



POSTER SESSIONS

POSTER SESSIONS / TUESDAY / MAY 28

Poster

Tue. 10:00 am—Havana International Conference Center, Grand Foyer (exhibition area).

Presentation time: 11:45 pm–2:45 pm

Cardiovascular Physiology.....T.01-T.35
Gastrointestinal Physiology.....T.36-T.51
Exercise Physiology.....T.52-T.59
Muscle Physiology.....T.60-T.66
Neuroimmunology.....T.67-T.73

CARDIOVASCULAR PHYSIOLOGY

T.01 The Effect of Vegetarian and Western Diets on Vascular Function in Healthy Adults. **M. Ramos Gonzalez, A. Mbakwe, K. Smiljanec, M. Zuelch, M. Witman, S. Lennon.** University of Delaware, Newark, DE, USA.

T.02 Acute High Sodium Meal Consumption Does Not Impair Vascular Function in Young, Healthy Adults. **K. Smiljanec, A. Mbakwe, M. Ramos-Gonzalez, S. Lennon.** University of Delaware, Newark, DE, USA

T.03 Pro- and anti-angiogenic actions of the anti-diabetic drug metformin. **C.R. Triggle^{1,2}, S.M. Samuel², H. Ding¹.** Departments of Medical Education and Pharmacology, Weill Cornell Medicine in Qatar, Doha, Qatar.

T.04 Oxidative stress-induced endothelial dysfunction contributes to cardiovascular disease. **M.G. Scioli¹, F. D'Amico¹, R. Rodríguez Guzmán^{1,2}, A. Orlandi¹.** ¹Anatomic Pathology, Department of Biomedicine and Prevention, Rome, Italy. ²Department of Biomedical Sciences, Calixto Garcia Faculty, University of Medical Sciences of Havana, Cuba.

T.05 Electronic-Cigarettes and Heat-Not-Burn Tobacco Products Induce Similar in vivo Peripheral Vasoconstriction as Smoking. **I.M. Olfert^{1,2,3}, C.R. Pitzer¹, E. Aboaziza², G. Clemons¹, J. O'Reilly¹, P.D. Chantler^{1,2}.** ¹West Virginia University School of Medicine, Division of Exercise Physiology, ²West Virginia Clinical and Translational Science Institute; ³Inhalation Toxicology Working Group; Morgantown, WV 26506.

T.06 Cervicothoracic Transcutaneous Electrical Nerve Stimulation Attenuates the Sympathetic Cardiac Overdrive in Patients with Heart Failure: A ¹²³I-MIBG Myocardial Scintigraphy, Randomized, Double-Blind, Controlled Crossover Trial. **M.O. Campos¹, A.CL. Nóbrega¹, S.M. Miranda², M.L. Ribeiro², T.R.B. Guerra², A.M.S. Braghirolli³, C.T. Mesquita², I.A. Fernandes⁴** ¹Laboratory of Exercise Sciences and ²Antonio Pedro University Hospital, Fluminense Federal University, Brazil, ³Institute of Nuclear Engineering, Federal University of Rio de Janeiro³, Brazil and ⁴NeuroVASQ - Integrative Physiology Laboratory, Faculty of Physical Education, University of Brasília⁴, Brazil

T.07 Prospective Study To Investigate The Prevalence Of The 90 kDa Isoform Of Angiotensin Converting Enzyme In Vitória – Brazil. **A. Febba¹, F. Fernandes¹, M. Pinho¹, J. Mill², D. Casarini¹.** ¹Medicine UNIFESP Brazil; ²Biomedical Center UFES Brazil.

T.08 Activation of an Endothelial Cell Signaling Pathway in Response to Acute Alteration of Shear Stress. **A.B. Fisher.** Institute for Environmental Medicine, Perelman School of Medicine, University of Pennsylvania.

T.09 E-cigarette inhalation causes inflammation and oxidative stress via a NADPH oxidase mediated pathway. **S. Chatterjee, J.Q. Tao, A. Johncola, A. Caporale, M.C. Langham, F.W. Wehrli.** University of Pennsylvania School of Medicine, USA

T.10 Inflammation induced disruption in Circadian Rhythm in Pulmonary Endothelial cells is modulated via reactive oxygen species. **S. Chatterjee¹, Y. Lee², J.Q.Tao¹, A. Sehgal², S. Sengupta³.** ¹Department of Physiology, ²Department of Neuroscience, University of Pennsylvania School of Medicine and ³Division of Neonatology, Children Hospital of Philadelphia, Philadelphia USA.

T.11 Can Whole Body Blood Flow Autoregulation Lead to Hypertension? Testing Its Role by Computer Simulations. **J.P. Montani¹, B.N. Van Vliet².** ¹Faculty of Sciences and Medicine, University of Fribourg, Switzerland. ²Memorial University of Newfoundland, St. John's, Canada.

T.12 Sex Differences in Blood Pressure Response to Continuous Ang II Infusion: Involvement of Sex Hormones and Sex Chromosome Complement. **F. Dadam. L. Vivas, X.E Caeiro.** Instituto de Investigación Médica M. y M. Ferreyra, INIMEC-CONICET-Universidad Nacional Córdoba. Córdoba, Argentina.

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T.13 Angiotensin II Receptor Type 1 Blockade Prevents Arterial Remodeling and Stiffness in Iron Overloaded Rats. **R. Andrade Ávila, H. Gabriel Fidelis, J. Alexandre Gonzaga, S. Curry Evangelista Goes, V. Bermond Marques, L. dos Santos.** Laboratory of Cardiac Electromechanics and Vascular Reactivity - Federal University of Espirito Santo, Vitoria, Brazil.

T.14 Comparative Assessment of Electrocardiographic Parameters of Some Birds in Ilorin. **O.M. Azeez¹, A. Basiru¹, A.S. Adah¹, F.H. Olaifa¹, S.A. Ameen², H.A. Ambali², M. Bolaji³, R.B. Balogun¹.**¹Department of Veterinary Physiology and Biochemistry. ²Department of Veterinary Medicine.³Department of Veterinary Pathology, University of Ilorin, Ilorin, Nigeria

T.15 The intra-test reliability of spontaneous cardiac baroreflex sensitivity in healthy young men. **J.L. Sabino-Carvalho, A.L. Teixeira, M. Samora, L.C. Vianna.** NeuroVASQ - Integrative Physiology Laboratory, Faculty of Physical Education, University of Brasília, Brasília, Brazil.

T.16 Effect of Electrical Stimulation of the Aortic Depressor Nerve on Inflammatory Response after Experimental Myocardial Infarction in Rats. **R. Schmidt^{1,2}, M. Morris², K.H. Schmidt², K. De Angelis³, C.P. Dos Santos³, M.C. Irigoyen¹.**¹Incor – Heart Institute – School of Medicine – São Paulo University, São Paulo, SP, Brazil. ²Cardiovascular Toxicology Laboratory – Nova Southeastern University, Fort Lauderdale, FL, USA. ³Exercise Physiology Laboratory – São Paulo Federal University, São Paulo, SP, Brazil.

T.17 Measuring Cardiorespiratory Variables on Small Tadpoles Using a Non-invasive Methodology. **L. Sambini Longhini¹, C.P. De Almeida Prado¹, K.C. Bicego¹, L.A. Zena², L.H. Gargaglioni¹.**¹Sao Paulo State University, FCAV/UNESP- Jaboticabal, SP – Brazil. ²University of Sao Paulo, Institute of Biosciences/USP- Sao Paulo, SP- Brazil.

T.18 PRR analysis in rat retina tissue with complicated pregnancy with Preeclampsia. **C. Ramirez-Montero¹, P.López-Sánchez¹, L. Anguiano-Robledo¹, V. Lima-Gómez².**¹Instituto Politécnico Nacional ESM. ²Hospital Juárez de México, México.

T.19 Heart Rate Variability: Test-Retest Reliability of Poincare Non-linear Measures. **S. Blyakher, S. Costello, K. Wohnoutka N.J Hellyer.** Mayo Clinic, Department of Physical Medicine and Rehabilitation, USA.

T.20 Involvement of Protein Kinase B (Akt) in Cardioprotection Carried out by Oral Administration of Stevioside. **V. Mestre Cordero^{1,2}, D. Vélez¹, S. Harriet¹, R. Tsacalian¹, R. Hermann^{1,2}, M.G. Marina Prendes^{1,2}.**¹Physiology Unit, Pharmacy and Biochemistry School, University of Buenos Aires. ²IQUIMEFA-CONICET, Buenos Aires, Argentina.

T.21 Triiodothyronine improves post-ischemic myocardium recovery: A response associated with enhanced AMP-activated protein kinase activation. **R. Hermann, M.M. Fernández Pazos, F. Reznik, M. Córdoba, V. Mestre Cordero, D. Vélez; M.G. Marina Prendes.** Physiology Unit, Department of Biological Sciences, School of Pharmacy and Biochemistry, University of Buenos Aires. IQUIMEFA-CONICET. Buenos Aires, Argentina.

T.22 Hypothyroidism: How it affects Cardiac Function. **A. Fellet¹, F. Vazquez¹, J.I. Burgos², A. Abramovici¹, F. Lista¹, N.Ogonowski¹, A. Balaszczuk¹, M. Vila Petroff².**¹Cátedra de Fisiología, Facultad de Farmacia y Bioquímica, UBA, IQUIMEFA-CONICET.²Centro de Investigaciones Cardiovasculares de La Plata, Argentina.

T.23 Variability in Indicators of Arterial Stiffness with Acute Reductions in Cardiac Stroke Volume. **R.L. Hughson, K.S. Fraser, J. Xenii.** Schlegel-University of Waterloo Research Institute for Aging, University of Waterloo, Waterloo, ON, Canada.

T.24 ¹²⁵I-Angiotensin 1-7 Binds to Matrix Metalloproteinase. **F.F. Stoyell-Conti, S. Itty, M. Asif, H. Stewart, C. Abraham, J. Vadhan, C.A. West, R.C. Speth.** Nova Southeastern University. Department of Medicine, Georgetown University, Washington, DC, USA.

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T.25 Oxidative stress in the pathophysiology of cardiovascular disease. New approaches of Aneurysmatic diseases. State of Art. **R. Rodríguez Guzmán^{1,2}, M. Giovanna Scioli², F. D'Amico², E. María Céspedes Miranda¹, N. Suárez Castillo¹, P. Guzmán Díaz^{3,4}**. ¹Biomedical Sciences Department, Calixto García Faculty, University of Medical Sciences of Havana, Cuba. ²Anatomic Pathology Institute. Department of Biomedicine and Prevention, University of Rome Tor Vergata, Italy. ³Familiar Medicine Department, Calixto García Faculty, University of Medical Sciences of Havana, Cuba. ⁴Antonio Guiteras Holmes Urgency Polyclinic, Havana, Cuba.

