

Sunday August 23 rd	
12:15-14:30	Poster Session 1
S1. Structure and function of respiratory chain proteins	
P2.	Serhat Dönmez: High Resolution structure of <i>P. denitrificans</i> complex I in detergent micelle
P4.	Mariia Melnik: Diversity and in situ organization of algal mitochondrial respiratory supercomplexes
P6.	John Wright: Protonation-linked conformational gating coordinates vectorial proton transfer in respiratory complex I
P8.	Ines Zouhair: In situ characterisation of the effect of SCAF1 on mitochondrial respiratory supercomplexes, mitochondrial network and morphology in human embryonic kidney cells
P10.	Ketul Saharan: Deciphering the Deactive to Active transition in bovine Complex I
P12.	Nick Hiatt: Analysing Respiratory Chain Complexes from <i>Corynebacterium glutamicum</i>
P14.	Johan Glerup: Time-resolved studies of nitric oxide turnover in cytochrome c oxidase
P16.	Oleksii Zdorevskyi: Role of dynamic lipid-protein scaffold in quinone transport by respiratory chain coupling
S2. Bioenergetic complexes & supercomplexes	
P18.	Andy Giovel Dominguez Rodriguez: Mammalian respiratory supercomplexes: Uncovering their role in mitochondrial Bioenergetics
P20.	Alba Cantalejo: Role of COX6A1 in the structural and functional organization of the mitochondrial respiratory chain
P22.	Paulina Borkowska: Structure-function studies of the respiratory supercomplexes of the thermoacidophilic archaeon, <i>Sulfolobus acidocaldarius</i>
P24.	Américo G. Duarte: Structural and Functional Insights into QrcABCD Mechanism for Energy Conservation
S3. Redox enzymes, electron transfer, electron bifurcation	
P26.	Geovana Garcia: Mitochondrial–cytosolic redox crosstalk via the alternative oxidase and lactate dehydrogenase: growth coordination in <i>Drosophila</i>
P28.	Takahiro Masuya: Native state structure determination of respiratory supercomplexes in mammalian mitochondrial inner membrane
P30.	Alessia Nisco: FADS2–LSD1 interaction: structural determinants and potential role in Alzheimer's disease
P32.	Emmanuella Serwaa: Deciphering the photosynthetic pathway of <i>Halorhodospira halophila</i>
P34.	Ping Xiao: Traceless cofactor regeneration from formate for CYP450 enzyme cascades
P36.	Maxim Janzen: Why Ferredoxins and HiPIPs Favor Different Redox Transitions in [4Fe–4S] Clusters: An Electrostatic Analysis
P38.	Corinne Pellon: The priority of the external NADH dehydrogenase for electron transfer in the respiratory chain of <i>Saccharomyces cerevisiae</i> is substrate and electron flux dependent
P40.	María González-Viegas: Contrasting binding pockets of the two flavins of Bifurcating Electron Transferring Flavoprotein observed through FTIR spectroelectrochemistry
P42.	Guillermo Climent Gargallo: Disentangling the biotic flow of electrons in the continental subsurface
S4. Terminal oxidases	
P44.	Subha Suvetha Kathalingam: Deciphering the critical mechanistic and regulative elements of <i>Mycobacterium abscessus</i> cytochrome <i>bd</i> oxidase
P46.	Muhammad Tahir Hafeez: Spectroscopic Investigation of the O ₂ Reduction Intermediates by Cytochrome <i>c</i> Oxidase from <i>Paracoccus denitrificans</i>
P48.	Jonatan Johannesson: Electron distribution in the one-electron reduced E-state of bovine cytochrome <i>c</i> oxidase
S19-S20. Others and Late posters	
P206.	Callum Eke: Beyond the c-state: are dynamic state changes required for UCP1 proton leak?
P208.	Marcin Sarewicz: Spin-Dependent Electronic Reconfiguration and the Stability of the Semiquinone Intermediate at the Qo site of Cytochrome <i>bc</i> ₁

