate cellular responses to different stimuli. It is important to consider how pharmacological agents, particularly natural products, may affect mitochondrial biochemistry, not only because of toxicological concerns but also because of potential therapeutic applications. Several potential targets could be envisaged at the mitochondrial level that may underlie the toxic or pharmacological effects of some natural drugs. For example, we have evaluated the mangiferin paradox by the mitochondrial permeability transition pore modulation, a non-selective inner membrane permeabilization sensitive to both, reactive oxygen species and thiol redox status. We observed that in the process of offering antioxidant protection, mangiferin is converted into a potential toxic product directing oxidative damage to thiol depletion. We also have observed that the cytotoxic effects and the anti-parasitic, anticancer and body weight reductive potentials of the Brown Cuban propolis and its main components (nemorosone, clusianone and guttiferone-A) are related to their abilities to uncouple oxidative phosphorylation. We recently observed that Rapanone, a natural occurring benzoquinone, inhibited electron transfer chain at complexe III and triggered apoptosis of cancer cells. Finally, we detected a good correlation between the *in vivo* neuroprotective effects of C-Phycocyanin and Gossypitrin and their antioxidant abilities elicited at brain mitochondrial level. Most of the results we described here obtained using isolated mitochondria have been validated later by more complex experimental paradigms like cell culture or in vivo systems. This suggests a high predictive value for this experimental system that has also allowed the elucidation and characterization of a wide range of pharmaco-toxicological mechanism of action involving mitochondria.

Antitumoral and antimetastatic effects of proteases from Vasconcellea cundinamarcensis. Lopes, M. T. P.[1], Dittz, D.[1], Lemos, F. O.[1], Braga, A. D.[1], Gonçalves, V.[1], Silva, A. C. A.[1], Figueiredo, C.[1], Rodeiro, I.[3] and Salas, C. E.[2]. [1]Pharmacology Department, Institute of Biological Sciences, Federal University of Minas Gerais, Belo Horizonte, Brazil. [2]Biochemistry and Immunology Department, Institute of Biological Sciences, Federal University of Minas Gerais, Belo Horizonte, Brazil. [3]Pharmacology Department, Bioactive Marine Center, CEBIMAR, Havana, Cuba.

Acknowledging the therapeutic potential of plant-derived compounds, our research group has investigated the biochemical and pharmacological activities of a group of cysteine proteases found in latex from Vasconcellea cundinamarcensis. At the moment, studies with fractions, sub-fractions and isolated proteases confirm the skin and gastric wound healing activity of these enzymes along with their antitumor/antimetastatic action. This latter effect is remarkable since it persists when given simultaneously with conventional antitumoral cytotoxic agents. Moreover, as part of their action these proteases appear to reduce the adverse effects elicited by cytochemical antineoplastic drugs. The mechanism of action is not fully understood, but it is known that these proteases have an effect in the tumor microenvironment development and affect different metastatic steps. The pharmacokinetic studies in rodents demonstrate that these proteases display low acute toxicity, do not alter the activity of P450, have no mutagenic or genotoxic effects at concentrations within their therapeutic action with a safety margin by different administration routes.

Methodological issues in herbal interventions clinical trial. Maria Acelia Marrero Miragaya (Center of Clinical Trials, Cuba)

Randomized controlled trials provide the best evidence, and is seen as the gold standard for allopathic research. Herbal therapies are not an integral part of conventional care although they are still used by patients in their health care management. These medicines need to be subjected to rigorous research to establish their effectiveness and safety. Clearly defined treatments are required and should be recorded in a manner that enables other suitably trained researchers to reproduce them reliably. Quality control of herbal products is also a prerequisite of credible clinical trials. Methodological strategies for investigating the herbal interventions and the issues regarding appropriate patient selection, randomization and blinding, placebo effects and choice of comparator, occupational standardization and the selection of appropriate study endpoints to prove efficacy are being discussed. This conference will review research options and propose some suggestions for future research design. Keywords: herbal therapies, methodology, clinical trial

Regulatory status of herbal medicines. World health organization (WHO) strategy about herbal medicines. Considerations about Cuba. Diadelis Remirez Figueredo (National Centre of the State Quality Control of Drugs, Equipment and Medical Devices, Cuba)