T.26 Blood pressure in obese pregnant rats. **C. Capote Guitian, G. Suárez Román, S. Clapés Hernández, G. Belo, M. Fransisco Da Costa**. Departamento de Bioquímica. Instituto de Ciencias Básicas y Preclínicas "Victoria de Girón", Cuba.

T.27 Electrocardiographic modifications in hypertensive patients without associated diseases. **L. Ferrer-Orozco, Y. Orozco-Martínez, J.I. Medina-Morales, B. Orozco Pérez de Prado, C. Orozco Pérez de Prado, R.M. Hernández Maldonado, E. Chávez-González**. Faculty of Medical Sciences, University of Medical Sciences, Villa Clara, Cuba.

T.28 Modifications of the Geometric Pattern of the Left Ventricle and Function Cardiac Associated with Malnutrition due to excess. **M. González Jardinez¹, C.I López de Villavicencio Hernández², I. Cabrera Rojo³**. ¹FCM "Manuel Fajardo". UCMH. ²ICBP: "Victoria de Girón". UCMH. ³Hospital Universitario: "General Calixto García", Cuba.

T.29 Functional Cardiac Modifications Associated with Malnutrition due to Excess Evidenced during and after Physical Effort., **C.I López de Villavicencio Hernández², I. Cabrera Rojo³, M. González Jardinez¹**. ¹FCM "Manuel Fajardo". UCMH. ²ICBP: "Victoria de Girón". UCMH. ³Hospital Universitario: "General Calixto García", Cuba.

T.30 Modifications of the non-linear parameters of heart rate variability in relation to the arithmetic calculation test. **E.M Pedraza Rodríguez, C. Almira Gómez, S. Cortina Reyna, M. Sanchez Hechavarría**. University of Medical Sciences of Santiago de Cuba, Cuba.

T.31 Endogenous antioxidant markers, oligo- and macro-elements in hypertensive, pre-hypertensive and normotensive school - age children. **J.I Alfonso Rodríguez¹, D. Heredia Ruiz¹, D. Fernández Caraballo¹, M. Ballestero Hernández¹, C.P Alfonso González²**. ¹University of Medical Sciences, Villa Clara. ²Hospital "Celestino Hernández Robau", Villa Clara, Cuba.

T.32 The basal autonomic balance and during isometric exercise in young people with different cardiovascular reactivity. **A. Rodríguez Pena, O. Guirado Blanco, H.J. González Paz, J.C. Casas Blanco**. University of Medical Sciences, Villa Clara, Cuba.

T.33 Hemodynamics patterns and response to isometric sustained weight test in normoreactive, hyperreactive and hypertensive young people: gender differences. **A. Rodríguez Pena, O. Guirado Blanco, H.J. González Paz, M. Ballesteros Hernández**. University of Medical Sciences, Villa Clara, Cuba.

T.34 Direct actions of the flavonoids naringenin, quercetin and genistein on rat cardiac and vascular muscles. **L. Galán-Martínez, I. Herrera-Estrada, A. Fleites-Vázquez**. Instituto de Cardiología y Cirugía Cardiovascular, La Habana, Cuba.

T.35 Signs associated to the deaths by The Ischemic Cardiovascular Disease in Mayabeque. **M.D. Mendieta Pedroso, Y. Pérez Pérez, I. González López**. Hospital General Docente "Leopoldito Martínez", Mayabeque, Cuba.

GASTROINTESTINAL PHYSIOLOGY

T.36 Gastric rather than Systemic Alkalinization Promotes Splenic Anti-inflammatory Responses. **P.M. O'Connor, K. Wilson**. Department of Physiology, Medical College of Georgia at Augusta University, Augusta, GA, USA.

T.37 The Circadian Rhythm of Intestinal Melatonin-Synthesizing Enzymes. **D. Andrade-Pavón, C. Alva-Sánchez, N. Méndez-Díaz, I. Villanueva**. Departamento de Fisiología, Escuela Nacional de Ciencias Biológicas, Instituto Politécnico Nacional, México.

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T.38 Intestinal Hydrolase Transcriptional and Proteomic Responses During Rapid Diet Adjustment in Nestling House Sparrows (*Passer domesticus*). **W. Karasov¹, A. Brun¹, M. Magallanes², K. Rott¹, E. Caviedes-Vidal²**. ¹Forest and Wildlife Ecology, University of Wisconsin-Madison, USA. ²Biológicas, Instituto Multidisciplinario de Investigaciones Biológicas de San Luis, Consejo Nacional de Investigaciones Científicas y Técnicas, Argentina.

T.39 Hepatoprotective Potential of Gold Nanoparticles Functionalized with Natural Compounds in Experimental-Induced Liver Fibrosis. **S. Clichici¹, D. Olteanu¹, D. Macovei¹, D. Melvyn¹, D. Zugravu¹, I. Baldea¹, A. Nagy², B. Moldovan³, L. David³, A. Filip¹**. ¹Department of Physiology, "Iuliu Hatieganu" University of Medicine and Pharmacy, Cluj-Napoca, Romania. ²Department of Pathology, University of Agricultural Sciences and Veterinary Medicine, Cluj-Napoca, Romania. ³Faculty of Chemistry, University Babes Bolyai, Cluj-Napoca, Romania.

T.40 Rolipram, a Phosphodiesterase 4 Inhibitor, Attenuates Diet-Induced Obesity. **H. Silva, J. Antunes-Rodrigues, L. Elias**. ¹Physiology Department, Ribeirão Preto Medical School, University of São Paulo, Brazil.

T.41 The Apoptotic Response of Oral Dysplastic Keratinocytes Induced by Bio-Nanomaterials based on Silver Nanoparticles. **G.A. Filip¹, I. Baldea¹, A. Florea², D. Olteanu¹, L. David³, B. Moldovan³, I. Scrobota⁴, R. Suharoschi⁵, R. Vulturar⁶, S. Clichici¹**. ¹Department of Physiology and ²Department of Cell and Molecular Biology „Iuliu Hatieganu” University of Medicine and Pharmacy, Cluj-Napoca, Romania. ³Faculty of Chemistry and Chemical Engineering, Babes-Bolyai University, Cluj-Napoca, Romania. ⁴Department. of Dental Medicine, Faculty of Medicine and Pharmacy, University of Oradea, Oradea, Romania. ⁵Faculty of Food Science and Technology, University of Agricultural Sciences and Veterinary Medicine, Cluj-Napoca, Romania. ⁶Department of Molecular Sciences, Iuliu Hatieganu University of Medicine and Pharmacy, Cluj-Napoca, Romania.

T.42 Increased urine-cell derived mRNA transcripts of the intratubular renin-angiotensin system is associated with high expression of profibrotic factors IL-18 and CTGF in overweight young adults. **A.A. Gonzalez, C. Miranda, P. Rivera, A. Guerrero, N. Roldán**. Instituto de Química, Pontificia Universidad Católica de Valparaíso, Chile.

T.43 Reproductive Parameters in a Model of Visceral Obesity. **G. Suárez Román, C. Capote Guitian, S. Clapés Hernández, T. Fernández Romero, G. Belo, M. Fransisco Da Costa**. Departamento de Bioquímica. Instituto de Ciencias Básicas y Preclínicas “Victoria de Girón”, Cuba.

T.44 Serum Copper, Zinc, Calcium and Magnesium Levels in Mothers with Offspring Affected by Neural Tube Defects: A Case-Control Study. **N. Taboada Lugo^{1,3}, A. Mollineda Trujillo², M. Herrera Martínez³**. ¹Provincial Center of Medical Genetics, Villa Clara, Cuba. ² Centro de Bioactivos Químicos, Universidad Central Marta Abreu de Las Villas, Cuba. ³ University of Medical Sciences, Villa Clara, Cuba.

T.45 Study of Antiulcer and Gastroprotective Effect of Musa Pulp ABB spp. **M.A. Boffill Cárdenas¹, M.J. Martín Calero², C. Garrido Arce³**. ¹Unidad de Toxicología Experimental, Universidad de Ciencias Médicas de Villa Clara, Cuba. ²Facultad de Farmacia, Universidad de Sevilla, España. ³Hospital Universitario “Arnaldo Milián Castro”, Villa Clara, Cuba.

T.46 Zinc and copper deficiency in women of reproductive age in Havana, Cuba. **A.M. Gómez Álvarez¹, G.M. Pita Rodríguez², C. García Pino², A. Ordás González¹, Y. Salazar Luna¹, L.L. Cardellá Rosales¹**. ¹Latin American School of Medicine, Department of Physiological Sciences, Havana, Cuba. ²Institute of Hygiene Epidemiology and Microbiology, Havana, Cuba.

T.47 Standardization of an obesity model induced by hypercaloric diet in Wistar rats. **E. Rita**. Departamento de Fisiología. Instituto de Ciencias Básicas y Preclínicas “Victoria de Girón”, Cuba.

T.48 Search for the ideal model: Nutritional evaluation in the child. **E. Camps Calzadilla**. Departamento de Fisiología. Instituto de Ciencias Básicas y Preclínicas “Victoria de Girón”, Cuba.

T.49 Modifications of body composition associated with the life cycle of women. **M. Borroto**. Departamento de Fisiología. Instituto de Ciencias Básicas y Preclínicas “Victoria de Girón”, Cuba.

T.50 Influence of nutritional status on morphofunctional changes in perimenopausal women. **E. Camps Calzadilla**. Departamento de Fisiología. Instituto de Ciencias Básicas y Preclínicas “Victoria de Girón”, Cuba.

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T.51 Characterization of nutritional status in elderly patients cholecystectomy for laparoscopy surgery. **O. Barrios Viera, J. Cabrera González.** Hospital General Docente “Leopoldito Martínez”, Mayabeque, Cuba.

EXERCISE PHYSIOLOGY

T.52 Fibroblast growth factor 21 promotes glucose uptake by a GLUT4-dependent and Akt-independent mechanism in isolated fibers of skeletal muscle. **G. Rosales-Soto¹, A. Díaz-Vegas¹, P. Llanos^{1,2}, M. Casas¹, E. Jaimovich^{1,3}, A. Contreras-Ferrat¹.** ¹Center for Exercise, Metabolism and Cancer, ²Institute for Research in Dental Science, ³Institute of Biomedical Sciences, Universidad de Chile, Chile.

T.53 Effect of Exercise Modality on Cutaneous Blood Flow during Recovery in Normal Subjects. **F.G. Muñoz Bolaños, R. Vargas Cañas, M. Patiño Velasco, J. Vásquez.** Universidad del Cauca, Popayán, Colombia.

