



GIBB

Gruppo Italiano di Biomembrane e Bioenergetica



GIBB 2024

**ANNUAL MEETING OF
ITALIAN GROUP OF
BIOMEMBRANES &
BIOENERGETICS**

**Vieste, June 6-8 2024
Hotel Pizzomunno**

GIBB Scientific Committee

Nazzareno Capitanio (Foggia),

Elena Forte (Roma),

Marco Zancani (Udine),

Luca Scorrano (Padova),

Annamaria Tonazzi (Bari),

Marcello Pinti (Modena),

Angela Messina (Catania),

Michele Galluccio (Cosenza),

Valentina Giorgio (Bologna)

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Invited Speakers



Stefano Pluchino



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Program

Thursday, June 6

TIME	SESSIONS AND PRESENTERS
15:00-15:15 Welcome	
	SESSION 1-Redox reactions, structure and biogenesis of energy transducing membranes <i>Chairpersons: Elena Forte, Marco Zancani</i>
15:15-15:30	P1. Piero Leone, Researcher (University of Bari) Unravelling the structure-function relationships of the bi-functional enzyme FAD synthase (EC 2.7.7.2 / EC 3.6.1.18) to target LSMFLAD
15:30-15:45	P2. Anna Barile, Researcher (CNR ROME) How <i>Pseudomonas aeruginosa</i> prevents H₂S toxicity
15:45-16:00	P3. Iacopo Gherardi, PhD student (University of Bologna) TMEM65 controls mitochondrial activity through respiratory complex I assembly.
16:00-16:15	P4. Elena Frigo, PhD Student (University of Padova) Investigating the functions of ATP synthase subunits e and g in <i>Drosophila melanogaster</i>.
16:15-16:30	P5. Federica Boscolo Nata PhD student (University of Padova) Unraveling the mechanism of channel formation by F-ATP synthase
16:30-16:45	P6. Antonia Cugliari, PhD student (University of Bologna) Kinetic analysis of natural compounds on mitochondrial F₁F₀-ATPase activity.
16:45-17:00	P7. Elisa Zamprogno, PhD Student (University of Udine) The binding of Cyclophilin D (CyPD) to F-ATP synthase is regulated by CyPD N-terminus cleavage.
17:00-17:15	P8. Valentina Del Dotto, RtdA (University of Bologna) IF1, the endogenous inhibitor of F₁F₀-ATPase, inhibits the ATP hydrolysis but not the ATP synthesis activity in cancer cells.
17:15-17:30	P9. Martina Grandi, PhD (University of Bologna) IF1 mutants recurrent in lung patients caused highly aggressive and death-resistant cancer phenotypes
17:30-18:00 Coffee break	
	Session 2 – Mitochondria and metabolism <i>Chairperson: Valentina Giorgio, Michele Galluccio</i>
18:00-18:15	P10. Aleksandra Markovic, Postdoc (University of Padova) Von Willebrand Domain-containing Protein 8 (Vwa8) affects mitochondrial substrate preference and browning of subcutaneous adipose tissue
18:15-18:30	P11. Sara Milioni, PhD student (University of Bologna) Respiratory complex I deficiency triggers OMA1-mediated integrated stress response and affects lipid homeostasis during glucose restriction.

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18:30-18:45	P12. Martina Semenzato <i>RtdA (University of Padova)</i> Intermittent fasting rescues heart failure caused by cardiomyocyte ablation of the master mitochondria-shaping protein OPA1
18:45-19:00	P13. Akiko Omori , <i>Postdoc (University of Padova)</i> Opa1 is required for melanocyte stem cell maintenance
19:00-19:15	P14. Evgenii Lysenko , <i>Postdoc (University of Padova)</i> ATAD3B knockdown decreases human embryonic stem cells proliferation rate without any influence on the cell's pluripotency, mitochondrial morphology, and volume density.
19:15-19:30	P15. Giada Zanini , <i>Postdoc (University of Modena e Reggio Emilia)</i> Role of mitochondrial protease Lonp1 in the regulation of mitophagy.
19:30-20:00 Board Meeting	
20:00-20:30 Welcome Drink	