P210.	William Carter: Nanopore direct RNA sequencing reveals an essential role for polyadenylation of mitochondrial transcripts
P212.	Lars Hederstedt: <i>Enterococcus faecalis</i> extracellular electron transport
P214.	Joe Carroll: Investigating metabolic changes in a citrin-deficient cell model
17:30-19:00	Poster Session 2
S1. Structure and function of respiratory chain proteins	
P1.	Moe Ishikawa-Fukuda: The Na ⁺ -pumping mechanism driven by redox reactions in the NADH-quinone oxidoreductase from <i>Vibrio cholerae</i> relies on dynamic conformational chang
P3.	Kaitlyn Kiernan: Capturing the respiratory chain in action with time-resolved cryo-EM
P5.	Daniel Grba: Interdomain bridges and their roles in complex I regulation and catalysis
P7.	Raquel M Bernardino: Mechanistic insights into the DsrMKJOP complex, a central respiratory complex in dissimilatory sulfite reduction
P9.	Catarina Oliveira: Redox-driven proton-pumping in respiratory alternative complex III, ACIII, from <i>Rhodothermus marinus</i>
P11.	Finja König: The structure and function of dimeric cytochrome <i>c</i> dependent Nitric Oxide Reductase from <i>Paracoccus denitrificans</i>
P13.	Terezia Kovalova: Integrative mechanistic explorations of the Qo active site of the mycobacterial III ₂ IV ₂ supercomplex
P15.	Ivan Lopez Montero: Rotatory activity of ATP Synthase tunes membrane elasticity through lateral packing modulation: evidence and implications
S2. Bioenergetic complexes & supercomplexes	
P17.	Emilia Xin Yi Tan: Investigating <i>Mycobacterium abscessus</i> cytochrome <i>bcc:aa</i> ₃ oxidase QcrB subunit reveals key insights that paves the way to the development of new targeting agents
P19.	Mengchen Wu: Structures of <i>Tetrahymena thermophila</i> mitochondrial megacomplex integrating the entire respiratory chain
P21.	Monalisa Sarkar: I ₁ III ₂ supercomplex formation on deletion of a complex IV assembly factor COA1
P23.	Mayla Gabriela Zanchetta Venancio: Probing the supramolecular architecture of the <i>Drosophila</i> respiratory supercomplexes
P25.	Paula San Román Ruiz: NDUFB7 Dysfunction: Impact on Respirasome Assembly and Mitochondrial Bioenergetics
S3. Redox enzymes, electron transfer, electron bifurcation	
P27.	Dennis Kosian: Reverse redox loop-driven coupling of fatty acid β-oxidation to CO ₂ reduction during syntrophic methane production
P29.	Yannick Bärtschi: Forward or Reverse? Superoxide Oxidase as a Versatile Player in Bacterial Electron Transport
P31.	Marianne Guiral: A putative Nfn soluble transhydrogenase in the bacterial chemolithoautotroph <i>Aquifex aeolicus</i>
P33.	Frauke Baymann: Electron bifurcation – a tale of interdependent proton and electron transfer reactions
P35.	Pau Gorostiza: Superoxide- and Proton-Coupled Electron Transport Between Redox Proteins of the Respiratory and Photosynthetic Chains
P37.	Abbas Abou-Hamdan: CybB and its paralogs contribute to compensation of redox backpressure in <i>E. coli</i>
P39.	Jonathan Lasham: Multiscale Computational Insights into Long-Range Electron Transfer in Hydrogen-dependent CO ₂ Reductase
P41.	Patrycja Kielb: Systematic disruption of Tyr/Trp pathways amplifies the ROS formation 25-fold in multicopper oxidase: theoretical predictions of ET pathways and RRDE electrochemical studies
S4. Terminal oxidases	
P43.	Daniela Barreiro: High Resolution Structures of Cytochrome <i>c</i> Oxidase Catalytic Intermediates
P45.	Lucia Heger: <i>Escherichia coli</i> cytochrome <i>bd</i> -II displays significant quinol peroxidase activity