T.54 Effect of inspiratory muscle training on the hemodynamic, cerebrovascular, and postural control response during orthostatic stress in older women. **G. Dias Rodrigues^{1,2}, J. Lírio Gurgel³, L. dos Santos Galdino¹, A.C. Lucas da Nóbrega^{1,2}, P.P da Silva Soares^{1,2}.** ¹Department of Physiology and Pharmacology and ³Department of Physical Education and Sports, Fluminense Federal University, Niterói, Brazil. ²National Institute for Science & Technology - INCT (In)activity & Exercise, CNPq - Niterói (RJ), Rio de Janeiro, Brazil.

T.55 Long-term effects of concurrent training on neuromotor and hemodynamic parameters in elderly hypertensive. **W. Garcez de Mello, B Garuti, P. Alexander de Carvalho, V. Lopes, J.C. Rodrigues, T.J. de Rossi Milan, T. Barbosa Zambom, R. Detone Gonçalves.** Centro Universitário Toledo – UNITOLEDO, Araçatuba, São Paulo, Brazil.

T.56 Effect of A 6-Year Physical Exercise Intervention Program on Cardiovascular Risk Factors in Older People. **M. Pereira de Lima^{1,4}, C.S. Rodrigues Alves³, M.A. Gonçalves Nobrega dos Santos⁴, L. Aparecida Campos^{1,2}, O. Constantin Baltatu^{1,2}.** ¹Center of Innovation, Technology and Education (CITE) and ²School of Health Sciences at Anhembi Morumbi University - Laureate International Universities, Brazil. ³Unimed Ourinhos, Núcleo Viver Bem - Preventive Medicine and Home Care Unit, Brazil. ⁴Faculty Estácio de Sá de Ourinhos, Brazil.

T.57 Physical Activity Evaluated by Accelerometry: Equivalence Between Hip and Wrist Recordings & Association With IPAQ, Body Composition and Muscular Power. **S. Benitez-Flores, Y. Zócalo, D. Bia.** School of Medicine, CUiiDARTE, Universidad de la República, Uruguay.

T.58 Effect of the consumption of Passiflora edulis on Aspartate Aminotransferase (AST) and creatinine in students belonging to the University of Quindío soccer team. **D.M. García-Cardona, V. Calderón-Bonilla, C.N. Rangel-Porras.** Universidad del Quindío, Colombia.

T.59 Modifications of the non-linear parameters of the heart rate variability related to the systematic practice of physical exercise. **V.E. González-Velázquez¹, R.M.Rebustillo-Escobar², W. Semanat-Gabely³, L. Cobiellas-Carballo⁴, M.E. Sánchez-Hechavarría⁵.** ¹University of Medical Sciences, Villa Clara. ²University of Medical Sciences, Granma. ³University of Medical Sciences, Guantánamo. ⁴University of Medical Sciences, Holguín. ⁵University of Medical Sciences, Santiago de Cuba, Cuba.

MUSCLE PHYSIOLOGY

T.60 Effect of Diazoxide Administration on Muscle Strength Development, Lipid Profile and Oxidative Stress in Diabetic Rats. **A. Vargas-Vargas, M. Gómez-Barroso, C. Cortés-Rojo, A. Saavedra-Molina, y R. Montoya-Pérez.** IIQB-UMSNH, México.

T.61 Exercise improves muscle contraction and resistance to fatigue by decreasing ROS levels during obesity. **M. Gómez-Barroso¹, M.A. Vargas-Vargas¹, K. Moreno Calderón¹, E. Sánchez Duarte², C. Cortes Rojo¹, R. Montoya Pérez¹.** ¹IIQB-UMSNH, México. ²Departamento de ciencias aplicadas al trabajo, UGTO, campus León.

T.62 Diaphragm Muscle Fatigue Resistance Does Not Increase With Age. **M.J. Fogarty¹, C.B. Mantilla^{1,2}, G.C. Sieck^{1,2}.** Departments of ¹Physiology & Biomedical Engineering and ²Anesthesiology & Perioperative Medicine, Mayo Clinic, Rochester, USA.

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T.63 Evidence for stretch feedback in the thyroarytenoid muscle in rat and its implications in spasmodic dysphonia. M. Reed¹, A. Huff^{1,2}, K. Iceman^{1,3}, S. Mian¹, D. Howland^{1,4}, T. Pitts¹.

¹Department of Neurological Surgery and Kentucky Spinal Cord Injury Research Center and ²Department of Physiology, College of Medicine, University of Louisville, Louisville, KY, USA. ³Department of Biology, Valparaiso University, Valparaiso, IN, USA. ⁴Robley Rex VA Medical Center, Research Service, Louisville, KY, USA

T.64 Pain and magnetic field therapy. Physiological basements. M.M. Niubó Elías. University of Medical Sciences of the Revolutionary Army Force, Cuba.

T.65 Impaired Recovery Following Hind Limb Immobilization: Alcohol-Mediated Mechanisms. L. Simon, A.Y. Yeh, K. Adler, S. Edwards, P.E. Molina. LSU Health Sciences Center, Department of Physiology, New Orleans, LA, USA.

T.66 In Silico Pharmacological Assessment of Mibefradil in Single Detrusor Smooth Muscle Cell towards Understanding Urinary Bladder Over Activity. C. Mahapatra, R. Manchanda. Indian Institute of Technology Bombay, India.

NEUROIMMUNOLOGY

T.67 Use of the ROC curves for the evaluation of the Guillain-Barré diagnostic methods. A. Mirabal-Viel, V. Pérez-del-Vallín, J.A. Rodríguez-Pérez, W. Castillo-González, C.Mejjides-Mejías, J. Lumpuy-Castillo, A. J. Dorta-Contreras. Laboratorio Central de Líquido Cefalorraquídeo (LABCEL).Universidad de Ciencias Médicas de la Habana, Cuba.

T.68 Kinetics-like equation for cerebrospinal fluid-blood diffusion models. J.A. Rodríguez-Pérez, A. Mirabal-Viel, V. Pérez-del-Vallín, C. Mejjides-Mejías, W. Castillo-González, J. Lumpuy-Castillo, A.J. Dorta-Contreras. Laboratorio Central de Líquido Cefalorraquídeo (LABCEL).Universidad de Ciencias Médicas de la Habana, Cuba.

T.69 MASP-2: New evaluating parameters. C. Mejjides-Mejías, W. Castillo-González, J.A. Rodríguez-Pérez, F. Lombillo-Alfonso, A. Mirabal-Viel, V. Pérez-del-Vallín, A.J. Dorta-Contreras. Laboratorio Central de Líquido Cefalorraquídeo (LABCEL).Universidad de Ciencias Médicas de la Habana, Cuba.

T.70 Comparison of methods for the quantification of albumin in serum and cerebrospinal fluid. V. Pérez-del-Vallín, J.A. Rodríguez-Pérez, A. Mirabal-Viel, C. Mejjides-Mejías, J. Lumpuy-Castillo, W. Castillo-González, A.J. Dorta-Contreras. Laboratorio Central de Líquido Cefalorraquídeo (LABCEL).Universidad de Ciencias Médicas de la Habana, Cuba.

T.71 Neuroimmunological Response Against Mump Virus. W. Castillo-González, J. Lumpuy-Castillo, J.A. Rodríguez-Pérez, V. Pérez-del-Vallín, A. Mirabal-Viel, C. Mejjides-Mejías, A.J. Dorta-Contreras. Laboratorio Central de Líquido Cefalorraquídeo (LABCEL).Universidad de Ciencias Médicas de la Habana, Cuba.

T.72 IgG anti-Toxoplasma gondii antibody index as a measure of the naturally-acquired immune intrathecal response in a neuroepidemiological study. M. Cruz Quevedo, W. Castillo González, A.J. Dorta Contreras. Laboratorio Central de Líquido Cefalorraquídeo (LABCEL).Universidad de Ciencias Médicas de la Habana, Cuba.

T.73 Human Neuroimmune Response Against Angiostrongylus Cantonensis. D. Gómez-Pérez, C. Mejjides-Mejías, A.J. Dorta-Contreras. Laboratorio Central de Líquido Cefalorraquídeo (LABCEL). Universidad de Ciencias Médicas de la Habana, Cuba.

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Wed. 10:00 am—Havana International Conference Center, Grand Foyer (exhibition area).

Presentation time: 11:45 pm–2:45 pm

Neurosciences.....W.01-W.43
Teaching.....W.44-W.68

NEUROSCIENCES

W.01 Cognitive evoked potentials P300 and CNV in patients with Parkinson. **I. Delgado Suárez¹, A. Montoya Pedrón¹, L.A. Chang Arraño²**.¹Hospital "Dr. Juan Bruno Zayas Alfonso", Santiago de Cuba. ²University of Medical Sciences Santiago de Cuba, Cuba.

W.02 Molecular and Epidemiological Characterization of SMN Genes in Cuban Patients with Spinal Muscular Atrophy. **F. Lombillo-Alfonso¹, M. Pita-Rodríguez²**. ¹Departament of Physiological Sciences, Latinoamerican School of Medicine, La Habana. ²Laboratory of Neurogenetics, Institute of Neurology and Neurosurgery, La Habana, Cuba.

W.03 Application of the Hilbert-Huang Method to the development of a platform for quantitative EEG analysis. **M. Estévez-Báez², E. Arrufat-Pié¹, C. Beltrán²**.¹"Victoria de Girón" Institute of Basic and Preclinical Sciences, Havana, Cuba.²Institute of Neurology and Neurosurgery, Havana, Cuba.

W.04 Neurophysiological and clinical characterization in elderly patient with Diabetic neuropathy. **J. Cabrera González¹, O. Barrios Viera¹, E.R. Roche González²**. ¹Hospital General Docente "Leopoldito Martínez", Mayabeque. ²Faculty of Medical Sciences, Mayabeque, Cuba,

W.05 Continuous audiovideo EEG monitoring in the Intensive Care Unit (ICU). Technological protocol based in a Cuban experience. **Z.L. Rojas², S.A. Valero¹, R.V. Rodríguez¹, R.L. Arrechea², I.E. Rodríguez²**. ¹Centro de Neurociencias de Cuba. ²Hospital Clínico Quirúrgico "Hermanos Ameijeiras", Cuba.

W.06 Comparison of the Distribution of Oxytocin Receptors in the Brain of Two Rodents Species That Differ in Their Reproductive and Social Strategy (Peromyscus californicus and Rhabdomys pumilio) **D.E. Olazábal¹, N. Sandberg¹, N. Horrell², W. Saltzman²**. ¹Facultad de Medicina, Montevideo, Uruguay. ²University of California, Riverside, USA.

W.07 UBP714, a Positive Allosteric NMDAR Modulator, Restores Long-term Potentiation in a Model of Fragile X Syndrome. **R. Volianskis^{1,2}, J. Georgiou², G. Fang³, M. Irvine³, D. T. Monaghan⁴, D. Jane³, G.L. Collingridge^{1,2,3}**. ¹Department of Physiology, University of Toronto, Canada. ²Lunenfeld-Tanenbaum Research Institute, Mount Sinai Hospital, Toronto, Canada. ³School of Physiology, Pharmacology and Neuroscience, University of Bristol, UK. ⁴Department of Pharmacology and Experimental Neuroscience, University of Nebraska Medical Center, USA.