In the last decade, there has been a global upsurge in the use of traditional medicine and complementary and alternative medicine in both developed and developing countries. This is one of the main reasons for reinforcing the surveillance of the safety, efficacy and quality control of traditional medicine, complementary and alternative medicines. This work describes important aspects about the art state of the regulatory status of herbal medicines. Besides that, data related with the countries involved in the World Health Organization (WHO) program for traditional medicine will be showed. Another important aspect is, the importance of clinical trials in order to guarantee the safety, quality and efficacy of Natural Health Product, the main mistakes in Clinical Trials of natural products are explained. The WHO strategy for the development of herbal medicinal product is also showed. The regulatory framework of traditional medicine in Cuba will be presented as well as the comparison with Latin America regulations will be presented. In conclusion, the market and the main challenges are analysed in the investigation of the phytomedicines as well as the tendencies in the growth of this attractive sector. Drug Regulatory Authorities should ensure the quality, safety and efficacy of traditional medicines.

New targets in rheumatoid arthritis. Paulo Louzada Junior (USP)

Despite major advances in the treatment of rheumatoid arthritis (RA) led by the success of biologic therapies, the lack of response to therapy in a proportion of patients, as well as therapy discontinuation owing to systemic toxicity, are still unsolved issues. Unchecked RA might develop into progressive structural joint damage, loss of function and long-term disability, disorders which are associated with a considerable health–economic burden. Therefore, new strategies are required to actively target and deliver therapeutic agents to disease sites in order to promote in situ activity and decrease systemic toxicity. Another challenge is the question of how long therapy should be continued once the treatment target, which should be remission or at least a state of low disease activity, has been reached. The data available suggest that, in most patients with established disease, cessation of biologic therapy will be followed by disease flares, whereas a reduction of dose or an increase in the interval between doses enables maintenance of treatment success. Polymer–drug conjugates can improve the pharmacokinetics of therapeutic agents, conferring desirable properties such as increased solubility and tissue penetration at sites of active disease. Additionally, nanotechnology is an exciting modality in which drugs are encapsulated to protect them from degradation or early activation in the

circulation, as well as to reduce systemic toxicity. Together with the targeting capacity of antibodies and site-specific peptides, these approaches will facilitate selective accumulation of therapeutic agents in the inflamed synovium, potentially improving drug efficacy at disease sites without affecting healthy tissues.

Th17 and IL-17 in CNS diseases. Ari Waisman, Tommy Regen, Nir Yogev, Ilgiz Mufazalov. Institute for Molecular Medicine, University of Mainz, Mainz, Germany

In the past years, and clear pathogenic role was shown for Th17 cells in the development of autoimmune diseases. In particular, these cells were shown to play a critical role in the development of experimental autoimmune encephalomyelitis (EAE), an animal model for multiple sclerosis. One of the major cytokines Th17 cells produce is IL-17A, a cytokine of the IL-17 family. IL-17A, as well as it homologue IL-17F bind and trigger cells via the IL-17 receptor A/C complex. We have used a series of mice with deficiencies in the production of IL-17, IL-17 receptor or the transcription factors responsible for Th17 differentiation to understand the role of IL-17 and Th17 in autoimmune CNS disease. Insights into the function of IL-17 in autoimmunity will be presented.

Cell Specific targeted therapies of vascular disease. Francis J Miller, Duke University and the Durham VA Medical Center, Durham, North Carolina, USA

Despite recent progress, atherosclerotic vascular disease remains the leading cause of death in many countries by causing myocardial infarction and stroke. Bypass surgery and vascular stenting can improve blood flow but subsequent activation of smooth muscle cells (SMC) often results in restenosis or graft failure. While recent advances in drug-eluting stents (DES) have significantly reduced the incidence of in-stent restenosis, DES have an increased risk of stent thrombosis. This complication results from impaired endothelial cell (EC) growth due to the nonspecific antiproliferative drugs released from stents. Novel strategies are needed that selectively inhibit SMC but not EC growth. We developed a cell-based selection methodology coupled to deep sequencing and bioinformatics analysis for rapidly identifying SMC-specific, internalization-competent RNA aptamers. isolated from large combinatorial sequence libraries by a selection procedure .We identified several RNA aptamers that preferentially target SMCs but not ECs. One specific aptamer, referred to as Apt14, inhibited phosphatidylinositol 3-kinase/protein kinase-B (PI3K/Akt) activation and SMC migration in response to multiple agonists by a mechanism that involves inhibition of platelet-derived growth factor receptor (PDGFR)-β phosphorylation. In a murine model of carotid injury, treatment of vessels with Apt14 reduces neointimal formation to levels similar to those observed with paclitaxel. Importantly, we confirm that Apt14 cross-reacts with rodent and human SMCs, exhibits a half-life of ~300 hours in human serum, and does not elicit immune activation of human peripheral blood mononuclear cells. Aptamers offer several advantages compared to protein or small molecule drugs, most notably their ease of production, low risk of inducing an immune reaction, and amenability to chemical modifications to enhance their properties. In addition to acting as potent modulators of their targets, aptamers provide a solution to the challenge of siRNA/miRNA delivery to specific cell types. Our findings highlight the feasibility of this RNA-based cell-targeted approach and establish a framework for developing cell-targeted therapies for the treatment of cardiovascular disease.