P47.	Parul Singh: Mechanistic and Functional characterization of Cytochrome <i>bd</i> Oxidases in <i>Mycobacterium smegmatis</i>
P49.	Mary De La Sayette: Cytochrome <i>bd</i> oxidase from <i>Solidesulfobivbrio fructosivorans</i> and why its cooler than <i>E. coli</i> 's
P51.	Ye Gao: Confirmation and functional characterization of Ni-NTA binding motif in cytochrome <i>bo</i> ₃ quinol oxidase from <i>Escherichia coli</i>
S19-S20. Others and Late posters	
P205.	Haripriya Santosh: Uncovering a VDAC1-Associated Mitochondrial Vulnerability in Pediatric B-Cell Acute Lymphoblastic Leukemia
P207.	Sebastian Herdan: The evolution of a Na ⁺ -sensitive <i>Vibrio cholerae</i> mutant unmasks the moonlighting aminopeptidase PepA as a regulator of nhaB Na ⁺ /H ⁺ antiporter gene expression
P209.	Anna Wójcik-Augustyn: The EMET (Emergent Electron Transfer) Mechanism of Electron Bifurcation in cytochrome <i>bc</i> ₁ : A Combined Spectroscopic and Theoretical Study
P211.	Marcos Ostolga: Does the δ Subunit of Polytomella parva ATP Synthase Controls its Hydrolytic Activity?
P213.	Salvatore Antonio Maria Cubisino: VDAC1 as a target of Amyloid-β Oligomers: linking channel dysfunction to mitochondrial bioenergetics in Alzheimer's disease
Monday August 24 th	
13:00-14:30	Poster Session 3
S5. Complex I and related systems	
P52.	Taolin Yuan: Inhibition of mitochondrial transcription activates fatty acid oxidation via transcript-level sensing prior to decrease of OXPHOS capacity
P53.	Amiel Abettan: Proton exit routes in complex I explored with MD simulations and free energy calculations
P54.	Jobst Liebau: Conformational dynamics in the terminal Complex I membrane subunit Nqo12
P55.	Hanna Pryputniewicz: Cryo-EM structure of a novel type of complex I homologue (NDH) from <i>Sulfolobus acidocaldarius</i>
P56.	Robert Waddell: Investigations into proton transfer pathways in respiratory complex I from <i>Paracoccus denitrificans</i> by mutagenesis
P57.	Masatoshi Murai: Structural elucidation of the mechanism for inhibitor resistance in the Na ⁺ -translocating NADHubiquinone oxidoreductase from <i>Vibrio cholerae</i>
P58.	Jasmine Aaltonen: Dynamics and energetics of a tyrosine gate in respiratory complex I
P59.	Valentin Datcu: Zn ²⁺ disrupts proton-translocation pathways in respiratory complex I
P60.	Neele Manik: Structural basis of complex I biogenesis
P61.	Janet Vonck: Cryo-EM structure of a complex I assembly intermediate reveals the function of assembly factors
P62.	Maximilian Weiß: Hydration of proton pathways in <i>E. coli</i> complex I hampers energy conversion
P63.	Thilo Seifermann: Mutation of highly conserved residues in MrpA-like subunit NuoL of <i>E. coli</i> respiratory complex I
P64.	Lars Vollmer: Redox chemistry of the FMN-cofactor in respiratory complex I
P65.	Jonas Hentschel: Deprotonation of a conserved histidine residue enables energy conversion in respiratory complex I
P66.	Sofia Bilancioni: Characterization of the Antiporter-Like Subunit Nqo14 of Respiratory Complex I
P67.	Eric Mattiuz: Characterizing redox-driven proton pumping of the bacterial Complex I in mini-respiratory chains
P68.	Mariona Martínez Salvador: Investigation of a kinetic gate controlling the proton-coupled electron transfer in Complex I
P69.	Pauline van Beers: Mechanistic Insights into Conformational Switching Network of Complex I
P70.	Ido Dan: Electron transfer energetics in yeast respiratory complex I

