SUNDAY 17th

11:00 - 17:00 **Registration**

14:00- 16:00 **Lunch**

16:00-17:00 **Opening Ceremony**

Dra. Teresa Hernández Sotomayor
SMB President

Dra. Bertha María Josefina González Pedrajo
SMB Secretary

Organizing Committee:
Dra. Adriana Muhlia
Dr. Manuel Gutiérrez
Dr. Carlos Saldaña

17:00- 18:00 **Cultural Conference**

Nuevas metodologías para la investigación arqueológica, el caso de Michoacán
Dr. José Luis Punzo Díaz
Centro INAH-Michoacán

Chair: Dr. Carlos Saldaña

18:00- 19:00 **Opening Lecture**

Thriving in Oxygen: no two systems are created equal
Dr. Salvador Uribe Carvajal
Instituto de Fisiología Celular, UNAM

Chair: Dra. Adriana Muhlia
Dr. Manuel Gutiérrez

19:00- 20:00 **José Laguna´s Medal Award Ceremony**

Chair: Dr. Diego González
Dr. Georges Dreyfus

MONDAY 18th

7:30 - 9:00 **Breakfast**

9:00- 10:30 **ORAL SESSION I "Mitochondrial Proteins"**

Chair: Adriana Muhlia Almazán
CIAD, A.C.

9:00 - 9:15 A positive cluster of amino acids in the N-terminus of selected mitochondrial proteins is relevant for their co-translational import mediated by αβ2-NAC

María Clara Avendaño Monsalve and Soledad Funes
Departamento de Genética Molecular, Instituto de Fisiología Celular, UNAM

9:15 - 9:30 The jellyfish *Stomolophus meleagris* mitochondrial adaptive response to thermal stress

Cintya Nevárez-López, Arturo Sánchez-Paz, Adriana Muhlia-Almazán. Centro de Investigación en Alimentos y Desarrollo, A.C. (CIAD). Centro de Investigaciones Biológicas del Noroeste, S.C (CIBNOR)

9:30 - 9:45 The Cox1 carboxyl terminal end is essential for efficient mitochondrial function in yeast

Itzel Abil García-Cordero, Ana Paulina Gutiérrez-Alejandre, Yolanda Camacho-Villasana, Xochitl Pérez-Martínez.
Departamento de Genética Molecular, Instituto de Fisiología Celular, UNAM

9:45 - 10:00 The respiratory chain of *Rhodotorula mucilaginosa*

Paulina Castañeda-Tamez, Natalia Chiquete-Félix, Salvador Uribe-Carvajal. Department of Genetics and Molecular Biology, Institute of Cellular Physiology, UNAM

10:00 - 10:15	Revisiting accessory subunits and assembly of mitochondrial complex I from *Yarrowia lipolytica*: a complexome profiling approach Alfredo Cabrera-Orefice, Madhurya Lutikurti, Ulrich Brandt. Radboud Institute for Molecular Life Sciences, Radboudumc. Netherlands
10:15 - 10:30	Rat liver versus *Saccharomyces cerevisiae*: comparison of some effectors on the mitochondrial permeability transition pore Ricardez-García Carolina, Morales-García Lilia and Salvador Uribe-Carvajal. Department of Genetics and Molecular Biology, Institute of Cellular Physiology, UNAM
10:30 - 11:00	**Coffee Break**

11:00 - 12:00 **PLENARY LECTURE I**

"Defining the molecular mechanisms of the mitochondrial permeability transition"
Dr. Paolo Bernardi
Department of Biomedical Sciences, University of Padova, Italy

Chair: Dr. Diego González Halphen
Instituto de Fisiología Celular, UNAM

12:00 - 12:30	**Coffee Break**

12:30 - 14:00 **ORAL SESSION II "ATP-synthase & Cytochrome Oxidase"**

Chair: Dra. Soledad Funes
Instituto de Fisiología Celular, UNAM

12:30 - 12:45	Effect of heavy metals on the ATPase activity of the V2 and V1 F_1F_O-ATP synthase from *Ustilago maydis* Giovanni García-Cruz, Mercedes Esparza-Perusquía, Federico Martínez, Juan Pablo Pardo, Oscar Flores-Herrera. Depto. Bioquímica, Facultad de Medicina, UNAM

