



GIBB

Gruppo Italiano di Biomembrane e Bioenergetica

Comitato scientifico

Direttivo nazionale pro-tempore GIBB

Sergio Papa (Bari) Presidente, Giovanna Lippe (Udine), Alessandra Baracca (Bologna), Vito De Pinto (Catania), Alessandro Giuffrè (Roma), Luca Scorrano (Padova), Annamaria Tonazzi (Bari), Giovanni Venturoli (Bologna)

Comitato organizzazione locale

Irene Mavelli (Presidente, Facoltà di Medicina), Enrico Braidot (Facoltà di Agraria), Stefano Cesco (Facoltà di Agraria), Giovanna Lippe (Facoltà di Agraria), Sabina Passamonti (Facoltà di Medicina di Trieste), Marco Zancani (Facoltà di Agraria)

Con il Patrocinio di:

Facoltà di Agraria
Facoltà di Medicina e Chirurgia
Dell'Università di Udine



Con il sostegno di:



FONDAZIONE CRUP



GIBB

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PROGRAMMA

DOMENICA 14 GIUGNO

16.00-17.00 ACCOGLIENZA E REGISTRAZIONE DEI PARTECIPANTI

17.15 APERTURA DEL CONVEGNO E SALUTI DEI PRESIDI DI AGRARIA E DI MEDICINA E CHIRURGIA DELL'UNIVERSITA' DI UDINE

MEMBRANES AND TRANSPORT

Chairperson: Angelo Vianello

17.30 PLANT V-PPASES: UNUSUAL PROTON PUMPS WITH MYSTERIOUS FUNCTIONS

Dale Sanders (Invited Speaker)

18.30 PLASMA-MEMBRANE H⁺-ATPase-DEPENDENT CITRATE EXUDATION FROM CLUSTER ROOTS OF PHOSPHATE-DEFICIENT WHITE LUPIN

Nicola Tomasi, Tobias Kretzschmar, Luca Espen, Laure Weisskopf, Anja Thoe Fuglsang, Michael Gjedde Palmgren, Günter Neumann, Zeno Varanini, Roberto Pinton, Enrico Martinoia, Stefano Cesco

18.45 SEARCHING FOR MITOCHONDRIAL POTASSIUM CHANNELS IN CEREALS USING A GENE CANDIDATE STRATEGY

Elide Formentin, Mario Soccio, Fiorella Lo Schiavo and Donato Pastore

19.00 CRYSTALLIZATION TRIALS OF A SMALL POTASSIUM CHANNEL FROM *Paramecium bursaria* Chlorella virus

Marco Lolicato, Cristina Arrigoni, Giulia Romani, Claudio Olivari, Anna Moroni

19.15 RELATIONS BETWEEN BINDING AFFINITY OF CATIONS AND THEIR STRUCTURAL ROLE IN A K⁺ CHANNEL

Cristina Arrigoni, Giulia Romani, Anna Moroni

19.30 K⁺-SELECTIVE CHANNELS IN MITOCHONDRIA

Nicola Sassi, Umberto De Marchi, Ildiko Szabó, Mario Zoratti

20.00 COCKTAIL DI BENVENUTO

LUNEDI' 15 GIUGNO

MEMBRANES AND TRANSPORT

Chairpersons: Cesare Indiveri, Vito De Pinto

8.15 CHARGED RESIDUES OF THE MITOCHONDRIAL CARNITINE/ACYLCARNITINE CARRIER INVOLVED IN THE TRANSPORT FUNCTION

Annamaria Tonazzi, Nicola Giangregorio, Lara Console, Cesare Indiveri, Ferdinando Palmieri

8.30 THE VOLTAGE DEPENDENT ANION CHANNEL FAMILY IN EUKARIOTIC ORGANISMS: EXPRESSION AND FUNCTION

Francesca Guarino, Flora Tomasello, Angela Messina, Simona Reina, Vito De Pinto

8.45 SWAPPING OF VDAC DOMAINS TO INVESTIGATE STRUCTURE-FUNCTION RELATIONSHIPS

Simona Reina, Vanessa Palermo, Cristina Mazzoni, Angela Messina, Vito De Pinto

9.00 HOMOLOGUE MODELING OF TOM40 CONFIRMS THE STRICT STRUCTURAL RELATIONSHIPS AMONG MITOCHONDRIAL OUTER MEMBRANE BETA-BARREL PROTEINS

Andrea Guarnera, Vito De Pinto, Kornelius Zeth, Michael Habeck

9.15 FUNCTIONAL DISTINCTION OF BILITRANSLOCASE FROM OTHER HEPATIC ORGANIC ANION TRANSPORTERS ON A DRUG INHIBITION MAP

Stefano Fornasaro, Federica Tramer, Sabina Passamonti

9.30 STRATEGIES OF LARGE SCALE EXPRESSION AND PURIFICATION OF THE TRANSPORT PROTEINS OCTN1 AND OCTN2

Linda Amelio, Michele Galluccio, Lorena Pochini, Mariafrancesca Scalise, Cesare Indiveri

9.45 ACETYLCHOLINESTERASE ACTIVITY IN CEREBELLAR SYNAPTOSOMAL MEMBRANES IS DECREASED BY EXPOSURE TO LOW FREQUENCY ELECTROMAGNETIC FIELDS

Silvia Ravera, Bruno Bianco, Carlo Cugnoli, Isabella Panfoli, Daniela Calzia, Alessandro Morelli, Isidoro Mario Pepe

10.00 ECTOPIC ATP SYNTHESIS AND OXYGEN CONSUMPTION BY RETINAL ROD OUTER SEGMENT DISKS

Isabella Panfoli, Daniela Calzia, Silvia Ravera, Paolo Bianchini, Alberto Diaspro, Giovanni Candiano, Angela Bachi, Carlo Tacchetti, Alessandro Morelli, Isidoro Mario Pepe