Pathophysiological implications of protein disulfide isomerase in cellular redox signaling. Francisco R. M. Laurindo (InCor-HC-USP)

Thiol proteins may potentially act as redox signaling adaptor proteins, adjusting reactive oxygen species intermediates to specific signals and redox signals to cell homeostasis. In this review, we discuss redox effects of protein disulfide isomerase (PDI), a thioredoxin superfamily oxidoreductase from the endoplasmic reticulum (ER). Abundantly expressed PDI displays ubiquity, interactions with redox and nonredox proteins, versatile effects, and several posttranslational modifications. The PDI family contains >20 members with at least some apparent complementary actions. PDI has oxidoreductase, isomerase, and chaperone effects, the last not directly dependent on its thiols. PDI is a converging hub for pathways of disulfide bond introduction into ER-processed proteins, via hydrogen peroxide-generating mechanisms involving the oxidase Ero1α, as well as hydrogen peroxideconsuming reactions involving peroxiredoxin IV and the novel peroxidases Gpx7/8. PDI is a candidate pathway for coupling ER stress to oxidant generation. Emerging information suggests a convergence between PDI and Nox family NADPH oxidases. PDI silencing prevents Nox responses to angiotensin II and inhibits Akt phosphorylation in vascular cells and parasite phagocytosis in macrophages. PDI overexpression spontaneously enhances Nox activation and expression. In neutrophils, PDI redox-dependently associates with p47phox and supports the respiratory burst. At the cell surface, PDI exerts transnitrosation, thiol reductase, and apparent isomerase activities toward targets including adhesion and matrix proteins and proteases. Such effects mediate redox-dependent adhesion, coagulation/thrombosis, immune functions, and virus internalization. The route of PDI externalization remains elusive. Such multiple redox effects of PDI may contribute to its conspicuous expression and functional role in disease, rendering PDI family members putative redox cell signaling adaptors.

Nitro-fatty acids as anti-inflammatory signaling mediators in vascular cells. González L.[1], Mastrogiovanni M.[1], Laurindo F. [2], Rubbo H. [1] and Trostchansky A. [1] [1]Departamento de Bioquímica and Center for Free Radical and Biomedical Research, Facultad de Medicina, Universidad de la República, Montevideo-Uruguay, [2]Instituto de Corazón, Facultad de Medicina, Universidad de San Pablo, Brasil

Nitro-fatty acids are electrophilic signaling molecules exerting protective actions *in vitro* and *in vivo*. Most of their action involves covalent modification of reactive Cys residues by Michael addition reactions. Nitration of oleic, linoleic and conjugated linoleic acid yields products with biological- and physiologically- relevant activities in vascular cells. Our group is focused on the biological effects of nitration of arachidonic acid (AA) and its consequences in platelets and macrophages, where normal AA metabolizing pathway can be affected. We have synthesized and chemically characterized nitro- arachidonic acid (NO_2-AA), which inhibits prostaglandin endoperoxide H synthase (PGHS) both *in vitro* and in platelets. Addition of NO_2-AA to human platelets decreased aggregation induced by different relevant biological agonists in a cGMP-independent manner. Immunofluorescence studies and western blot analysis showed that the protein kinase C (PKC) is, in addition to PGHS-1, an important target for NO_2-AA in platelets. In activated macrophages, PKC is also involved in the phagocytic NADPH oxidase isoform (NOX2) activation pathway. NO_2-AA modulates NOX2 by preventing the correct assembly of the active form through inhibition of the translocation of cytosolic subunits to the membrane. It has been proposed that Protein disulfide isomerase (PDI) participates in NOX2 activation. Thus, we studied the effects of NO_2-AA on PDI activity. NO_2-AA modulates PDI reductase and chaperone activities being able to covalent modify Cys_{397} and Cys_{400} at the á active site of the enzyme. Current work is focused on evaluating the role of NO_2-AA on a) PDI activity related to NOX2 activation; and b) platelet aggregation since PDI in platelet membrane is an active participant of the aggregation mechanism.