12:45 - 13:00	Deletion of the Inh1 subunit increases ATPase activity and reduces the stability of the F1FO-ATP synthase dimer in *Ustilago maydis* Mercedes Esparza-Perusquía, Lucero Romero-Aguilar, Juan Pablo Pardo, Federico Martínez and Oscar Flores-Herrera* Departamento de Bioquímica, Facultad de Medicina, Universidad Nacional Autónoma de México.
13:00 - 13:15	The critical length of the N-terminus of the ζ subunit to inhibit the F1FO ATPase of *Paracoccus denitrificans* Gilberto Garduño Javier, Francisco G. Mendoza Hoffmann, Raquel Ortega, Miguel Ángel Cevallos Gaos, José J. García Trejo. Facultad de Química, UNAM. Center of Genomic Sciences CCG, UNAM
13:15 - 13:30	The cytochrome b carboxyl-terminal end is a central regulator of the bc1 complex biogenesis in *Saccharomyces cerevisiae* Daniel Flores-Mireles, Yolanda Camacho-Villasana, Alfredo Cabrera-Orefice, Madhurya Lutikurti, Ulrich Brandt, Aldo E. García-Guerrero, Guadalupe Lozano-Rosas, Victoria Chagoya, Emma Bertha Gutiérrez-Cirlos, Andreas Carlström, Martin Ott, Xochitl Pérez-Martínez. Departamento de Genética Molecular, Instituto de Fisiología Celular, UNAM
13:30 - 13:45	Are the two small cytochromes of *Bacillus subtilis* cytochrome part of the b6c-caa3 supercomplex? Emma Berta Gutiérrez Cirlos Madrid, Gerardo Ignacio Picón Garrido, Ana Paula García García. Laboratorio de Bioquímica y Bioenergética. FES Iztacala.
13:45- 14:00	Cytochrome c oxidase activity decreases along with the mitochondrial respiratory function in the lesser grain borer, *Rhyzopertha dominica* exposed to hypoxia and hypercapnia Víctor A. Levy-De la Torre, Adriana Muhlia-Almazán, Francisco J. Cinco-Moroyoqui , Alonso A. López-Zavala, Marina Ezquerra-Brauer, Oliviert Martínez-Cruz. Departamento de Investigación y Posgrado en Alimentos. Departamento de Ciencias Químico-Biológicas. Universidad de Sonora. Centro de Investigación en Alimentación y Desarrollo, A.C.

14:00 - 16:00	**Lunch**

16:00 - 17:00	**PLENARY LECTURE II.** Kinetic modeling of central glucose metabolism in cancer cells **Dr. Alvaro Marín Hernández** Instituto Nacional de Cardiología Chair: Dra. Cecilia Zazueta Instituto Nacional de Cardiología
17:00 - 18:15	**ORAL SESSION III "Mitochondrial Pathologies"** Chair: Dra. Emma B. Gutiérrez- Cirlos IFC, UNAM
17:00 - 17:15	IL-4 role in the development of the lupus mouse model induced by non-bilayer phospholipid arrangements Carlos Wong Baeza, Claudia Albany Reséndiz Mora, Christian Irene Nevárez Lechuga, Anahi Sotelo Rodríguez, Giovanna Barrera Aveleida, Isabel Baeza Ramírez. Escuela Nacional de Ciencias Biológicas, IPN.
17:15 - 17:30	Respirasome prevents ROS production during its inactivation by heavy metals Jaime Abraham de Lira Sánchez, Mercedes Esparza Perusquía, Ricardo Jasso Chávez, Juan Pablo Pardo, Federico Martínez, Oscar Flores Herrera. Departamento de Bioquímica, Facultad de Medicina, UNAM.
17:30 - 17:45	Hormetic intervention of metformin and tBHQ in conjunction with exercise improves mitochondrial function in the liver of obese old rats Stefanie Paola López-Cervantes, Rafael Toledo-Pérez, Mercedes Esparza-Perusquía, Mina Konigsberg-Fainstein, Oscar Flores-Herrera. Departamento de Bioquímica, Facultad de Medicina, UNAM. Posgrado en Biología Experimental UAM, Iztapalapa.