P71.	Aleksandra Kulikova: Reconstitution of mammalian complex I into proteoliposomes for structural and functional studies in a native-like membrane environment
P72.	Stefan Täuber: Toward Highly Efficient Artificial Respiratory Chains: Integrating Tunable Membranes and Complex I
P74.	Bozhidar Ivanov: Paracoccus denitrificans complex I: A complete and fully integrated model platform for respiratory complex I
P75.	Ana P. Gamiz-Hernandez: Molecular Principles Underlying Quinone Binding and Proton-Coupled Electron Transfer in Complex I
P76.	Patricia Saura: Disease mutation perturbs long-range charge transfer reactions in the respiratory Complex I
P77.	Anuj Kumar: An ancient carbon monoxide–driven respiratory system composed of a CODH nanowire and a basal complex-I
P78.	Christian Buratto: Beyond assembly: ACAD9 stabilizes a novel extended conformation of mitochondrial complex I
P79.	Sofia Badolato: Biophysical characterization of engineered modules of respiratory Complex I
P80.	Niklas Leif Hoja: From Simulations to Experiments: Relating Redox Chemistry to Proton Transfer in Complex I
P81.	Adel Beghiah: Integrative investigations of the quinone-triggered proton translocation mechanism of <i>E. coli</i> Complex I
S6. ATP synthase and ATPases	
P82.	Salvatore Nesci: Modulation of F _o F ₁ -ATPase kinetics and mitochondrial respiration by the redox-active antioxidants Nacetylcysteine and sodium ascorbate
P83.	Ken Yokoyama: Structural analysis of ATP synthase embedded in lipid bilayer vesicles
P84.	Greta Bussmann: pH determination at mitochondrial ATP synthase subunit e via local pH sensors
P85.	Tuck Choy Fong: The Mycobacterium abscessus F-ATP synthase and its druggability
P86.	Federica Boscolo Nata: The C-terminus of subunit e is essential to switch the ATP synthase into the mitochondrial permeability transition pore
P87.	Katarzyna Lorencik: Cryo-EM structure of the chloroplast ATP synthase from <i>Chlamydomonas reinhardtii</i>
P88.	Othman Abu Shelbayeh: Rewiring of Mitochondrial ATP Synthesis Upon Synaptic Stimulation
P89.	Marie-Therees Borowski: Small Subunit, Big Impact: DAPIT's Role in ATP Synthase
P90.	Monika Singh: Functional analysis of novel wing domain subunits in the <i>Toxoplasma gondii</i> ATP synthase complex
P91.	Jun-ichi Kishikawa: The structural insights for the rotary mechanism of prokaryotic ATP synthase driven by proton motive force
P92.	Nico Marx: Running in Reverse: Does ATP Synthase lose its Oligomeric Organization?
P93.	Sarah Christina Rossmann: Electric field effects drive protonation dynamics and c-ring rotation of ATP synthase
P94.	Hannah Takahashi: Cryo-EM structure of the <i>Rhodobacter sphaeroides</i> ATP synthase
P95.	Petr Jezek: ATP-synthase subunits e,g do not shape rims of narrow cristae but determine cristae inflation and MICOS-SAM connections in INS-1E cells
P96.	Louis Betz: Mitochondrial Resilience Mechanisms Across Species: Structure-Function Studies of <i>Drosophila melanogaster</i> ATP Synthase
P97.	Jelena Misic: Uncovering the link between ATP synthase and the TCA cycle by crosslinking mass spectrometry
P98.	Stuti Sharma: Structural studies of the human V-ATPase containing the a2-isoform
P99.	Sunil Nath: Analysis of Kinetic Experiments Suggest a Localized Model of Energy Coupling in ATP Synthase
P100.	Rebecca Oot: V-ATPase Regulation by TLDc proteins: from Yeast to Neurodegenerative Disease
S11. Bioenergetics of pathogens and parasites	
P135.	Patrícia Pires: Comparative Analysis of Quinone-Reducing Enzymes from <i>Staphylococcus aureus</i> and <i>Pseudomonas aeruginosa</i>