Friday, June 7

TIME	SESSIONS AND PRESENTERS
8:30-09:15	Plenary Lecture - Stefano Pluchino (Dept of Clinical Neurosciences, University of Cambridge) Metabolic control and fuelling of smouldering neuroinflammation. <i>Chairperson: Nazzareno Capitanio</i>
	Session 2 – Channel and Transporters <i>Chairpersons: Angela Messina, Luigi Palmieri</i>
9:15-9:30	P16. Serena Barile, PhD student (University of Bari) The mitochondrial aspartate/glutamate carrier does not transport GABA.
9:30-9:45	P17. Giuseppe Battiato, PhD student (University of Catania) Exploring the contribution of cysteine residues on VDAC3 biogenesis and maturation
9:45-10:00	P18. Aurora Maracani, PhD student (University of Padova) The Mitochondrial aspartate-glutamate carrier is a metabolic sensor orchestrating organelle morphology and cristae maintenance
10:00-10:15	P19. Salvatore A. M. Cubisino, Postdoc (University of Catania) Intracellular accumulation of amyloid-β peptide impairs VDAC1 activity and mitochondrial functionality in Alzheimer's disease
10:15-10:30	P20. Raffaella Scanga, PhD Student (University of Calabria) The amino acid transporter LAT1 (SLC7A5) switches from antiporter to uniporter in presence of Cu-histidinate complex
10:30-11:00 Coffee break	
11:00-11:15	P21. Maria Tolomeo, Postdoc (University of Calabria) Riboflavin transporter 2 dimerization and stress responses in RTD2
11:15-11:30	P22. Tiziano Mazza, Postdoc (University of Calabria) 3D structure of the ABC transporter MRP2 by Cryo-EM. Insights Post-translational modifications
11:30-11:45	P23. Rocchina Miglionico, Postdoc (University of Basilicata) Role of MRP6 transporter in hepatic cells
11:45-12:00	P24. Ilenia Matera, PhD Student (University of Basilicata) ABCC6 transport activity alters the adhesion dynamics and aggressiveness of HepG2 cells
12:00-12:15	P25. Francesca Barone, PhD student (University of Calabria) Molecular basis for polyspecificity of the Organic Cation Transporter (Novel) OCTN1.
12:15-12:30	P26. Deborah Giudice, PhD student (University of Calabria) Overproduction and Purification of the SLC7a14 transporter in a functionally active form
12:30-15:00 Relax on the Beach and Light Lunch	

Session 3 – Mitochondrial Dynamics, intra-/inter-organelle interactions

Chairpersons: Marcello Pinti, Paolo Bernardi

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| 15:00-15:15 | P27. Aurelia Miscia, Fellowship (University of Padova)
Generation and initial characterization of STACCATO, a family of <u>S</u> plit- <u>F</u> AST Mitochondria-ER <u>C</u> ontacts probes to measure contact sites of different widths. |
| 15:15-15:30 | P28. Mauricio Cardenas Rodriguez, Postdoc (University of Padova)
OPA1 processing regulates mitochondrial outer-inner membranes contacts and the TIM23 protein import complex. |
| 15:30-15:45 | P29. Cien Zhen, PhD Student (University of Padova)
The relationship between mitochondrial fission modes and mitochondrial DNA distribution |
| 15:45-16:00 | P30. Satoko Shinjo, RtdA (University of Padova)
Genetic and proteomic screening disclosed the molecular machinery of the mitochondria-endoplasmic reticulum contact sites |
| 16:00-16:15 | P31. Aytekin Hajighaderi, Fellowship (University of Padova)
Gdap111 |
| 16:15-16:30 | P32. Hualin Fan, PhD student (University of Padova)
Von Willebrandt Associated 8 modulates mitochondria-sarco/endoplasmic reticulum contacts in β -adrenergic agonist-induced cardiac hypertrophy |
| 16:30-16:45 | P33. Federico Magrin, PhD student (University of Padova)
Chasing the nM: Lead Optimization of novel MYLS22-derived OPA1 inhibitors |
| 16:45-17:00 | P34. Federica Vinelli, PhD student (University of Padova)
RAP1 inhibition restores mitochondria elongation and lysosomal distribution downstream of OPA1 deletion. |
| 17:00-17:15 | P35. Jonathan Lambert, Postdoc (University of Padova)
The interactomes of the mitochondrial crista-shaping protein Opa 1 vary depending on the oxidative metabolism of carbon source |