W.08 Stress During Puberty Decreases Sexual Motivation and Affects the Correlation Testosterone-Electroencephalographic Activity in Adult Male Rats. **E. Hernández Arteaga¹, M.L. Ramírez Rentería¹, M. Hernández González¹, M.A. Guevara¹, H. Bonilla², M. Arteaga Silva²**. ¹Instituto de Neurociencias, CUCBA, Universidad de Guadalajara, México. ²Departamento de Biología de la Reproducción, Universidad Autónoma Metropolitana-Unidad Iztapalapa, México.

W.09 Effect of sexual behavior on seizures and dopamine levels in male rats. **M.L. Ramírez-Rentería¹, E. Hernández-Arteaga¹, M. Hernández-González¹, M.E. Olvera-Cortés², y M.A. Guevara¹**. ¹Instituto de Neurociencias, Universidad de Guadalajara. ²Centro de Investigación Biomédica de Michoacán, IMSS, México.

W.10 Neuroprotective Effect of Alamandine in an Experimental Model of Stroke. **S.CA. Gonçalves, L.M. Kangussu, L.KS. Ramos, R.AS. Santos, A.R. Massensini, M.J Campagnole-Santos**. Department of Physiology and Biophysics, Biological Sciences Institute, Federal University of Minas Gerais, Belo Horizonte, Brazil.

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W.11 Cerebrolysin Enhances Learning, Memory and the Expression of the Synaptogen-ic Protein LRRTM4 in the Hippocampus of Senescent Rats. **L.A Flores Páez, J. Pacheco Rosado, S.R. Zamudio Hernández.** Laboratorio de Neurociencia Conductual y Laboratorio de Neurofisiología, Departamento de Fisiología "Mauricio Russek", Instituto Politécnico Nacional, ENCB, México.

W.12 Two Populations of Proliferative Cells in the Dentate Gyrus of Adult Brain: Changes at a Hypothyroidism Stage. **A.K. García-Juárez¹, L.D. Colmenero-Rodríguez¹, Y. García-Martínez¹, K.B. Sánchez-Huerta², J. Pacheco-Rosado¹.** ¹Dpto de Fisiología "Mauricio Russek", Instituto Politécnico Nacional, ENCB, México. ²Laboratorio de Neurociencias, Instituto Nacional de Pediatría, México.

W.13 Identification of Precursor Cells in the Hippocampal Hilus of Adult Rat. **Y. García-Martínez¹, K. B. Sánchez-Huerta², J. Pacheco-Rosado¹.** ¹Dpto de Fisiología "Mauricio Russek", Instituto Politécnico Nacional, ENCB, México. ²Laboratorio de Neurociencias, Instituto Nacional de Pediatría, México.

W.14 The impact of prenatal inflammatory priming on the neuron-microglia proteins expression in young offspring brain: immunohistochemical study in neurodevelopmental model of schizophrenia. **A. Basta-Kaim, K. Chamera, E. Trojan, N. Bryniarska, M. Szuster, B. Budziszewska.** Department of Experimental Neuroendocrinology, Institute of Pharmacology, Polish Academy of Sciences, Poland.

W.15 Role of Cingulate Cortex Glucocorticoid Signaling in Alcohol Dependence. **M.A. McGinn¹, A.R. Pahng^{1,2}, K.N. Edwards¹, S. Edwards^{1,2,3}.** ¹Department of Physiology, ²Alcohol and Drug Abuse Center of Excellence, ³Neuroscience Center of Excellence, LSU Health Sciences Center, New Orleans, USA.

W.16 Dam Early Free Access to Hypertonic NaCl Solution Induces a Long-Term Effect on Offspring Basal Chronic Brain Cell Activity. **A. Godino^{1,3}, A. Macagno¹, C. Porcari¹, F. Macchione, X. Caeiro¹, L. Vi-vas^{1,2}.** ¹Instituto de Investigación Médica Mercedes y Martín Ferreyra (INIMEC-CONICET-Universidad Nacional de Córdoba).. ²Facultad de Ciencias Exactas Físicas y Naturales, ³Facultad de Psicología, Universidad Nacional de Córdoba, Córdoba, Argentina.

W.17 A Projection from the Hypothalamic Paraventricular Nucleus to the Nucleus Tractus Solitarius is Essential for Cardiorespiratory Responses to Hypoxia. **E.M. Hasser^{1,2}, B.C. Ruyle¹, D.D. Kline^{1,2}, C.M. Heesch^{1,2}.** ¹Biomed Sci, ²Dalton Cardiovasc Res Ctr, University of Missouri, Columbia, MO, USA.

W.18 Central Neural Pathways Controlling Skeletal Muscle Shivering. **S.F. Morrison, E.P Santos da Conceição.** Department of Neurological Surgery Oregon Health & Science University, Portland, OR, USA.

W.19 Neurohypophysial Secretion Alterations in Sepsis Survivor Animals Challenged with Immune Stimulus. **M.J. Rocha, N.N. Santos-Júnior.** Departamento de Morfologia, Fisiologia e Patologia Básica, Faculdade de Odontologia de Ribeirão Preto (FORP), USP, SP, Brasil.

W.20 Hypoxia-induced Sighs Correlate with High Amplitude Bursts in Splanchnic Sympathetic Nerve Activity (SSNA): Role of Bombesin-Like Peptides in the PreBotzinger Complex. **C.M. Heesch, E.M. Hasser, J. Glenn Phaup.** Dept Biomedical Sciences, Dalton Cardiovascular Research Center, University of Missouri, Columbia, Missouri, USA.

W.21 Manganese-enhanced MRI (MEMRI) imaging reveals elevated sodium intake induced by deoxycorticosterone acetate (DOCA) modulates activity in select brain regions in male SD rats. **L. Hayward, J. Watkins, M. Pompilus, M. Febo.** Department of Physiological Sciences, UF College of Veterinary Medicine and Department of Psychiatry, UF College of Medicine, USA.

W.22 Brain Areas Involved in Self-Body Image Reconstruction. **E. Uribe-Querol, R. Jiménez.** División de Estudios de Posgrado e Investigación, Facultad de Odontología, Universidad Nacional Autónoma de México, México.

W.23 Hypoventilation and autonomic dysfunction in infant rats following orexin receptor blockade. **J.R. Kielhofner, K.J. Cummings.** Department of Biomedical Sciences, College of Veterinary Medicine, University of Missouri, Columbia, MO, USA.

W.24 Hypercaloric Feeding Differentially Affects the Neuron Populations of the Hippocampus. **C. Alva-Sánchez, L. Cruz-Corona, I. Villanueva.** Dpto. Fisiología, Escuela Nacional de Ciencias Biológicas, Instituto Politécnico Nacional, México.

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W.25 Anxiolytic effect of Brosimum Alicastrum and its relationship with c-Fos and synaptophysin expression on Wistar rat hippocampus. **C.R. Vuelvas-Olmos^{1,2}, N.Y. Cortés-Alvarez^{1,2}, H. Parra-Delgado³, A.L. Peraza-Campos³, J. Guzmán-Muñiz², N.A. Moy-López².** ¹School of Medicine, ²School of psychology- Laboratory of Neuroscience and ³School of Chemistry- Laboratory of Natural Products, University of Colima, México.

W.26 A maternal high-fat diet during gestation alters leptin receptor expression in hippocampal astrocytes and impairs spatial learning and memory in Wistar rat pups. **N.Y. Cortés Alvarez¹, C.R. Vuelvas-Olmos², J. Guzmán-Muñiz², N.A. Moy-López².** ¹School of Medicine, ²School of psychology-Laboratory of Neuroscience, University of Colima, México.

W.27 Spaced Learning and the Mechanisms Optimizing Memory Formation. **H. Viola^{1,2}, R. Tintorelli¹, P. Budriesi¹, P. Lopes da Cunha¹, J. Correa¹.** ¹Laboratorio de Memoria, Instituto de Biología Celular y Neurociencia "Prof. E. De Robertis" (IBCN), Facultad de Medicina, UBA-CONICET, Buenos Aires. ²Departamento de Fisiología, Biología Molecular y Celular "Dr. Héctor Maldonado" (FBMC), Facultad de Ciencias Exactas y Naturales, UBA, Buenos Aires, Argentina.

W.28 Intermittent Hypoxia Increases Pro-Inflammatory Cytokines in the Nucleus of The Solitary Tract. **R. Iturriaga, M.P. Oyarce.** Laboratorio de Neurobiología, Pontificia Universidad Católica de Chile Santiago, Chile.

W.29 Circadian Typology and its Sleep - Wake Cycle Temporal Pattern Related in University Students. **A. Machado Rojas¹, Y. Broche Pérez², O. Norman Montenegro², M.E. de la Torre Santos³, D. Tirado Saura¹, C. Machado de la Torre¹.** ¹Universidad de Ciencias Médicas, Villa Clara. ²Universidad Central Marta Abreu de las Villas, Cuba. ³Hospital Materno Mariana Grajales, Cuba.

W.30 Auditory and somatosensory cortical responses in deafblind children with Cochlear Implant. **L.E. Charroó-Ruíz.** Centro de neurociencias de Cuba, La Habana, Cuba.

W.31 Clinic-Electroencephalographic Characterization of Neonatal Seizures. América Arias Hospital 2015-2018. **Y. Exposito Fernández, M. Contreras Cárdenas.** Hospital "America Arias", La Habana, Cuba.

W.32 Sex Differences in QEEG in psychopath offenders. **A. Calzada-Reyes, A. Alvarez-Amador, L. Galán-García, M. Valdés-Sosa.** Cuban Center for Neuroscience, Havana, Cuba.

W.33 Brain electrical activity in apparently healthy young people in a state of hypnosis. **E.M. de la Paz Reyes, E. Salvador Peacock, MSc. I. Cutiño Clavel, C. Brook Lageire, A. Montoya Pedrón, R.J. Laborí de la Paz.** Universidad de Ciencias Médicas. Santiago de Cuba, Cuba.

W.34 Myeloperoxidase Activity, Lipid Profile and Thyroid Function in Patients Who Suffer from Alzheimer's Disease. **R. Marcel Ranzola, Y. Ramos Rodríguez, J. Junco Cuesta, A. Pérez Trufin, J. Cabrera Llano, V. González Ferrer.** University of Medical Sciences, Villa Clara, Cuba.

W.35 Alzheimer's disease, some modifiable risk factors. **S.P. Terrado Quevedo, A. Betancourt Pulsan.** University of Medical Sciences Guantánamo, Cuba.