P136.	Alena Zíková: ATP synthase architecture controls cristae formation and bioenergetic remodeling in <i>T. brucei</i>
S19-S20. Others and Late posters	
P215.	Nadja Bircher: Electron transfer in <i>Streptococcus pneumoniae</i> NADPH Oxidase (SpNOX)
P216.	Jiao Li: High-resolution in situ structures of plant photosystem supercomplexes
P217.	Putu Yustiantara: Glutamine Transport Regulates Lysine Catabolism and mTOR Signaling in Cancer Cells
P218.	Kunwar Jung K C: Targeting Parkinson-linked complex I deficiency: A small molecule compound enhances mitochondrial respiratory chain function in SH-SY5Y cells
P219.	Kirstin Gutekunst: Photosynthetic hydrogen production in cyanobacteria
P220.	Yunlong Qiu: Characterization of GLUT8 as a Key Lysosomal Hexose Transporter
P221.	Hang Li: Membrane curvature modulates voltage-sensing domain coupling in the perm-specific Na ⁺ /H ⁺ exchanger SLC9C1
P222.	Alexei Stuchebrukhov: Complex I: An Electrostatic Coulomb Pump Model Similar to Cytochrome <i>c</i> Oxidase
Tuesday August 25 th	
13:00-14:30	Poster Session 4
S7-S8 Photosynthetic energy conversion and Light-driven ion pumps / systems	
P102.	Hao Jiang : QM/MM refinement of cryo-EM structural data reveal protonation states of bioenergetics protein complexes
P104.	Sofie van Dorst: Local Thylakoid Unstacking Underlies State Transitions
P106.	Yat Kei Lo: Structural Basis of Redox-Coupled CO ₂ hydration by the Cyanobacterial NDH-1MS' complex
S9. Transporters and channels	
P108.	Yevheniia Kravenska: ATP-dependent potassium channel of the native mitochondrial inner membrane: electrophysiological and pharmacological characterization
P110.	Jianhui Li: Structure and mechanism of substrate discrimination of the human mitochondrial citrate carrier SLC25A1
P112.	François Gellé: A novel mechanism of regulation of UCP1-mediated respiratory uncoupling
P114.	Celso P. B. Sousa-Filho: Kinetics of UCP1 Inhibition: Guanine vs. Adenine Nucleotides in Functional Brown-Fat Mitochondria
P116.	Titus Mashilo: Characterisation of proposed pathogenic mutations in SLC25A20 associated with carnitineacylcarnitine translocase deficiency
P118.	Cesare Indiveri: The SLC7A10 amino acid transporter: new molecular insights into trafficking to plasma membrane and regulation by cholesterol
P120.	Anahit Shirvanyan: Oxygen-dependent regulation of ion fluxes and intracellular pH in <i>Saccharomyces cerevisiae</i> exposed to acetic acid
P122.	Jan Nedergaard: Human and mouse UCP1: bioenergetic similarities and discrepancies
P124.	Himanshu Khandelia: Measurement of basal proton leak through Uncoupling Protein 1
S10. Prokaryotic bioenergetics, microbial drug targets	
P126.	Anush Babayan: Role of FocA and FocB formate channels in proton flux of <i>Escherichia coli</i> during mixed-carbon fermentation at pH 5.5
P128.	Lilit Grigoryan: Interplay Between FocA-Mediated Formate Transport and FoF ₁ -ATPase in Regulating Proton Flux in <i>Escherichia coli</i>
P130.	Liana Vanyan: Anion and cation fluxes in Escherichia coli during glucose fermentation and implications for bioenergetic coupling
P132.	Heghine Gevorgyan: The role of Gad acid resistance system in the proton/potassium fluxes in <i>Escherichia coli</i> during fermentation
P134.	Manon L. Schlikker: Hydrothermal origin of metabolic phosphorylation

S12. Protein assembly and function, organelle dynamics

P138. Jorge Jimenez-Niebla: Insights into the assembly of yeast mitochondrial respiratory complex III

P140. Murilo Othonicar: Reshaping mitochondria: AOX drives cristae ultrastructural remodeling in *Drosophila melanogaster*

P142. Andrea Dlasková: ATPIF1 preserves mitochondrial ultrastructure and β -cell integrity under stress conditions

S13. Early bioenergetics / Origin of Life/ Evolution of bioenergetic enzymes

P144. Nadja K. Hoffmann: Intermediate stages in the origin of metabolism at a phosphorylating hydrothermal vent

P146. Emma Bouvet: Investigating the diversity and origins of ubiquinone biosynthesis across eukaryotes

P148. Sophie Abby: Dynamic evolution of quinone pathways and quinone repertoires in Bacteria

P150. Malte Marquardt: Decreased proton cost for mitochondrial ATP production emerged in early metazoans