Suppression of inflammation by helminth parasites: A pharmacopeia of possibilities. Derek M. McKay (University of Calgary, Canada), *Gastrointestinal Research Group, University of Calgary, Calgary, AB, Canada*

In the game of cat-and-mouse, helminth parasites evolve to outwit their mammalian host, while the host develops a series of effector mechanisms to destroy/eliminate the parasite and then re-set immune system homeostasis. Infection with helminth parasites is a potent immune stimulus and has led to the supposition that this would affect the outcome of concomitant disease: specifically, infection with a helminth parasite, or administration of helminth-derived extracts/molecules, could be used to treat auto-inflammatory disease. Use of animal model of disease (e.g. diabetes, colitis, arthritis) has provided proof-of-principle data in support of this hypothesis. We have shown that mice infected with the rat tapeworm, Hymenolepis diminuta, are significantly protected from colitis induced by intra-rectal di-nitrobenzene sulphonic acid (DNBS), mediated, at least in part, via interleukin (IL)-10. Similarly, intraperitoneal injection of a PBS-soluble whole-worm crude extract (HdE) protected mice from colitis – an event accompanied by the recruitment of monocytic-type myeloid-derived suppressor cells (mMDSC), the adoptive transfer of which blocked DNBS-induced colitis in naïve mice. Finally, dendritic cells educated by HdE in vitro and then administered to mice blocked colitis; an outcome dependent on an adaptive immune system and requiring IL-10. These examples demonstrate the ability of helminths molecules to prevent inflammatory disease and pave the way for advanced technologies to identify the structure of the bio-active molecules that can serve as blueprints for novel immunomodulatory drugs. Supported by Crohn's Colitis Canada, Canadian Institutes for Health Research & Natural Sciences and Engineering Research Council of Canada

The liver educates new macrophages to rapidly capture bacteria in the blood flow. Gustavo B. de Menezes (UFMG)

Liver phagocytes play a pivotal role in host immune responses and exquisite mechanisms are necessary to govern the density and the location of the different hepatic leukocytes. We used a combination of high-throughput immunophenotyping analysis, gene expression and live imaging approaches to precisely determine phagocytic populations within the liver and the functional consequences of their replenishment by myeloid precursors. After depletion of dendritic and Kupffer cells, repopulated livers were dysfunctional in their ability to respond to injury and to clear bacteria, and a myeloid precursors replenish density and function of both populations. Our data shed light on the liver's ability to locally shape a common bone marrow precursor into two vastly different immune cells.

Is mitochondrial-targeted hydrogen sulfide H_2S a viable therapeutic opportunity? Matthew Whiteman University of Exeter Medical School, St. Luke's Campus, Magdalen Road, Exeter EX1 2LU, UK

Very recently several mitochondrial functions have been shown to be regulated by hydrogen sulfide (H_2S), including cellular respiration where H_2S is used by mitochondria as an inorganic electron source. Endogenous H_2S is produced from mercaptopyruvate by the mitochondrial/cytosolic enzyme 3-mercaptopyruvate sulfurtransferase (3-MST) and intramitochondrial H_2S production from 3-MST is crucial for maintaining mitochondrial electron flow and cellular bioenergetics. At least two other