17:45 - 18:00	Analysis of mitochondrial function in pancreatic islets and insulin production in two diet-induced obesity (DIO) models Corazón de María Márquez Álvarez, Eduardo Martínez Abundis, Nancy P. Gómez Crisóstomo, Erick N. De la Cruz Hernández. Laboratorio de Investigación en Enfermedades Metabólicas e Infecciosas, División Académica Multidisciplinaria de Comalcalco, Universidad Juárez Autónoma de Tabasco.
18:00- 18:15	Renal tumors in Wistar rats with omega 3 fatty acids supplement: Mitochondrial respiration and fatty acid composition Avendaño Briseño Karla Alejandra, Figueroa García María del Consuelo, Mejía Zepeda Ricardo Universidad Nacional Autónoma de México, Facultad de Estudios Superiores Iztacala.
18:15 - 18:30	**Coffee Break**
18:30 - 19:30	**ORAL SESSION IV "Bioenergetics from Photosynthetic Organisms"** Chair: Dra. Miriam Vázquez Acevedo Instituto de Fisiología Celular, UNAM
18:30 - 18:45	Far-red photoacclimation in Synechococcus PCC 7335 Carlos Gómez-Lojero, Priscila Herrera-Salgado and Lourdes Elizabeth Leyva-Castillo. Departamento de Bioquímica, Cinvestav IPN.
18:45 - 19:00	Unique far-red light harvesting antenna complex involved in state transition in *Euglena gracilis* Héctor Miranda-Astudillo*, Félix Vega de Luna, Arshad Rameez, Charles Counson, Wojciech Nawrocki, Pierre Morsomme, Lukáš Nosek, Hervé Degand, Denis Baurain, Roman Kouřil, Pierre Cardol, UNAM

19:00 - 19:15	Antares I, modular photobioreactor suitable for photosynthesis and bioenergetics research Mónica Rodríguez-Bolaños[1], Pedro Miranda-Reyes[2], Héctor V. Miranda-Astudillo[1]*. [1] Departamento de Biología Molecular y Biotecnología, Instituto de Investigaciones Biomédicas, UNAM. [2] Departamento de Química, IPN, México.
19:15 - 19:30	IL-1β Promotes Glucocorticoid Receptor Stability in the Onset of Glucocorticoid Hypersensitivity in Hepatocytes Leobarda Robles-Martinez, Daipayan Banerjee, & Mariana Nikolova-Karakashian. Department of Physiology, University of Kentucky, College of Medicine.

TUESDAY 19th

BIOPHYSICAL SYMPOSIUM

7:30 - 9:00	**Breakfast**
9:00 - 10:30	**CONFERENCE I** "ATP synthase c-subunit leak channel and mitochondrial permeability transition". **Dr. Elizabeth Jonas** Yale School of Medicine Chair: Dr. Manuel Gutiérrez Facultad de Química, UNAM
10:30- 11:00	**Coffee Break**

11:00- 12:00	**CONFERENCE II** "The modes of action of endogenous activators of TRPV channels" **Dr. Tamara Rosenbaum** Instituto de Fisiología Celular Chair: Dr. Carlos Saldaña Universidad Autónoma de Querétaro
12:00- 12:30	**Coffee Break**
12:30- 14:00	**CONFERENCE III** "The cell as a gel: materials for a conceptual discussion" **Dr. Luis Bagatolli** Instituto de Investigación Médica Mercedes y Martín Ferreyra INIMEC-CONICET-Universidad Nacional de Córdoba, Argentina. Chair: Dr. Carlos Saldaña Universidad Autónoma de Querétaro
14:00 - 16:00	**Lunch**
16:00- 17:00	**ORAL SESSION V "Membrane´s Biophysics"** Chair: Dr. Carlos Saldaña Universidad Autónoma de Querétaro
16:00 - 16:15	High-throughput fluorescent assays for identifying new Kv10.1 channel modulators Jennifer Erzsebet Olvera Martínez, Mirsha Asaret Gómez Herrera, Edgar Milo, Arlet Loza-Huerta, Enoch Luis Instituto de Fisiología Celular, UNAM