P152. Sofia Appelgren: Using structural phylogenetics to map and root the evolutionary history of respiration

S14. Mitochondrial physiology

P154. Malgorzata-Tokarska Schlattner: Mitochondrial NME4 deletion rewires kinase signaling and identifies FLT1/VEGFR1 as a link between mitochondrial dysfunction and cancer progression

P156. Michal Kněžů: Role of NDUFA4 and its isoforms in regulation of cytochrome c oxidase

P158. Natasa Petrovic: No UCP1 in the kidney

P160. Joao Vicente: Flavin cofactor supplementation rescues the activity and thermal stability of the most common pathogenic variant of medium-chain acyl-CoA dehydrogenase

P162. Nada Ahmed Selim: Protonmotive force drives circuit-like signaling networks between mitochondria under metabolic stress

17:30-19:00 Poster Session 5

S7-S8 Photosynthetic energy conversion and Light-driven ion pumps / systems

P101. Eve Giovannetti: Elucidation of a Mechanism for Photosynthetic CO₂ Capture in *Synechococcus elongatus*

P103. Edwin Ortega Arzola: Cyanobacteria bioenergetics

P105. Celina Wittenzellner: Time-Resolved Infrared Investigation of the Chloride-Ion Pump NmHR Influenced by Solvent Salt and Detergent Concentration

S9. Transporters and channels

P107. Keqing Liu: Functional Characterization of GFY Proteins in Acetate Metabolism in *Chlamydomonas reinhardtii*

P109. Anna Ceesay: Using Cryo-EM to Reveal How Calcium Controls the Mitochondrial ATP-Mg/Phosphate Carrier

P111. Erik Endres: Dynamical Insights on the Ion-capturing Function of the S-layer Protein

P113. Lukas Kmetsch: Structural and functional analyses of plasma membrane sodium-proton transporters

P115. Jiayue Su: Mechanism and Structure of human Mitochondrial Phosphate Carrier (SLC25A3)

P117. Corinna Strothenke: Structural Changes during Turnover of the Human Mitochondrial Transporter ABCB10 Revealed by FTIR Difference Spectroscopy

P119. Michele Galluccio: Bacterial production of human SLC transporters in a soluble functional state by chaperone coexpression

P121. Magnus Monné: Analyses of gene structure and protein sequences shed light on the evolution of the mitochondrial carrier family

P123. Ziyu Zhao: Structural Insights into the Twin-Arginine Translocase (Tat) Receptor and Its Substrate Recognition Mechanism

S10. Prokaryotic bioenergetics, microbial drug targets

P125. Myriam Brugna: Hnd, an electron-bifurcating hydrogenase, is involved in bacterial motility in *Solidesulfobivrio fructosivorans*

P127. Arkadiusz Borek: Structural and Functional Characterization of MdaB from *Helicobacter pylori*

P129. Karen Trchounian: Glucose availability and CRP regulation shape redox balance and proton flux in fermenting *Escherichia coli*

P131. Anna Poladyan: Regulation of growth and O₂-tolerant [NiFe]-hydrogenase activity by the proton motive force and F_oF₁-ATP synthase in *Cupriavidus necator* H16

P133. Fabien Pierrel: Biochemistry and physiology of ubiquinone biosynthesis under anaerobic conditions

S12. Protein assembly and function, organelle dynamics

P137. Diego Gonzalez-Halphen: Factors affecting the allotropic expression of subunit II (Cox2) of yeast cytochrome c oxidase

P139. Paulina Castañeda-Tamez: Repair and Modular Turnover Dynamics of Mitochondrial Complex I: Differential Responses to Loss of the High-Turnover Subunits NDUFA6 and NDUFA7

P141. Gabriele Coluccino: Effects of Cyclophilin D N-terminal cleavage: a dynamical perspective

P143. Esperanza López-Merino: Complexome profiling reveals novel links between mitochondrial genome maintenance and OXPHOS assembly

S13. Early bioenergetics / Origin of Life/ Evolution of bioenergetic enzymes

P145. Mustafa Rasim Törer: Origin of Heterodisulfide Reductases

P147. Azuil Barrinha Dos Santos Junior: Coevolution in action: how the endosymbiont regulates the energy metabolism of *Angomonas deanei*