W.36 Procedure for the quantitative evaluation of cardiac autonomic function at rest. **C. Sánchez Luaces¹, C. Carricarte Naranjo¹, M. Estévez Báez², A. Machdao García¹.** ¹Faculty of Biology, Havana University. ²Institute of Neurology and Neurosurgery, Havana, Cuba.

W.37 The role of the STN in cognitive processes linked to voluntary movements. **M. Alvarez Sánchez, S. Chao González, F. Yañez Nápoles.** Departamento de Fisiología y Anatomía. Instituto de Ciencias Básicas y Preclínicas "Victoria de Girón", Cuba.

W.38 The Clinical Phenotype of Patients with Spinocerebellar Ataxia type 2 is Modified by the ATXN1, ATXN3 and CACNA1A Genes. **L.E. Almaguer Mederos, R. Aguilera Rodríguez, Y. González Zaldívar, D. Cuello Almarales, D. Almaguer Gotay, Y. Vázquez Mojena.** Center for the Investigation and Rehabilitation of Hereditary Ataxias (CIRAH). Holguín, Cuba

W.39 Metabolic Mismatches and the Clinical Phenotype in Spinocerebellar Ataxia Type 2. **D. Almaguer-Gotay, L.E. Almaguer-Mederos, R. Aguilera-Rodríguez, R. Rodríguez-Labrada, D. Cuellos-Almarales, A. Estupiñán-Domínguez, Y. González-Zaldívar, Y. Vázquez-Mojena, Y. Silva-Rodríguez.** Center for the Investigation and Rehabilitation of Hereditary Ataxias (CIRAH). Holguín, Cuba.

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W.40 Assessment of the Gonadotropic Axis Functioning in Patients with Spinocerebellar Ataxia Type 2. **R.I. Aguilera Rodríguez¹, L.E. Almaguer Mederos¹, D. Almaguer Gotay¹, K. Hechevarría Bárzaga², Y. Silva Ricardo³, G. Merlis Rojas³, A. Álvarez Sosa⁴, Y. Chapman Rodríguez⁴.** ¹ Center for the Investigation and Rehabilitation of Hereditary Ataxias (CIRAH). Holguín, Cuba. ²University of Medical Sciences, Holguín, Cuba. ³Clinical Laboratory Dpt. Clinical and Surgical Hospital "Lucía Íñiguez Landín". Holguín, Cuba. ⁴Nuclear Medicine Dpt. General Hospital "V.I. Lenin". Holguín, Cuba.

W.41 Nuclear Anomalies and Genetic Polymorphisms Associated with Spinocerebellar Ataxia Type 2. **D.A. Cuello-Almarales, L.E. Almaguer-Mederos, Y. Vázquez-Mojena, D. Almaguer-Gotay, P.Zayas-Feria, J.M. Laffita Mesa, Y. González-Zaldívar, R. Aguilera-Rodríguez, A. Rodríguez-Estupiñán, L. Velázquez-Pérez.** Center for the Investigation and Rehabilitation of Hereditary Ataxias (CIRAH). Holguín, Cuba.

W.42 Meditation – Mental Health. **L. Alacán Ricardo¹, N. Prendes Rivero², Y. Cuza Ferrer¹, R. Periche Real³, T. Virues³, M.A. Robinson Agramonte⁴, R. Mendoza Quiñones³, N. Hernández Mesa¹.** ¹ICBP V. Girón, Dpto Fisiología, ²Centro Salud Mental San Antonio, ³Centro de Neurociencias de Cuba. ⁴Centro Internacional de Restauración Neurológica, La Habana, Cuba.

W.43 Diabetes and Neurodevelopment disorders. **Y. Pérez Gastell, D. Basanta Fortes.** Departamento de Fisiología. Instituto de Ciencias Básicas y Preclínicas "Victoria de Girón", Cuba.

TEACHING

W.44 The use of dramatization to teach Starling Forces in the microcirculation for first year medical students. **H. Carvalho, B. Connor.** Department of Basic Science Education. Virginia Tech Carilion School of Medicine, USA.

W.45 An Alternative Introduction to Reading and Evaluating the Primary Literature for Beginning Graduate Students. **D.C. Randall¹, B.R. Baldrige².** ¹Department of Physiology, University of Kentucky, Lexington, Kentucky. ²Department of Science and Health, Asbury University, Wilmore, Kentucky. USA.

W.46 Muscle Metaboreflex Activation via Post-Exercise Ischemia as a Tool for Teaching Cardiovascular Physiology for Undergraduate Students. **A. L. Teixeira, M. Samora, L. C. Vianna.** NeuroVASQ – Integrative Physiology Laboratory, Faculty of Physical Education, University of Brasília, Brasília, DF, Brazil.

W.47 Use of Clinical Cases to Teach Endocrine Physiology by means of Peer Instruction and via the Socrative app. **M.J. Alves da Rocha, J. Caetano de Souza.** Departamento de Morfologia, Fisiologia e Patologia Básica, Faculdade de Odontologia de Ribeirão Preto (FORP), USP, Brasil.

W.48 Making a Case for Using Simple, Non-technical Language and Analogies When Using Technology to Teach Physiologic Concepts. **E. Merritt, E. Hobbs.** Department of Kinesiology, Southwestern University, USA.

W.49 Improving Knowledge Retention and Clinical Reasoning Skills in Second-Year Medical Students with Physiology Review Videos. **J.A. Dominguez Rieg.** University of South Florida Morsani College of Medicine, Tampa, FL, USA.

W.50 Significant Experiences in the Physiology Laboratory of the National University of Colombia. **C.J. Ramírez Pastrán.** Universidad Nacional de Colombia, Colombia.

W.51 A Mock Trial for Animal Experimentation in English As A Second Language for Brazilian Medical Students. **E. Flores Soares^{1,2}, R. Bossardi Ramos¹, D. Martins¹, R. Rocha de Oliveira¹, O. Constantin Baltatu^{1,2}, L. Aparecida Campos^{1,2}.** ¹School of Health Sciences and ² Center of Innovation, Technology and Education (CITE) at Anhembi Morumbi University - Laureate International Universities, Brazil.

W.52 Teaching in Physiology: Voices from Physiotherapy. **I.M. Lineros González.** Universidad Nacional de Colombia, Colombia.

W.53 Functional Models in physiology: Learn experience in Bosque University, Colombia. **O. de Jesús Pianeta. W.A. Parra Chico.** Universidad El Bosque, Colombia.

W.54 Entrustable Professional Activities (EPA) in physiology. Curricular reform experience in the Sabana University. **W.A. Parra Chico.** Universidad de la Sabana, Colombia.

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W.55 Narrative Physiology: Experience in the elective course, in Nacional University, Colombia.

W.A. Parra Chico. Universidad Nacional de Colombia, Colombia.

W.56 Teaching and Learning Skills for Scientific Thinking in Physiology, by means of Service - Learning (A + S) Methodology. **L. Véliz, P. Figueroa, M.P. Boric.** Departamento de Fisiología, Facultad de Ciencias Biológicas, Pontificia Universidad Católica de Chile. Santiago, Chile.

W.57 Systemization of an educational experience in medical physiology-based collaborative learning. **C.Y. Rodríguez-Triviño.** Facultad de Ciencias de la Salud, Departamento de Ciencias Fisiológicas, Grupo Navarra Medicina, Fundación Universitaria Navarra, Colombia.

W.58 A Program of Professional Postgraduate Education in Transfusion Medicine for the Specialty of Anesthesiology and Reanimation. **U.R. Torres Romo, N. Fernández Franch, A.T. Menéndez Cabezas, S.E. López Lazo.** Universidad de Ciencias Médicas, Camagüey, Cuba.

W.59 VII Edition of Quincke's Scholarship: Lecture Highlights. **A.A. Padrón-González^{1,2}, J. Lumpuy-Castillo^{1,2}, J.A. Rodríguez-Pérez², V. Pérez-Vallín², A. Mirabal-Viel², C. González-Losada², W. Castillo-González², A.J. Dorta-Contreras².** ¹Instituto de Ciencias Básicas y Preclínicas "Victoria de Girón", Universidad de Ciencias Médicas de La Habana. ²Laboratorio Central de Líquido Ceforraquídeo (LABCEL). Universidad de Ciencias Médicas de la Habana, Cuba.

W.60 A Curriculum for Master of Science in Physiology of Mbarara University of Science and Technology in Uganda. **M. Betancourt Valladares¹, K. Balaam², MSc N. Rosemary², K. J. Mukasa², J.L. Cadenas Freixas¹, G. Domínguez Montero¹.** ¹Universidad de Ciencias Médicas, Camagüey, Cuba. ²Mbarara University of Science and Technology, Mbarara, Uganda.

W.61 Studies of genetic epidemiology about phenotype with complex determination in the context of biomedical basic sciences doctoral program. **M. Herrera-Martínez, D. Fernández-Caraballo, D. Heredia- Ruiz, M.E. de la Torre- Santos, N.Taboada-Lugo, L. Salazar -Torres, L. González-Herrera.** University of Medical Sciences, Villa Clara, Cuba.

W.62 Programme of Studies of the Specialty of Normal and Pathological Physiology. Achievements and Challenges in the Current Context. **Z. Adorna Carmenate.** Departamento de Fisiología, Instituto de Ciencias Básicas y Preclínicas "Victoria de Girón", Cuba.

W.63 Curricular Strategy for Public Health and Environmental Training: The Environmental Dimension in the Basic Sciences of the Medical Studies. **I. Rodríguez Cabrera¹, H. Aguilera¹, A. Vicedo Tomey².** ¹FCM. "Manuel Fajardo", UCM-H, Cuba. ²ICBP "Victoria de Girón", UCM-H, Cuba.

W.64 Environmental Training strategy for a sustainable human development in the medical studies. **I. Rodríguez Cabrera¹, A. Vicedo Tomey², G. Obregón Ballester³.** ¹FCM. "Manuel Fajardo", UCM-H, Cuba. ²ICBP "Victoria de Girón", UCM-H, Cuba. ³Hospital."Gral. Calixto García", Cuba.

W.65 Methodological didactic conception in morphology and physiology to develop cognitive ability. **J.E. Abreu Ugarte, A. Saldaña Bernabeu, O.E. Benavides Socarras, M.A. Cruz García.** University of Medical Sciences of the Revolutionary Army Force, Cuba.

W.66 Correlation between the criterion of the professor and the academic results ends in Molecular Biology. **J.E. Abreu Ugarte, A. Saldaña Bernabeu, O.E. Benavides Socarras, M.A. Cruz García.** University of Medical Sciences of the Revolutionary Army Force, Cuba.