17:15-17:45 Coffee Break

17:45-18:15 Shareholders' Meeting

20:30 Social dinner

Saturday, June 8

TIME	SESSIONS AND PRESENTERS
8:30-9:15	<p style="text-align: center;">Plenary Lecture – Nico Mitro (University of Milano, Italy)</p> <p style="text-align: center;">Unlocking sorafenib resistance: exploring the impact of mitochondria and metabolism in hepatocellular carcinoma</p> <p style="text-align: center;"><i>Chairperson, Luca Scorrano</i></p>
	<p>Session 4 - Mitochondria and disease <i>Chairperson: Annamaria Tonazzi and Luca Scorrano</i></p>
9:15-9:30	<p>P36. Elena Cannone, PhD (University of Brescia) Sapje zebrafish as a living platform to unveil the pathogenesis of Duchenne Muscular Dystrophy.</p>
9:30-9:45	<p>P37. Giorgia Sinigaglia, PhD Student (University of Modena e Reggio Emilia) Mitochondrial and bioenergetic alterations of fibroblasts from ALS patients with A382T mutation of TDP-43</p>
9:45-10:00	<p>P38. Aristide Ferrante, PhD Student (University of Foggia) Mitochondrial function analysis in bladder cancer cell line: targeting metabolism as a new therapeutic prospective.</p>
10:00-10:15	<p>P39. Luigi D'Angelo, PhD Student (University of Bologna) The metabolic setting of ovarian cancer cells modifies response to chemotherapy</p>
10:15-10:30	<p>P40. Francesca Landini, PhD student (University of Foggia) Mitochondrial alteration and autophagy deregulation in <i>Lipa</i>^{-/-} mice are rescued by a novel <i>in vivo</i> gene therapy treatment.</p>
10:30-10:45	<p>P41. Cristina Fontana, Graduated student (University of Catanzaro) Proteomics strategies to disclose <i>BRCA1</i>-mutated breast cancer phenotype: functional and metabolic implications</p>
10:45-11:15 Coffee break	
11:15-11:30	<p>P42. Alice Lacombe, RtdA (University of Padova) Establishment of a new cell model to identify drugs for Autosomal Dominant Optic Atrophy (ADOA).</p>
11:30-11:45	<p>P43. Ana Paula Mendonca, Postdoc (University of Padova) Microparticle sustained delivery of the calcineurin inhibitor FK506 to curtail autophagy and restore vision in an ADOA mouse model.</p>
11:45-12:00	<p>P44. Anna Pellattiero, Postdoc (University of Padova) Specific OPA1 inhibitors that enhance apoptotic release of cytochrome c and cell death.</p>
12:00-12:15	<p>P45. Silvia Granata, Postdoc (IRCCS Pozzilli IS) NADH aerobic oxidation pathway in mitochondria of Stroke Resistant and Stroke Prone Spontaneously Hypertensive Rats treated with high salt diet.</p>
12:15-12:30	<p>P46. Antonella Pignataro, PhD Student (University of Bari) Ketone bodies resume mitochondrial respiration in neuronal progenitor cells from induced Pluripotent Stem Cells of patients affected by AGC1 deficiency</p>

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12:30-12:45	P 47. Maria Noemi Sgobba <i>PhD Student (Univerity of Bari)</i> Ganoderma adspersum ethanolic extracts: selective cytotoxicity on human renal tumor cell lines
12:45-13:00	P48. Lucas C. Beltrame <i>PhD Student (university of Bari)</i> Combined in silico/in vitro approaches for identifying modulators of CRAT Enzyme activity
13:00-13:30 Awards, closing and remarks (Lunchbox)	