P149. Nikolay Korolev: The bioenergetic origins and evolutionary persistence of cytoplasmic potassium dominance

P151. Salvador Uribe Carvajal: The many survival strategies of the poly-extremotolerant yeast *Rhodotorula mucilaginosa*. Control of its mitochondrial metabolism

S14. Mitochondrial physiology

P153. Steven Hand: Activity and quantity of Complex I together with low ROS efflux during anoxia -re-oxygenation suggest depressed reverse electron transport (RET) in mitochondria isolated from an invertebrate

P155. Martin Jaburek: Mitochondrial redox signaling links branched-chain α -ketoacid and fatty acid metabolism to β -cell insulin secretion

P157. Giovanni Benard: Regulation of mitochondrial proteostasis by the ribosome-associated quality control in mammals: molecular bases and physiopathological relevance

P159. Ambaga Miyegombo: A new conception of the existence of the Closed 9-Stepped Cycle of Proton Conductance

P161. Lisa Chakrabarti: Hypomagnetic fields modulate lifespan, physical ability and mitochondrial metabolism in a Pink1 model of neurodegeneration

Wednesday August 26th

13:00-14:30 Poster Session 6

S15. Bioenergetics in health & disease

P164. Lisa Chakrabarti: A Strategy for Precise Detection of High-Risk Chronic Liver Disease using Nano-Diamond Quantum Sensing

P166. Kirsi-Marja Alanen: LACTB is a novel marker for human type I skeletal muscle fibers and is decreased in rhabdomyosarcoma

P168. Orane Lerouley: The creatine/creatine kinase system in rat adipose tissue

P170. Juan Carlos Corona: Quercetin ameliorates the damage induced by atomoxetine in SH-SY5Y cells by enhancing mitochondrial function and reducing ROS production

P172. Ales Dvorak: Bilirubin Phototherapy Triggers Carbon Monoxide Release, Superoxide Production, and Mitochondrial Respiratory Decline *In Vitro*

P174. Martina Salmi: Bioenergetic Impairment and CoQ₁₀ Deficiency in Phenylketonuria: Metabolic Insights and Therapeutic Strategies

P176. Luca Pincigher: Combined pyruvate, coenzyme Q₁₀, and vitamin B₃ supplementation supports mitochondrial function and neuroprotection under metabolic stress

P178. Mohammad Estiri: Extracellular vesicles from *Klebsiella pneumoniae* facilitate bacterial pneumonia in intubated patients via metabolic reprogramming of alveolar macrophages

P180. Angela Anna Messina: VDAC1-Targeted NHK1 Peptide Recovers Mitochondrial Dysfunction in ALS primary fibroblasts

P182. Ida Blom: CagriSema-induced weight loss in obese rats depends on preservation of mitochondrial proton leak in skeletal muscle

P184. Oliver Ros: Interrogating the role of c-MYC in mitochondrial complex III deficiency-induced liver disease

P186. Maiara Queiroz: Cardioprotection Against Ischemia -Reperfusion Induced by Caloric Restriction Is Mediated by NCLX/TMEM65-Dependent Mitochondrial Calcium Extrusion

P188. Sandra López-Calcerrada: A PDK1–PDHA1–SCAF1 axis regulates mitochondrial respiratory chain organization during metabolic rewiring in cancer cells

P190. Margareta Scherr: From Childhood Trauma to Immunocellular Health: Unveiling the Link Between Childhood Maltreatment and Mitochondrial Health

S16. Recent methodological developments in bioenergetics

P192. Dylan Arias Gordillo: Impact of caloric restriction on Δ QCR6-dependent mitochondrial function

P194. Marcel Vieira-Lara: Streamlining the biolistic method for faster mitochondrial genome editing in yeast

P196. Elisa Zamprogno: Bioenergetic and functional characterization of fresh and cryopreserved mitochondria for cardiac transplantation

S17. Early career contribution

P198. Janne Purhonen: Loss of dGTP in postmitotic tissues due to respiratory complex I instability

P200. Céline Moog: Structural investigation on cytochrome c maturation system II

P202. Mirjam Odermatt: Functional diversification of respiratory complex I in anaerobic bacteria through exchangeable electron input modules