16:15 - 16:30	Biphasic effects of BL-1249 on voltage-gated ion channels Israel Armando Estrada Garrido, Oswaldo Valencia Aguilar, Esteban Gutiérrez García, Oliver Cesar Lara-Figueroa, Enoch Luis. Instituto de Fisiología Celular, UNAM
16:30 -16:45	*In silico* study of the target of the toxin Killer (K1) in the potassium channel Tok1 Jimena R. Villarreal, Verónica Morales-Tlalpan, A. González-Gallardo, C, Molina Vera, Roberto Ferriz-Martínez, Carlos Saldaña. Universidad Autónoma de Querétaro. Unidad de Proteogenómica. Instituto de Neurobiología. Campus Juriquilla, UNAM
16:45 -17:00	*In silico* determination of the binding-site affinity of 4-aminopyridine and derivatives upon the Kv ion channels Sofia Rodríguez-Rangel, Marco A. Dorantes-Ramos and Jorge E. Sánchez-Rodríguez. Departamento de Física, CUCEI, Universidad de Guadalajara
17:00 - 18:00	**CONFERENCE IV** "Structural and dynamics of bilayer and its role in transmembrane transport" **Dr. Iván Ortega Blake** Instituto de Ciencias Físicas, UNAM Chair: Dr. Carlos Saldaña Universidad Autónoma de Querétaro
18:00 - 20:00	**SESSION I "My Thesis in a Video"** - Structures - Respiratory Chains, Transport and Biotechnology - ATP Synthases

WEDNESDAY 20th

7:30 - 9:00	**Breakfast**
9:00- 10:45	**ORAL SESSION VI "New Research Models and Cardiovascular Diseases"** Chair: Dr. Oscar Flores Herrera Facultad de Medicina, UNAM
9:00- 9:45	**CONFERENCE** "Unraveling metabolic reprogramming events during Axolotl (*Ambystoma mexicanum*) limb regeneration" **Dr. Luis Alfredo Cruz Ramírez** LANGEBIO
9:45- 10:00	Contractile response in skeletal muscle of a mouse model with heart failure with preserved ejection fraction Cielo Maritza Martínez Martínez, Rocío del Carmen Montoya Pérez, Noemí García Ramírez. Universidad Michoacana de San Nicolás de Hidalgo
10:00- 10:15	Nanoencapsulated resveratrol and ciclosporine A improves cellular viability and calcium retention capacity in a cardiac hypoxia/reoxygenation model Omar Lozano García, Paulina Hernández-Fontes, Christian Silva-Platas, Gerardo de Jesús García Rivas. Escuela Nacional de Medicina, Tecnológico de Monterrey. Centro de Investigación Biomédica, Hospital Zambrano-Hellion, Tecnológico de Monterrey
10:15- 10:30	The cell culture medium with low glucose and an AMPc increase, prevents periportal hepatic dedifferentiation

	Elida Amaya Vicente, Genaro Vazquez Victorio. Laboratorio Nacional de Soluciones Biomiméticas para el diagnóstico y terapia (LaNSBioDyT), Facultad de ciencias UNAM
10:30- 10:45	The effect of cholesterol or ergosterol on the structure and dynamics of membrane domains Arturo Galván-Hernández* and Iván Ortega-Blake. Instituto de Ciencias Físicas, Universidad Nacional Autónoma de México. Av. Universidad s/n, Col. Chamilpa, Cuernavaca, Morelos, 62210, México.
10:45 - 11:00	**Coffee Break**
11:00- 12:00	**PLENARY LECTURE III.** "Pharmacology of mitochondria and their social habits in health and disease" **Dr. Michelangelo Campanella** University of London Chair: Dra. Adriana Muhlia CIAD, A.C.
12:00- 12:30	**Coffee Break**
12:30- 14:00	**ORAL SESSION VII "Biomembranes"** Chair: Dra. Sobeida Sánchez Nieto Facultad de Química, UNAM
12:30 - 12:45	Rapamycin induces morphological and physiological changes without increase in lipid content in *Ustilago maydis* Lucero Romero Aguilar, Juan Pablo Pardo Vázquez and Guadalupe Guerra Sánchez Facultad de Medicina, UNAM