W.67 Impact of pedagogical actions for the intellectual development in students of high medicine academic performance. **A. Saldaña Bernabeu, J.E. Abreu Ugarte, O.E. Benavides Socarras, M.A. Cruz García.** University of Medical Sciences of the Revolutionary Army Force, Cuba.

W.68 Instructional methodological class. An experience in the Physiological Sciences of Guantanamo. Cuba. **A. Betancourt Pulsan, S.P. Terrado Quevedo,** University of Medical Sciences, Guantánamo, Cuba.

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Poster

Thur. 10:00 am—Havana International Conference Center, Grand Foyer (exhibition area)

Presentation time: 11:45 pm–2:45 pm

Renal Physiology.....R.01-R.10
Respiratory Physiology.....R.11-R.22
Women in Physiology.....R.23-R.33
Others.....R.34-R-79

RENAL PHYSIOLOGY

R.01 Neurological and Renal Channelopathies Associated with Kcnj16 Loss-Of-Function Mutation in the Dahl Salt-Sensitive Rats. **A. Staruschenko, A. Manis, T. Pavlov, V. Levchenko, D. Ilatovskaya, M. Hodges, O. Palygin.** Departments of Physiology, Medical College of Wisconsin, Milwaukee, WI, USA.

R.02 Mutation of p66Shc in Rats Causes Increased H₂O₂ Production and Leads to Reduced Number of Glomeruli. **A. Sorokin¹, B. Miller¹, O. Palygin², A. Staruschenko², A. El-Meanawy¹.**¹Department of Medicine and ²Department of Physiology Medical College of Wisconsin, Milwaukee, WI, USA.

R.03 Detection of Extended spectrum B-lactamase producers species of E.coli and K.pneumoniae among patients with Urinary tract infection. **N.M. Ali Mahjoub, W.Z Hassan, W.S. Kwami.** Shendi University, Sudan.

R.04 Prenatal and Postnatal Malnutrition: Relationship with AQP2 and GLUT4 Expression in Male Adult Rats. **V. Velázquez-Orozco¹, R. Pérez-Fuentes², L. Nicolás-Toledo³, E. Cuevas³, F. Castelán⁴, J. Rodríguez-Antolín³.** ¹Universidad Autónoma de Tlaxcala. ²Facultad de Medicina, Benémerita Universidad Autónoma de Puebla. ³Centro Tlaxcala Biología de la Conducta, Universidad Autónoma de Tlaxcala. ⁴Instituto de Investigaciones Biomédicas, Universidad Nacional Autónoma de México, México.

R.05 Effect of Inhibition of the Prorenin Receptor (PrR) on the Production of Cytokines in Cells of the Immune System in a Model of Hypertension by Nephrectomy 5/6. **B.R Vélez Godínez, P. López Sánchez, M.E. Hernández Campos.** Escuela Superior de Medicina, Instituto Politécnico Nacional, México.

R.06 In vivo effects of renal Npt2a inhibition. **T. Rieg, L. Thomas, J. Xue, J.A. Dominguez Rieg.** Molecular Pharmacology and Physiology, University of South Florida, Tampa, FL, USA.

R.07 Shear stress promotes hypoxia-induced autophagia in a human renal proximal tubule cell line (RPTEC-TERT1). **N. Peña¹, J.P. Sánchez¹, A. Lacueva^{1,2}, L. Martínez-Gimeno^{2,3}, P. Torcal^{2,3}, P. Íñigo^{1,2,3,4}, I. Giménez^{1,2,3}.** ¹Universidad de Zaragoza, ²Instituto de Investigación Sanitaria de Aragón, ³Instituto Aragonés de Ciencias de la Salud, ⁴Servicio Nefrología Hospital Clínico Lozano Blesa, Zaragoza, España.

R.08 Ozone Therapy on Rats Submitted to Subtotal Nephrectomy: Role of Antioxidant System and Cytokine 6. **J.L. Calunga Fernández.** Instituto de Ciencias Básicas y Preclínicas "Victoria de Girón", Cuba.

R.09 Sequential Variations of Renal Function Parameters and Oxidative Status after Surgical Ablation of 5/6 of Renal Mass in Wistar Rats. **M. Betancourt Valladares¹, J.L Cadenas Freixas¹, G. Dominguez Montero², M.J. Méndez¹, O. Rodríguez Martín³.** ¹Department of Biomedical Sciences, Faculty of Dentistry, University of Medical Sciences, Camagüey, Cuba. ²Florida Municipality Campus, University of Medical Sciences, Camagüey, Cuba. ³Department of Biostatistics, University of Medical Sciences, Ciego de Ávila Medical, Cuba.

R.10 Proximal sodium reabsorption in rats born with intrauterine growth restricted by placental uterine insufficiency. **J. Lumpuy-Castillo¹, C.R. Maldonado Bernardo¹, I. Espinosa- Santisteban¹, Aydelín Pérez-Ramos¹, Y.Suardia-Fernández², A. Pérez-Mejías¹.** ¹Departamento de Fisiología, Instituto de Ciencias Básicas y Preclínicas (ICBP) "Victoria de Girón", Universidad de Ciencias Médicas de La Habana (UCMH). ²Departamento de Anatomía Patológica, Hospital Clínico Quirúrgico "Hermanos Ameijeiras", La Habana, Cuba.

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RESPIRATORY PHYSIOLOGY

R.11 Transfusion medicine competency and the fundamentals for its implementation in Anesthesiology and Reanimation. **N. Fernández Franch¹, U.R. Torres Romo¹, A.T Menéndez Cabezas¹, S.E. López Lazo², S. Fuentes Díaz², O. Liza Hernández².** ¹Biomedical Sciences Department and ²Clinical Sciences Department. University of Medical Sciences, Camagüey, Cuba.

R.12 Only Low Intensity of Aerobic Exercise Improves Respiratory Compliance in Pulmonary Hypertensive Rats. **K. Rigatto, D. da S. G. BÓS, R.B. Jaenisch, P. Dal Lago.** Programa de Pós-Graduação em Ciências da Saúde, Universidade Federal de Ciências da Saúde de Porto Alegre, Brazil.

R.13 Caudal Brainstem Astrocytes Contribute to the Central Respiratory Chemoreception. **J. Eugenin, M.J. Olivares, S. Beltrán-Castillo, D. Cáceres-Vergara.** Laboratorio de Sistemas Neurales, Facultad de Química y Biología, Universidad de Santiago de Chile, Chile.

R.14 Nanoparticle Fate in Alveolar Epithelial Cells: Uptake, Distribution and Exocytosis. **E. Crandall, A. Sipos, K.J. Kim, Z. Borok, U.P. Flodby.** Will Rogers Institute Pulmonary Research Center and Hastings Center for Pulmonary Research, University of Southern California, Los Angeles, CA, USA.

R.15 Role of the Parafacial Respiratory Group in the Recruitment of Abdominal Activity Across Sleep States. **A. Pisanski (Hernandez-Abad)¹, N. Koch², X. Ding¹, S. Pagliardini^{1,2}.** ¹Department of Physiology. Women and Children's Research Institute (WCHRI) and ²Neuroscience and Mental Health Institute (NMHI)., University of Alberta, Edmonton, AB, Canada.

R.16 Intra-uterine Exposure to Cannabinoid and its effects on the Ventilatory System of Newborn and Juvenile Rat's Life. **L.G.A. Patrone, K.C. Bicego, L.H. Gargaglioni.** Dept of Animal Morphology and Physiology, São Paulo State University, FCAVJ, Sao Paulo, Brazil.

R.17 Exposure to Diazepam During Pregnancy Alters the Breathing Control in Post-Natal Life. **C.A. da Silva Junior¹, V. Biancardi², L.G.A. Patrone¹, L.H. Gargaglioni¹.** ¹Sao Paulo State University, FCAV/UNESP - Jaboticabal, Sp, Brazil. ²University Of Alberta, Edmonton, Canada.

R.18 Respiratory variability modulated by vagal and spinal pulmonary afferents. **A. Huff^{1,2}, M. Reed¹, S. Mian¹, K. Iceman^{1,3}, T. Pitts¹.** ¹Department of Neurological Surgery and Kentucky Spinal Cord Injury Research Center and ²Department of Physiology, College of Medicine, University of Louisville, Louisville, KY, USA. ³Department of Biology, Valparaiso University, Valparaiso, IN, USA.

R.19 Truncated Oxidized Phospholipids as a Factor Exacerbating ALI in the aging lungs. **K. Birukov¹, Y. Ke¹, P. Karki², E. Berdyshev³, A. Birukova².** ¹Department of Anesthesiology and ²Department of Medicine, University of Maryland School of Medicine, Baltimore, Maryland, USA. ³National Jewish Health, Denver, Colorado, USA.

R.20 Role of Microtubule Signalling in Staphylococcus Aureus-Induced Lung Injury. **A. Birukova¹, P. Karki¹, Y. Ke².** ¹Department of Medicine and ²Department of Anesthesiology, University of Maryland School of Medicine, Baltimore, Maryland, USA.

R.21 Mice and Rats Are Not Equivalent Models to Study Hypoxia: Acclimatization Triggers Differences in Metabolic Capacity. **C. Arias-Reyes, K. Losantos, J. Soliz, V. Joseph.** IUCPQ, Université Laval, Québec, Canada.

R.22 Brainstem pre-sympathetic neuron contribute to breathing disorders in heart failure rats. **C. Toledo^{1,2}, D.C. Andrade¹, R. del Rio^{1,2,3}.** ¹Laboratory of Cardiorespiratory Control, ²Centro de Envejecimiento y Regeneración (CARE), P. Universidad Católica de Chile, Santiago, Chile, ³Centro de Excelencia en Biomedicina de Magallanes (CEBIMA), Universidad de Magallanes, Punta Arenas, Chile.

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R.23 Content of Desaturase 6 and Desaturase 5 in the Placenta of Women in the Course of Selected Pregnancy Pathologies. **R. Bobiński, I. Ulman-Włodarz, W. Waksmańska, A. Pielesz.** Department Biochemistry and Molecular Biology, Faculty of Health Sciences, University of Bielsko-Biała, Poland.

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R.24 Influence of the Body Fat on the Menarca and Aerobic Capacity of School Girls between 08 and 15 years. **K. Caikoski Voigt, A. Savaris Ribas.** Faculdade Metropolitana de Blumenau – FAMEBLU, Brazil.

R.25 Molecular Identification of Human Papilloma Virus Genotypes in Patients with Cervical Cancer. **J.C. Piña Napal¹, G. Crespo Campos², R. Fando Calzado³, Y. Valdés Silva⁴.** ¹Universidad de Ciencias Médicas de Camagüey, ²Hospital Ginecobiológico de Camagüey, ³Centro Nacional de Investigaciones Científicas de La Habana, ⁴Universidad de Ciencias Médicas de Holguín, Cuba.