S18. Fundamental mechanistic bioenergetics

P204. Clément Chevret: Dynamic modulation of complex IV excess capacity by a redox-dependent uncoupling mechanism in a metabolically active bean beetle line

S19-S20. Others and Late posters

P224. Kilian Zuchan: Unfolding Without Inactivation: Probing the Link Between Global Stability and Redox Cofactor Integrity in Cpl

P226. Zhi Wei Zeng: Mechanistic insights into UCP1 inhibition by nucleotides

P228. Claudia Alleva: Towards a computational characterization of proton coupling in XylE

P230. Martina Tripicchio: Oxidative stress-induced upregulation of riboflavin transporter 1 (SLC52A1) in human SH-SY5Y neuronal cell model: putative role of ATF4 and NRF2 in its transcriptional regulation

P232. Shannon Khan: Hypoxia and Reoxygenation Induce Higher-Order Respiratory Supercomplex Assembly in Cardiac Mitochondria

P234. Rekha Tripathi: Dual human brain barrier organoids reveal compartment-specific bioenergetic dysfunction in GLUT1 deficiency syndrome

P236. Tamara Wied: Testing the Heat Pump Hypothesis: An Experimental Strategy to Resolve the Hot Mitochondria Paradox

P238. Ruben Cruz: Vibrational spectroscopy of fluorous systems

16:30-18:00 Poster Session 7

S15. Bioenergetics in health & disease

P163. Lisa Chakrabarti: The role of mitochondria in antipsychotic-induced metabolic syndrome

P165. Davide Fontana: A redox cycler-based therapy against mitochondrial diseases

P167. Heberty Tf Facundo: Differential Modulation of Forward and Reverse Electron Flow at Complex I by Metformin Enables Selective Inhibition of Reverse Electron Transport and Protects Against Ischemia–Reperfusion

P169. Sandipan Jash: Elucidating the role of mitochondrial protein NDUFA4L2 in pulmonary arterial smooth muscle cells exposed to chronic hypoxia and pulmonary hypertension

P171. Weiwei Li: Mitochondrial Nicotinamide Nucleotide Transhydrogenase (NNT) is part of a supercomplex

P173. Nicola Rizzardi: Mutant Spartin causes defects in mitochondrial protein import process and cellular bioenergetics

P175. Irina Shabalina: In diet-induced fatty liver, ectopically expressed human UCP1 induces regulated mitochondrial uncoupling and lipid-droplet -associated remodeling

P177. Wieslawa Jarmuszkiewicz: Statin-Induced Metabolic Remodeling in Astrocytes: Impact on Coenzyme Q Homeostasis and the Bioenergetic Effects of CoQ₁₀ Supplementation

P179. Liana Anikyan: Mitochondrial dysfunction rewires proton homeostasis and redox regulation under variable pH and glucose conditions in *Saccharomyces cerevisiae*

P181. Roger Castilho: NAD(P)⁺ Transhydrogenase Is Essential for Maintaining Mitochondrial Redox Homeostasis in Cardiac and Skeletal Muscle During Aging

P183. Amitesh Anand: Energetic cost adjusted defense strategies enables stratified oxidative stress tolerance

P185. Douglas Kell: Fibrinoid microclot complexes, Long COVID, and ischaemic stroke

P187. Giovanna Cavalcante: Altered mitochondrial morphology and Ca²⁺ handling in hiPSC-derived astrocytes in the context of LRRK2- and PRKN-related Parkinson’s Disease

P189. Roberta Filograna: Loss of CHCHD2 and CHCHD10 causes tissue-specific bioenergetic failure and severe myopathy driven by impaired postnatal myogenesis

S16. Recent methodological developments in bioenergetics

P191. Alexander Jussupow: Beyond Pairwise Attractions: Density-Dependent Dry Coarse-Grained Models for Biomolecular Organization

P193. Carolina Ricardez García: Mitochondrial Function During Aging in *Saccharomyces cerevisiae*: Role of Caloric Restriction and Sirtuin2

P195. Julian van Reede: Real-time mapping of metabolofunction in human neuronal networks

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