12:45- 13:00	Coupling between ordered and disordered phases in asymmetric lipid bilayers studied by AFM-Force spectroscopy Romina F. Vázquez, Erasmo Ovalle-García, Armando Antillón, Laura S. Bakás, Iván Ortega-Blake, Carlos Muñoz-Garay and Sabina M. Maté. Universidad Nacional de La Plata (UNLP), Argentina. Instituto de Ciencias Físicas, UNAM. Centro de Investigación en Proteínas Vegetales, UNLP, Argentina
13:00 - 13:15	Design and biophysical characterization of 3 chimeric membranolytic antimicrobial peptides Adriana Morales-Martínez, Brandt Bertrand, Jesus Silva-Sánchez, Carlos Muñoz-Garay. Instituto de Ciencias Físicas, UNAM. Centro de Investigación sobre Enfermedades Infecciosas, Instituto Nacional de Salud Pública. México
13:15 - 13:30	Physicochemical properties that determine membrane activity and selectivity of the antimicrobial peptide ascaphin-8 Brandt Bertrand, Adriana Morales-Martínez, Jesus Silva-Sanchez, Carlos Muñoz-Garay. Instituto de Ciencias Físicas, UNAM. Centro de Investigación sobre Enfermedades Infecciosas, Instituto Nacional de Salud Pública. México
13:30- 13:45	Differential distribution of sphingolipids in the plant plasma membrane regions: Possible roles of glicosilinositolphosphoceramides Laura Carmona-Salazar, Rebecca E. Cahoon, Jaime Gasca-Pineda, Ariadna González-Solís, Edgar B. Cahoon and Marina Gavilanes-Ruíz. Depto. de Bioquímica, Facultad de Química, UNAM. Center for Plant Science Innovation & Department of Biochemistry, University of Nebraska-Lincoln, USA. UBIPRO, Facultad de Estudios Superiores Iztacala, UNAM
13:45- 14:00	Molecular dynamic insights of the interaction of ascaphin-8 and 3 variants in two different compositions of lipid model membranes. Adriana Morales-Martínez, Juan Manuel Hernández Meza, Ramón Garduño Juárez, Brandt Bertrand, Carlos Muñoz-

	Garay. Instituto de Ciencias Físicas, Universidad Nacional Autónoma de México (ICF-UNAM).
14:00 - 16:00	**Lunch**
16:00 - 17:00	**PLENARY LECTURE IV** "Pharmacology of mitochondria and their social habits in health and disease" **Dr. Elizabeth Murphy** NHLBI, National Institute of Health, USA Chair: Dr. Gerardo García Rivas Tecnológico de Monterrey
17:00 - 19:00	**SESSION II "My Thesis in a Video"** -Biomembranes and Biophysics - Oxidative Stress - Chronic Diseases
19:00 -	**GALA NIGHT**

THURSDAY 21th

7:30 - 9:00	**Breakfast**
9:00 - 10:30	**PLENARY LECTURE V** "Pharmacology of mitochondria and their social habits in health and disease" **Dr. Roberto Carlos Muñoz Garay** Instituto de Ciencias Físicas, UNAM Chair: Dra. Adriana Muhlia CIAD, A.C.

10:30 - 11:00	**Coffee Break**
11:00 - 12:00	***In Memoriam*** Dr. Helidoro Celis Sandoval Dr. Georges Dreyfus Dr. Diego González Halphen
12:00 - 12:30	**Coffee Break**
12:30 - 14:00	Armando Gómez Puyou Awards & Oral Session Contest **Meeting Closure Ceremony**