enzymatic sources of H_2S exist within cells where it is formed from cysteine/homocysteine by cystathionine-β-synthase (CBS) and cystathionine-γ-lyase (CSE) located in the cytosol. However, under certain conditions, such as oxidative stress, intracellular levels of H_2S and CSE and 3-MST-derived H_2S are depleted and genetic or pharmacological inhibition of CSE or 3-MST renders cells/animals more prone to oxidative, inflammation and mitochondrial damage. Several human diseases are associated with oxidative stress, mitochondrial dysfunction and impaired H_2S bioavailability, notably diabetes, suggesting improving mitochondrial H_2S bioavailability may represent a novel therapeutic strategy for disease treatment. Several slow release donor molecules such as GYY4137 have been shown to protect the vasculature in animals (e.g. hypertension, atherosclerosis, myocardial infarction etc), to inhibit or reverse inflammation (e.g. colitis, arthritis etc) and in isolated cells, protect mitochondria from oxidative injury. However, high concentrations/doses are generally required since H_2S generation is not targeted to where it is needed i.e. the mitochondria. With these observations in mind we have designed a series of novel compounds to generate H_2S within the mitochondria containing different mitochondrial targeting motifs and H_2S donor moieties, notably AP39, AP123, RT-01 and novel second generation molecules, and collaborated extensively with many international groups to evaluate the effect of these compounds *in vitro* and *in vivo*. We have used fluorescence/confocal microscopy to visualise mitochondrial H_2S generation and tag-switch technology to determine mitochondrial persulfide formation from the donors and their respective control compounds. Under basal conditions in a variety of human and animal cells, mitochondria-targeted H_2S donors (typically 0.1-200 nM), but not control compounds, stimulated cellular bioenergetics and ATP production. Under various oxidative stress conditions (e.g. induced by glucose oxidase, peroxide, lipid peroxides, hypochlorite, peroxynitrite, β-amyloid, hyperglycaemia, UV-light etc), mitochondrial damage (e.g. loss of $\Delta\psi m$, oxidant production, mitochondrial DNA and protein damage etc) were inhibited (0.1-300 nM). Mitochondrial protection was also observed with other donors such as GYY4137 but at notably higher concentrations (>200 μM) presumably because H_2S generation was not predominantly mitochondrial. With collaborators, we have evaluated the efficacy of some mitochondria-targeted H_2S donors, notably AP39, in rat, mouse and large animal models of myocardial and renal ischaemia-reperfusion injury, hypertension, acute and chronic inflammation, neurological injury post-cardiac arrest, UV-light induced skin damage etc. Each study shows mitochondria-targeted donors (but not respective controls) at 'druggable' doses (e.g. 0.7-721 μg/kg) either inhibited or reversed the pathological phenotype in each model. We are currently evaluating the efficacy of AP39, AP123, RT-01 and second generation compounds in other conditions where mitochondrial dysfunction is a key pathological event as collectively, the above studies strongly suggest that mitochondrial delivery of very low doses of H_2S is a viable therapeutic approach to treating human diseases. A snap shot of recent *in vivo* studies will be presented.

Wnt signaling and points the way to new Parkinson's disease therapies. Daniel C. Berwick[1], Jonathan Nixon-Abell[2,3], Simone Granno[2], Victoria A. Spain[2], Craig Blackstone[3], Kirsten Harvey[3] [1] Department of Health, Life and Chemical Sciences, the Open University, Walton Hall, Milton Keynes, MK6 7AA, United Kingdom. [2] Department of Pharmacology, UCL School of Pharmacy, University College London, 29-39 Brunswick Square, London WC1N 1AX, United Kingdom. [3] Neurogenetics Branch, National Institute of Neurological Disorders and Stroke, National Institutes of Health, 9000 Rockville Pike, Bethesda, MD 20892, USA.

Parkinson's disease (PD) is an incurable motor disorder and the second most common neurodegenerative disease worldwide. PD is usually an idiopathic condition associated with age, but there is a strong genetic component. In particular, mutations in *LRRK2*, which encodes LRRK2, a protein with kinase and GTPase functions, cause both familial and idiopathic PD. At least 7 pathogenic variants display clear segregation with PD, whilst an R1398H has been identified as a possible protective mutation. Since *LRRK2* patients show similar symptoms and post-mortem pathologies to idiopathic PD, it is hoped that the study of LRRK2 will point the way to new therapeutic approaches. Here, we show that the protective R1398H variant affects LRRK2 oppositely to PD-causing mutations in certain molecular and cellular assays. In contrast to pathogenic mutations in domains responsible for GTPase activity, R1398H increased LRRK2 GTPase domain dimerization and GTP hydrolysis, but reduced GTP binding. Similarly, in contrast to the pathogenic R1441G mutation, R1398H enhanced axon growth in primary cortical neurons, whilst a R1398H/R1441G variant rescued the R1441G phenotype. R1398H also enhanced the neuroprotective canonical Wnt signaling pathway, which is contrary to observations for pathogenic variants throughout LRRK2. R1398H was further investigated using molecular modeling, which placed R1398 in close spatial proximity to pathogenic LRRK2 GTPase mutations, suggesting a similar, albeit opposite, mode of action. Taken together, the opposite effect of R1398H relative to Parkinson's disease-causing LRRK2 variants on GTPase function and canonical Wnt signaling highlights the importance of these signaling mechanisms. We conclude that altered Wnt signaling and LRRK2 GTPase function are likely to be fundamental to PD and represent exciting therapeutic targets. This work was funded by the UK Medical Research Council and the Wellcome Trust.

The plasminogen/plasmin system on resolution of inflammation. Lirlândia P. Sousa* Departamento de Análises Clínicas e Toxicológicas - Faculdade de Farmácia, Universidade Federal de Minas Gerais, Belo Horizonte, Brazil.