R.26 Chromosomal Studies in Individuals with Infertility. **M.E. de la Torre Santos¹, M. Herrera Martínez², A.E. Algora Hernández¹, G. Noche González¹, A. Machado Rojas², M. Paz García¹, D. Rodríguez Conde¹, E. Reyes Hernández¹, C. Machado de la Torre², D. Gonzalez Benítez².** ¹Hospital Ginecobiológico Mariana Grajales, Cuba. ²Universidad de Ciencias Médicas Villa Clara, Cuba.

R.27 Oxidative Stress Markers in Type 2 Diabetic Women. **E. Céspedes Miranda¹, G. Riverón Forment², C. Alonso Rodríguez³, E. C. Pérez Sanz³, N. Suárez Castillo¹, K. Rodríguez Oropesa⁴.** ¹Faculty of Medicine “Gral. Calixto García”, University of Medical Sciences, Havana, Cuba. ²Genetic National Center. Havana. Cuba. ³“Hermanos Ameijeiras” Hospital, Havana, Cuba. Faculty of Stomatology, University of Medical Sciences, Havana, Cuba.

R.28 Redox State Biomarkers in Pregnant Anemic Women and its Relation to the Birthweight. **E. Cruz Manzano, O. Elías Postigo, M.R. Milanés Ojea, G. Mompié Gómez, L. Sanfiel Vasseur, A. Sarduy Rodríguez.** University of Medical Sciences, Granma, Cuba.

R.29 Oxidative Imbalance and Risk Factors Involved in Premalignant and Malignant Lesions of the Uterine Cervix. **D. Heredia Ruiz¹, M. Herrera Martínez¹, D. Fernández Caraballo¹, L.G. López Ocampo², L.A. Estévez Cobo³, S. Santana Rodríguez³, E. González Rodríguez⁴.** ¹Universidad de Ciencias Médicas, Villa Clara, Cuba. ²Policlínico de Santa Clara “Chiqui Gómez Lubián”, Villa Clara, Cuba. ³Hospital “Celestino Hernández Robau”, Villa Clara, Cuba. ⁴Universidad Central de las Villas “Marta Abreu”, Cuba.

R.30 L1tag Protein Expression of Human Papillomavirus Type 18 in Two Escherichia coli Strains, in Auto-inducing Media. **G. Aldama Paz¹, E. Pimienta Rodríguez², K. Marrero Domínguez², S. Rodríguez Salgueiro², Y. Serrano Rivero², A. Falero Morejón², S. Brito Molina².** ¹Facultad de Ciencias Médicas “Salvador Allende”, UCMH, Cuba. ²Centro Nacional de Investigaciones Científicas, La Habana, Cuba.

R.31 Subclinical Carotid Disease in Elderly Women is Associated with Cardiac Hypertrophy and Ageing. **O. Constantin Baltatu^{1,2}, V.L. Pereira Jr. ^{1,3}, S. Gomes dos Santos³, J. Stefanin Fuzatti³, L. Aparecida Campos^{1,2}.** ¹Center of Innovation, Technology and Education (CITE) and ²School of Health Sciences, Anhembi Morumbi University - Laureate International Universities, Brazil. ³Faculty of Medical Sciences at Brasil University, Fernandópolis, Brazil.

R.32 “Anselma Betancourt Pulsan”. A physiology genuine of Guantanamo. **A.J. Sánchez García, A. García Pérez, F. Sánchez García.** University of Medical Sciences, Guantánamo, Cuba.

R.33 Most relevant apotheosis of women in Physiological Sciences. **J. Salgado Rodríguez, J.A. Reytor Vega.** University of Medical Sciences, Santiago de Cuba, Cuba.

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R.34 Mitochondrial Uncoupling Protein Expression during Postnatal Development in Rat Testis and Spermatogenic Cells. **J.G. Reyes, J. Paillamanque¹, E.M. Carmona¹, J.A. Pino¹, C. Santibañez¹, N. Osses¹, S. Bernales³, F.Gómez³, R.D. Moreno².** ¹Instituto de Química, Pontificia Universidad Católica de Valparaíso, Chile. ²Departamento de Fisiología, Pontificia Universidad Católica de Chile, Chile. ³Fundación Ciencias para la Vida, Chile.

R.35 Sex Differences in Cerebrovascular Resistance Indices During Upright Tilt. **H. Edgell¹, I. Papadhima¹, A. D. Robertson².** ¹School of Kinesiology and Health Sciences, York University, Canada. ²Department of Kinesiology, University of Waterloo, Canada.

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R.36 Bicarbonate Homeodynamics in Human Sertoli Cells – A Role for 17 β -estradiol. **R.L. Bernardino¹, J. Silva², A. Barros^{2,3}, M. Sousa^{1,2}, M.G. Alves¹, P.F. Oliveira^{1,3}**.¹Department of Microscopy, Laboratory of Cell Biology, Institute of Biomedical Sciences Abel Salazar (ICBAS) and Unit for Multidisciplinary Research in Biomedicine (UMIB), University of Porto, Portugal.²Centre for Reproductive Genetics Professor Alberto Barros, Porto, Portugal.³Department of Genetics, Faculty of Medicine, University of Porto, and Institute of Health Research an Innovation, University of Porto, Porto, Portugal.

R.37 Role Of Raphe In The Body Temperature Regulation Of Precocious Birds. **C.C. Silva, W. Cândido Silva, L.H. Gargaglioni, K.C. Bicego**. Department of Animal Morphology and Physiology, Sao Paulo State University (UNESP), Jaboticabal, SP, Brazil.

R.38 Insulin in the Carotid Sinus Increases Suprahepatic and Arterial Glucose Levels **J.L. Cadenas Freixas¹, S.A. Montero Cruz^{2,3}, M. Lemus Vidal², H.R. Tejada Chávez³, E.U. Mejía Chávez³, J.E. Martínez Sánchez³, C.Z. Valle Rubio³, S.A. Montero Villegas³, E.Roces Dorronsoro²**. ¹Universidad de las Ciencias Médicas “Carlos J. Finlay”, Camagüey, Cuba.²CUIB, ³Facultad de Medicina, Universidad de Colima, México.

R.39 Alteration in Glucose Metabolism and Adipose Tissue Induced by Zinc Restriction and High Fat Diet During Growth. **C. Arranz¹, N. Ciancio¹, F.M. Garrido Abregú¹, M. Saravia¹, J. Martínez Tambella¹, V. Zago², C. Caniffi¹, L. Schreier², R. Elesgaray¹, A. Tomat¹**. ¹Cátedra de Fisiología, Facultad de Farmacia y Bioquímica - Universidad de Buenos Aires, IQUIMEFA-CONICET. ²Laboratorio de Lípidos y Lipoproteínas, Facultad de Farmacia y Bioquímica, Universidad de Buenos Aires, Argentina.

R.40 Four days of Fructose Supplementation Affected The Vascular Function of Rats In a Sex-Dependent Manner Without Changing Glucose Metabolism. **C.A. Cruz Pereira¹, G. Brás Broseghini-Filho¹, K. Mesquita Silva¹, A. Peres Guimarães¹, M. Perim Baldo², A. Simão Padilha¹**. ¹Universidade Federal do Espírito Santo, UFES, Brazil. ²Universidade Estadual de Montes Claros, Unimontes, Brazil.

R.41 Aquaglyceroporins Expression and Glycerol Permeability are Modulated by Estradiol in Mouse Sertoli cells. **D.F. Carrageta¹, R.L. Bernardino¹, A. M. Silva¹, M.G. Alves¹, G. Soveral^{2,3}, P.F. Oliveira^{1,4,5}**. ¹Department of Microscopy, Laboratory of Cell Biology, Institute of Biomedical Sciences Abel Salazar (ICBAS) and Unit for Multidisciplinary Research in Biomedicine (UMIB), University of Porto, Porto, Portugal.²Research Institute for Medicines (iMed.Ulisboa) and ³Department of Bioquímica e Biologia Humana, Faculty of Pharmacy, Universidade de Lisboa, Lisboa, Portugal.⁴Department of Genetics, Faculty of Medicine and ⁵Instituto de Investigação e Inovação em Saúde (i3S), University of Porto, Porto, Portugal.

R.42 Thermal and Metabolic Biphasic Response to LPS in Chicks. **K.C. Bicego¹, L. Amaral-Silva¹, A. Steiner², W. Cândido¹, L.H. Gargaglioni¹**. ¹FCAV-UNESP-Jaboticabal, Brazil. ²ICB-USP-São Paulo, Brazil.

R.43 The Effect of Titanium (Ti) and Titanium 500 (Ti 500) Implantation on the Activation of Rat Macrophage Subgroups. **S. Akyol^{1,2}, Y. Oruc¹, B. Ben Nissan²**.¹University of Istanbul, Cerrahpasa Medical Faculty, Department of Physiology, Istanbul, Turkey. ²University of Technology Sydney, Faculty of Science, School of Life Sciences, Sydney, Australia.

R.44 The effect of titanium alloy and stainless steel implants on immunological responses by analysis of NF- κ B/ p65, NF- κ B1/p50 profiles and the Tregs. **S. Akyol^{1,2}, M. Hanci³, B. Ben Nissan²**. ¹University of Istanbul, Cerrahpasa Medical Faculty, Department of Physiology and ³Department of Neurosurgery, Istanbul, Turkey. ²University of Technology Sydney, Faculty of Science, School of Life Sciences, Sydney, Australia.

R.45 ROS-dependent PRR Expression in Immune Cells in a Diabetes Mellitus Rat Model. **A. Velázquez Mata, M.E. Hernández Campos, P. López Sánchez**. SEPI-Escuela Superior de Medicina, Instituto Politécnico Nacional, México.

R.46 Alcohol Intoxication Modifies the Phase and Coupling of Circadian Rhythms. **N. Méndez-Díaz¹, R.E. Núñez-Anita², I. Villanueva¹**. ¹Departamento de Fisiología, Escuela Nacional de Ciencias Biológicas, Instituto Politécnico Nacional, México. ²Facultad de Medicina Veterinaria y Zootecnia, Universidad Michoacana de San Nicolás de Hidalgo, México.

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R.47 The Non-transcriptional Function of IRF3 Dynamically Regulates Immune Cell Populations in Acute on Chronic Ethanol in Mice. **L.E. Nagy, C. Garcia Sanz, K. Poulsen, M.R. McMullen, S. Chattopadhyay, G. Sen.** Department of Inflammation and Immunity, Cleveland Clinic, Cleveland, OH, USA.

R.48 Effects of neonatal CB₁ or CB₂ blockade on biomechanical and histometric parameters at skeletal sexual dimorphism on adulthood rats. **W. Garcez de Mello^{1,2}, N.E. Watanabe Kiill², M.S. Quirino da Silva¹, G. Mitsuy Kayahara³, O. Borghi Nascimento¹, N. Guimarães Marqui¹, M. Macedo Crivelini³, J.C. Bedran de Castro².**¹Centro Universitário Toledo-UNITOLEDO, Araçatuba, Brazil, ²Department of Basic Sciences and ³Department of Pathology and Clinical Propaedeut, School of Dentistry, Univ. Estadual Paulista-UNESP, Araçatuba, Brazil.