Plasmin (Pla) is produced by the liver in an inactive form, plasminogen (Plg), and it plays a vital role in protecting the host from thrombotic events. In addition to acting in fibrinolysis the Plg/Pla system components play an important role in cell migration and therefore can regulate the inflammatory response. Resolution of inflammation is an active process triggered early during inflammation, which main goal is to restore tissue homeostasis. Although the participation of the Plg/Pla on the productive phase of inflammation is well known by increasing inflammatory mediators and recruiting inflammatory cells, especially mononuclear cells, their involvement on resolution phase is unclear. Thus, there is a growing interest in understanding the effects of molecules that are dual, acting at the beginning and in the resolving phase of inflammation. Our group has explored the participation of the Plg/Pla system in the recruitment of monocyte to the pleural cavity of mice and the underling mechanism. In this presentation, we will further discuss the role of the Plg/Pla system in key events during resolution of acute inflammation and the underlying mechanisms. Our findings show that Plg/Pla skew macrophages towards anti-inflammatory/pro-resolving phenotypes, decrease neutrophil survival in an inflammatory milieu and accelerate resolution of acute inflammation, which was also associated with increased AnxA1 expression and efferocytosis. Our results indicated that Plg and Pla are regulated during inflammation and could be taking part of the endogenous program of inflammation resolution. Financial Support: Fapemig, CNPq, CAPES and PRPq-UFMG

Resolution activities and signaling: impact on tissue repair. Mauro Perretti, Magdalena Kaneva. William Harvey Research Institute, Queen Mary University of London, London, United Kingdom

The life-saving inflammatory response is a physiological reaction of the host to stress and it differs remarkably from the inflammatory response typical of chronic human diseases, defined as pathological inflammation. A major difference between the two is that physiological inflammation is contained in time and space, whereas pathological inflammation is procrastinated. Important cues to correct persistent inflammation may derive by studying how physiological inflammation resolves. Work in this area for the last 20 years has led to the definition of specific pro-resolving mediators and receptors. We propose that cell-specific pro-resolving signature can be used to inform the development of innovative therapeutic approaches for the control of chronic inflammation. We will discuss specific strategies based on the analytical definition of pro-resolving exudates with the identification of novel tissue-protectie bioactions. Exemplars of these pro-resolving pathways will be addressed on Annexin A1, Hemopexin and alpha-1-antitrypsin, with a focus on their effects upon macrophages and chondrocytes hence a potential impact on the arthritic joint. In conclusion, pro-resolving based therapeutics can evoke tissue reparative circuits that may be able to 'correct' persistent inflammation with the regain of tissue function.

Hydrogen sulfide is a pro-resolution signaling molecule John L. Wallace University of Calgary, Calgary, Alberta, Canada & Antibe Therapeutics, Toronto, Ontario, Canada

There is a rapidly expanding body of evidence for important roles of hydrogen sulfide in protecting against tissue injury, reducing inflammation, and promoting repair. There is also growing evidence that H_2S can be successfully exploited in drug development. H_2S synthesis and degradation are regulated in circumstances of inflammation and injury so as to promote repair and re-establish homeostasis. Novel H_2S-releasing drugs exhibit enhanced anti-inflammatory and pro-restorative effects, while having reduced adverse effects in many tissues. H_2S is a pleiotropic mediator, having effects on many elements in the inflammatory cascade and promoting the resolution of inflammation and injury. It also contributes significantly to mucosal defence in the gastrointestinal tract, and in host defence against infection. There is strong evidence that novel, H_2S-based therapeutics are safe and effective in animal models, and several are progressing through human trials. A better understanding of the physiological and pathophysiological roles of H_2S continues to be restrained by the lack of simple, reliable methods for measurement of H_2S synthesis, and the paucity of highly selective inhibitors of enzymes that participate in endogenous H_2S synthesis. On the other hand, H_2S donors show promise as therapeutics for several important indications.

Pharmacogenomics in Peruvian populations. Alberto Salazar Granara[1], Eduardo Barbosa Coelho[2]. [1] Universidad de San Martin de Porres, Facultad de Medicina Humana, Centro de Investigación de Medicina Tradicional y Farmacología. Sociedad Peruana de Farmacología y Terapéutica Experimental (SOPFARTEX). [2]Universidade de São Paulo, Faculdade de Medicina de Riberão Preto, Departamento de Clinica Medica, Laboratório de Hipertensão Experimental e Farmacogenética. Rede Nacional de Farmacogénetica de Brasil, Região Sudeste - SP (REFARGEN).

The presentation will display results from a group of pharmacogenomics markers with clinical relevance, in Peruvian sub-populations. Specifically, these results are going to show the frequency of the single nucleotide polymorphisms for the *NAT2, CYP2D6, CYP2C9, CYP2C19, CYP3A4, CYP4A11, CYP4F*, and *ABCB1* genes, into the following populations: Uros, Amantani and Taquile from the Titicaca lake islands (Puno region); Chivay

and Cabanoaconde from Cailloma locality (Arequipa region); Chogo, Tambillo and Ocopon from Parobamba Locality (Ancash Region); Matapukio and Kakiabamba from Andahuaylas locality and Abancay city, from Abancay locality (Apurimac region); Puentecillos and Ichocan from Cajamarca locality (Cajamarca Region); Andoas from the Nanay river (Loreto region); Lamas city from Lamas locality (San Martin region); Lima city from Lima Locality (Lima region); Chincha from Ica locality (Ica region); and San Jose from Lambayeque locality (Lambayeque region). These results indicate a clear variability between Peruvian populations, and showed remarkable differences in the frequencies compared with the Europeans, Americans and African Populations. Financial support: Universidad de San Martin de Porres and Universidade de São Paulo.

Pharmacogenomics of antiretroviral therapy adverse effects in Brazil. Vanessa Suñé Mattevi – Universidade Federal de Ciências da Saúde de Porto Alegre, Porto Alegre, RS, Brasil.

Since the introduction of highly-active antiretroviral therapy (HAART) in the 1990's decade, the view of the diagnosis of infection by human immunodeficiency virus (HIV) has changed from a "death sentence" to a chronic disease that requires long-term treatment. From this moment, a large amount of interindividual variability in the response to HAART has been observed. Furthermore, the side effects of HAART became an important determinant of adherence to this therapy, which is critical for its success. More recently, the host genetic variability has been shown to play a relevant role in the bioavailability of antiretroviral drugs and to the susceptibility to their adverse effects. Our group has investigated the association of several genetic markers with the susceptibility of HAART side effects, namely lipodystrophy, dyslipidemia, hyperbilirrubinemia, and renal toxicity. The knowledge about the role of pharmacogenomics in the treatment of HIV infection has largely increased over the last years, and will be discussed in this presentation, as well as future perspectives for the inclusion of pharmacogenomics information for the treatment of HIV infection. Financial support: FAPERGS, CNPq and CAPES.

Parkinson's disease Pharmacogenomics: New findings and perspectives. Mara H. Hutz Departamento de Genética; Universidade Federal do Rio Grande do Sul, Porto Alegre, RS

Parkinson's disease is unique among neurodegenerative disorders because a highly effective pharmacological symptomatic treatment is available. However, the marked variability in drug response and in adverse profiles associated with these treatments lead to the search of genetic markers associated with these features. Pharmacogenetics studies in this field have assessed several outcomes and genes, with special focus on dopaminergic genes. *DRD2* was the most studied gene, since it codes for the dopamine receptor 2, the most important in nigrostriatal pathway. *COMT* gene codes an enzyme responsible for dopamine degradation and was largely studied, especially its function polymorphism Val158Met. Most studies have small or medium sample sizes, fragile designs, and outcome heterogeneity, therefore recommendations for clinical application cannot be done. Clearly, collaborative longitudinal studies with larger sample sizes, better outcome definitions and replication studies are required. Grant sponsor: CNPq, FINEP

Stem cells in chronic pulmonary inflammatory diseases. Patricia Rieken Macedo Rocco, Laboratory of Pulmonary Investigation, Carlos Chagas Filho Institute of Biophysics, Federal University of Rio de Janeiro

The use of mesenchymal stromal cells (MSCs) appears particularly promising for the therapy of chronic pulmonary inflammatory diseases. MSCs harvested from bone marrow, adipose tissue, or other sources have demonstrated potent anti-inflammatory actions following systemic administration in a wide range of preclinical models of emphysema, asthma and silicosis, as well as in a growing number of clinical trials. Intratracheal MSC administration has been shown to reduce inflammation and lung damage in rodent and large-animal models, including explanted human lungs and models of chronic lung injury. In the clinical setting, a prospective, randomized, double-blind trial in patients with moderate-to-severe emphysema demonstrated that four monthly intravenous administrations of allogeneic bone marrow-derived MSCs obtained from healthy volunteers induced no acute infusion-related toxicities and were safe over a 2-year follow-up period. Recently, our group observed that the combined use of intrabronchial MSC administration and bronchoscopic lung volume reduction through endobronchial valve placement appears to be safe and may decrease systemic inflammation in patients with compromised lung function due to severe emphysema. These results provide a basis for subsequent investigations of MSCs as adjunctive therapy in patients with emphysema. Supported by: CNPq, FAPERJ, DECIT-CNPq, CAPES.