R.49 Relation of polymorphisms VEGF (+405G>C) and TNF α (-308A>G) with the embryo implantation in Cubans patient undergoing in vitro fertilization. **F. Sotomayor Lugo, B. Marcheco Teruel, K. Rodríguez Martínez, A. Esperón Álvarez, A. Menocal Alayón, J.A. Almaguer Almaguer, I. López Reyes, R.M Flores Sánchez, Y. Crespo Ferrán, V. Veiga Loyola.** Centro Nacional de Genética Médica, La Habana, Cuba.

R.50 Evaluation of the usefulness of C-reactive protein as a biological marker in neonatal sepsis. **M. Ezcurra Pérez, M. Socarrás Conde, E. Vidor Guerra, J.M. Rodríguez Arias, A. González Morales.** University of Medical Sciences, Camagüey, Cuba.

R.51 Inflammation Modulation with Methanol *Zea Mays* Cob Husk on an Experimental Model in Albino Rats. **G. Dominguez Montero¹, J.T. BPhm Mpewo², M. Betancourt Valladares³, J.L. Cadenas Freixas³.**¹Florida Municipality Campus, University of Medical Sciences, Camagüey, Cuba. ²Mbarara University of Science and Technology, Uganda. ³Department of Biomedical Sciences, Faculty of Dentistry, University of Medical Sciences, Camagüey, Cuba.

R.52 Monoclonal Antibodies which Discriminate Between Native and Oxidized Low Density Lipoproteins. **K.M. Rodríguez Oropesa¹, Y. Bebelagua Cid², A.M. Vázquez.**¹Faculty of Stomatology, ²Center of Molecular Immunology Havana, Cuba.

R.53 Protocol for the Vaginal Direct Cytology of Laboratory Rats. **T. Fernández Romero, G. Suárez Román, S. Clapés Hernández.** Departamento de Bioquímica, Instituto de Ciencias Básicas y Preclínicas "Victoria de Girón", Cuba.

R.54 Protecting Embryonic Development in Diabetic Pregnant Rats. **S. Clapés Hernández¹, C.L. Peres Hernández¹, T. Fernández Romero¹, H. Camacho Rodríguez², G. Pentón Rol², G. Suárez Román¹.**¹Biochemistry department. ICBP (Basic and preclinical science institute) "Victoria de Girón". University of Medical Sciences, Havana, Cuba. ²Center of Genetic Engineering and Biotechnology of Cuba, Cuba.

R.55 Oxidative Stress Indicators in Long-Lived Individuals Belonging to The Municipality of Santa Clara. **D. Fernández Caraballo¹, M. Herrera Martínez¹, D. Heredia Ruiz¹, S. Chaviano Machado¹, E. González Rodríguez².**¹University of Medical Sciences, Villa Clara, Cuba, ²Central University "Marta Abreu" of Las Villas, Cuba.

R.56 Anemia and iron nutritional status and inflammation in preschool children of 3 Cuban regions. **G.M. Pita Rodríguez¹, B. Basabe Tuero¹, K. Alfonso Sagué¹, M. Montero Díaz², S. Jiménez Acosta¹, O. Rodríguez Martínez³, M. de la Paz Luna¹, D. Herrera Javier¹.**¹Instituto Nacional de Higiene, Epidemiología y Microbiología, Cuba. ²Instituto de Cibernética, Matemática y Física, Cuba. ³Programa Unicef, Cuba.

R.57 Traumatic exodontics and prolonged surgical time cause pain and postoperative inflammation. **A.O Pérez Ruiz, O. Delfín Soto, D. Caraballo Bosch.** Instituto de Ciencias Básicas y Preclínicas "Victoria de Girón", Cuba.

R.58 Risk factors in infertile men with high sperm DNA fragmentation index. Mayabeque Province. **D. Quintana Hernández, M. Bello, A. Herrera Luis, L. Fariñas, M. Linares, L. Cotilla, D. Quintana Mora.** Centro Provincial de Genética Médica. Mayabeque, Cuba.

R.59 Molecular mechanisms at the nano-bio interface: applications and biohazards. **J. Antonio Garate.** Centro Interdisciplinario de Neurociencia de Valparaiso, Universidad de Valparaiso, Chile.

R.60 Molecular basis of pH dependence in Proton Hv1 channels. **E. Carmona, M. Hernandez, O. Alvarez, R. Latorre, C. Gonzalez.** Universidad de Valparaiso, Centro Interdisciplinario de Neurociencias, Chile.

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R.61 Activation of c-Src by neddylation blockade enhanced cell migration through Akt signaling pathway. **J.B. Park, G. Lee, S.Y. Park, Y. Chun.** Department of Physiology and Biomedical Science, Seoul National University College of Medicine, Seoul, Republic of Korea.

R.62 Steroid Hormones Likely Mediate Phenotypic Integration Among Sexually-dimorphic Traits During Development. **L. Lofeu, R. Brandt, T. Kohlsdorf.** Department of Biology, FFCLRP. University of São Paulo, SP, Brazil.

R.63 Mechanism of Alcohol Induced Mesenteric Lymphatic Vessel Leakage. **F. Souza-Smith, M. Herrera, L. Simon, P. Molina.** LSUHSC, Department of Physiology, New Orleans, LA, USA.

R.64 CO2 Decreases the Activity of Locus Coeruleus Neurons in the Streptozotocin-Induced model for Alzheimer's Disease. **M.C. Vicente^{1,2}, L.H. Gargaglioni², T.D. Ostrowski¹.** ¹Department of Physiology, Kirksville College of Osteopathic Medicine, A.T. Still University of Health Sciences, Kirksville, MO, USA. ²Department of Animal Morphology and Physiology, Sao Paulo State University-UNESP/FCAV at Jaboticabal, SP, Brazil.

R.65 Naturalistic nutrition orientation from the study programs of basic biomedical sciences. **E. Pérez García, A. García Pérez, F. Sánchez García, A.J. Sánchez García. R.E Fernández Lugo.** University of Medical Sciences, Guantánamo, Cuba.

R.66 Physiopathology of epilepsy: genetics and environment. **G.L. Rodríguez Orive, S.A. Cruz Hechavarría, I. Machado Reyes.** University of Medical Sciences, Las Tunas, Cuba.

R.67 Post-Operatory Image Guided Assessment of Subthalamotomy: Clinical and Neurophysiological Implications. **E. Rodríguez Izquierdo.** "Hermanos Ameijeiras" Clinical-Surgical Hospital, Cuba.

R.68 Index of Antibodies in Neuroimmunoepidemiological studies. **E. Barrios-Lamoth, A.J. Dorta-Contreras.** Laboratorio Central de Líquido Cefalorraquídeo (LABCEL), Universidad de Ciencias Médicas de La Habana, Cuba.

R.69 Effect of monosodium glutamate on the psychoneuroendocrine-immune system in Balb / c mice and their offspring. **A.A. Padrón-González, E. Jiménez-Hernández, O. Pérez.** Instituto de Ciencias Básicas y Preclínicas "Victoria de Girón", Cuba.

R.70 Melatonin and its neuroimmunological actions. **J.R. Blanco-Carmona¹, W. Quintero-Pérez¹, A.A. Padrón-González², M. González-Costa², M. Iglesias del Valle¹.** ¹Hospital Pediátrico "Pepe Portilla", Pinar del Río, Cuba. ²Instituto de Ciencias Básicas y Preclínicas "Victoria de Girón", Cuba.

R.71 Cause-effect relationship in autoimmune diseases and cancer. **M. González-Costa, A.A. Padrón-González.** Instituto de Ciencias Básicas y Preclínicas "Victoria de Girón", Cuba.

R.72 Hormones, feeding, stress and low grade inflammation: its role in the etiology of autoimmune diseases. **A. Rodríguez-Manso, M. González-Costa, A.A. Padrón-González.** Instituto de Ciencias Básicas y Preclínicas "Victoria de Girón", Cuba.

R.73 Evaluation in the Monoamine Concentrations and Microglia Morphology in the Locus Coeruleus of Female Ovariectomized Rats Submitted to Hypercapnia. **D.A. Marques¹, R.N. Soriano², C.C. Crestani³; K.C. Bicego¹; V. Joseph⁴, R. Kinkead⁴, L.H. Gargaglioni¹.** ¹Unesp- Jaboticabal, SP, Brasil; ²UFJF, Governador Valadares, MG, Brasil. ³Unesp-Araraquara, SP. Brasil. ⁴Département De Pédiatrie, Centre De Recherche De L'institut Universitaire De Cardiologie et Pneumologie de Québec, Université Laval, Québec, QC, Canada.

R.74 Prions: your molecular biology. Prionics illnesses in the human and its prevention. **A.E. Vergara Piña.** Instituto de Ciencias Básicas y Preclínicas "Victoria de Girón", Cuba.

R.75 Estimate Cardiovascular Risk in Patients with Schizophrenia. **J.C. Sotolongo López.** Hospital General Docente "Leopoldito Martínez", Mayabeque, Cuba.

R.76 Uric acid, Gammaglutamiltransferase and Cardiovascular diseases in elder Cuban people. Freyre Andrade's Teaching Hospital. 2015-2018. **R. Rodríguez Guzman¹, E.M. Cespedes Miranda¹, G. Bouza Allende², N. Suárez Castillo¹, P. Guzman Diaz¹.** ¹University of Medical Sciences of Havana. Calixto Garcia Faculty. ²University of Havana. Mathematics and Computation Faculty, Cuba.

R.77 Behavior of overweight, obesity and arterial hypertension in infants of the Volodia kinder gardner. **N. Suárez Castillo¹, E.M. Cespedes Miranda¹, K.M. Rodríguez Oropeza².** ¹University of Medical Sciences of Havana. Calixto Garcia Faculty. ²Dentistry University of Havana, Cuba.

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R.78 A Proposal of Exercises to Obese Children in Kinder Garden. N. Suárez Castillo¹, **E.M. Céspedes Miranda 1**, **B.K. Cabrera Hernández**². ¹University of Medical Sciences of Havana. Calixto Garcia Faculty. ²University of Physical Culture and Sports Sciences “Manuel Fajardo”, Cuba.

R.79 Slower Heart Rate Recovery in Women at Onset of Post Exercise Ischemia Following Isometric Exercise. **M. Samora, I. Miranda, L.C. Vianna.** NeuroVASQ – Integrative Physiology Laboratory, Faculty of Physical Education, University of Brasília, Brasília, DF, Brazil.