Pharmacological Strategies to Enhance the Resolution of Inflammation. Adriano G Rossi. MRC Centre for Inflammation Research, Queen's Medical Research Institute, University of Edinburgh Medical School, 47 Little France Crescent, Edinburgh, EH16 4TJ, Scotland, UK.

Host defence and beneficial inflammatory responses directed against invading organisms or trauma-induced tissue damage is orchestrated by leukocytes such as granulocytes (especially neutrophils and eosinophils) and macrophages. If the recruitment, activation and/or removal of such leukocytes from inflammatory sites is dysregulated, these cells have the potential to elicit and contribute to tissue damage found in patients with chronic inflammatory diseases (e.g., asthma, rheumatoid arthritis, atherosclerosis, multiple sclerosis, etc.).

Resolution of inflammation is an active and regulated physiological process that terminates inflammation and limits tissue damage. Apoptosis and non-inflammatory phagocytosis of apoptotic cells by macrophages and other phagocytic cells (termed efferocytosis) are key cellular processes that lead to efficient inflammation resolution. Importantly, we contend that inflammation resolution processes dictate successful tissue repair and regeneration. Using a combination of primary human leukocytes, mouse and zebrafish models, together with state-of-the-art equipment and technology we show that resolution of inflammation can be enhanced pharmacologically and genetically to promote tissue repair and regeneration. Such approaches that elucidate underlying mechanisms and processes involved in inflammation resolution, we believe, will lead to the development of novel therapeutic strategies for the treatment of inflammatory diseases.

Reconstructed Human Epidermis (RHE): From Skin Irritation to Skin Sensitization. De Vecchi, R[1,2], C.Pellevoisin[1]. [1]EPISKIN Academy, Lyon, France; [2]L´Oréal Research & Innovation, Rio de Janeiro, Brazil.

Releasing a new product to the market is a costly and long process for drug, chemical or cosmetics. Early prediction of human health hazard is important to avoid termination of promising candidates in latest stages. According to some surveys (Olson 2000, Greaves 2004), classical pre-clinical approaches based on animal studies exhibit weaknesses to predict some human toxicity. Of all tissues, skin shows the least concordance (36%) between effects in animal and human. This underlines the need for more predictive *in vitro* approach. Moreover, regulations such European directives (2003/15/EC for cosmetics, 2010/63/EU on animals used for scientific purposes and EC 1907/2006 for Registration Evaluation Authorization of Chemical substances) promote the use of alternative to animal testing for industry.

RENAMA: The Brazilian Network for Alternative Methods to Animal Testing. Fabiano Borba Guimarães (MCTIC)

The Brazilian Network for Alternative Methods to Animal Testing – RENAMA was instituted by MCTIC by the Ordinance n° 491/2012. This Network has the objective to develop, validate and certificate alternative methods regarding drugs and cosmetics. RENAMA was inspired by the "3R" philosophy, which means reduce the use of animals, replace the currently used methods for others that don't use animals and refine the actually used methods. RENAMA has 3 Central Labs, INCQS - National Institute for Quality Control of Health, LNBio – Brazilian Bioscience National Laboratory and INMETRO - National Institute of Metrology, Quality, and Technology. The Central Labs work in cooperation with the Associated Labs. The Associated Labs are public or private labs which have the function of contributing to the development and dissemination of alternative methods in Brazil, contributing to building the infrastructure of alternative methods in the country. Recently, RENAMA has launched many initiatives like the PReMASul and the Call for Proposals MCTIC/CNPQ n° 19/2016. PReMASul is an initiative presented by Brazil and approved in the LII Specialized Meeting of Science and Technology (RECyT – MERCOSUL), in June of 2015 which aims to start the discussion about alternative methods in the mandate of MERCOSUL and to promote the creation of a lab infrastructure and of human resources in each of the nations of the Market. The Call for Proposals MCTIC/CNPQ n° 19/2016 has the objective of helping RENAMA thought financing research projects that will contribute to the scientific and technological development of Brazil, by inducing the formation of cooperations between the Central Labs and RENAMA associated Labs.

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