10.15 COFFEE BREAK

MITOCHONDRIAL PHYSIOLOGY AND PATHOLOGY

Chairperson: Sergio Papa

10.45 ROLE OF THE F₀F₁-ATP SYNTHASE ENDOGENOUS REGULATOR IF1 IN PHYSIOLOGY AND PATHOLOGY: INDICATIONS FOR A NOVEL PATHWAY IN MITOCHONDRIAL QUALITY CONTROL

Michelangelo Campanella (Invited Speaker)

11.30 CARDIOMYOBlasts DIFFERENTIATION AS A MODEL TO DEFINE THE MOLECULAR DETERMINANTS OF ASSEMBLY/STABILITY OF F₀F₁-ATP SYNTHASE DIMERS

Elena Bisetto, Marina Comelli, Giovanna Lippe, Irene Mavelli

11.45 CYCLOPHILIN D MODULATES MITOCHONDRIAL F₀F₁ ATP SYNTHASE BY INTERACTING WITH THE LATERAL STALK OF THE COMPLEX

Valentina Giorgio, Elena Bisetto, Maria Eugenia Soriano, Federica Dabbeni-Sala, Emy Basso, Valeria Petronilli, Michael A. Forte, Paolo Bernardi, Giovanna Lippe

12.00 INTRINSIC UNCOUPLING: ADP AND P_i MODULATION IN THE WT AND ε-TRUNCATED ATP SYNTHASES OF *Escherichia coli*

Manuela D'Alessandro, Paola Turina, S.D. Dunn, B. Andrea Melandri

12.15 CYTOCHROME OXIDASE AND THE CONTROL OF RESPIRATION

Maria Elena Dalmonte, Elena Forte, Alessandro Giuffrè, Daniela Mastronicola, Marzia Arese, Maria Luisa Genova, Giorgio Lenaz, Paolo Sarti

12.30 cAMP RESPONSE ELEMENT BINDING PROTEIN (CREB) IS IMPORTED IN MITOCHONDRIA AND PROMOTES PROTEIN SYNTHESIS

Domenico De Rasmio, Anna Signorile, Emilio Roca, Sergio Papa

12.45 DYNAMICS OF GUANINE DEOXYRIBONUCLEOTIDE POOLS FOR MITOCHONDRIAL AND NUCLEAR DNA SYNTHESIS

Luigi Leanza, Paola Ferraro, Peter Reichard, Vera Bianchi

13.00 ROLE OF OPA1 PROTEIN IN HUMAN MITOCHONDRIAL GENOME MAINTENANCE

Sara Vidoni, Claudia Zanna, Anna Ghelli, Ghizlane Elachouri, Guy Lenaers, Michela Rugolo

13.15 LUNCH

MITOCHONDRIAL PHYSIOLOGY AND PATHOLOGY

Chairperson: Paolo Bernardi

14.15 BIOENERGETIC DYSFUNCTION OF CELLS CARRYING THE MTDNA G>A 14459/ND6 MUTATION

Marianna Del Sole, Alessandra Baracca, Gianluca Sgarbi, Andrea Martinuzzi, Giorgio Lenaz, Valerio Carelli, Giancarlo Solaini

14.30 ND1 MUTATION IN COMPLEX I AND TUMORIGENESIS

Mariantonietta Capristo, Anna Ghelli, Giuseppe Gasparre, Giovanni Romeo, Michela Rugolo, Anna Maria Porcelli

14.45 MITOCHONDRIA IMMUNOFLUORESCENCE AND IMMUNOBLOT ANALYSES IN HUMAN HEPATOCARCINOMA CELL LINES WITH DIFFERENT GRADE OF DIFFERENTIATION

Rossana Domenis, Marina Comelli, Irene Mavelli

15.00 INHIBITION OF MITOCHONDRIAL FISSION FAVOURS A3243G MELAS MUTANT MTDNA

Adriana Malena, Emanuele Loro, Ian J. Holt, Lodovica Vergani

15.15 DROSOPHILA AS AN ANIMAL MODEL TO STUDY HUMAN MITOCHONDRIAL DISEASES

Sophia von Stockum, Emy Basso, Caterina Da Re, Mauro Zordan, Valeria Petronilli, Rodolfo Costa, Paolo Bernardi

15.30 MOLECULAR AND MORPHOLOGICAL ANALYSIS OF MITOCHONDRIAL NETWORKS DURING DEVELOPMENT AND SENESCENCE IN PLANTS

Cristina Ruberti, Elisabetta Barizza, Fiorella Lo Schiavo, Michela Bottini

15.45 THE OCCURRENCE OF A PHOSPHOLIPASE A2 ACTIVITY IN DURUM WHEAT (*Triticum durum* Desf.) MITOCHONDRIA AND ITS POSSIBLE INVOLVEMENT IN THE RESPONSE TO HYPEROSMOTIC STRESS

Daniela Trono, Mario Soccio, Luigi Cattivelli, Donato Pastore

16.00 FUNCTIONAL IMAGING OF OXPPOS AT SINGLE MITOCHONDRION LEVEL: POSSIBILE APPLICATION FOR DIAGNOSIS OF HUMAN DISEASE

Giovanni Quarato, Claudia Piccoli, Nazzareno Capitano

16.15 COFFEE BREAK

MITOCHONDRIA AND CELL DEATH

Chairperson: Michela Rugolo

16.45 HEPATITIS C VIRUS INFECTION INDUCES PRO- AND ANTIAPOPTOTIC CELL RESPONSE: WHO IS THE WINNER?

Maria Ripoli, Claudia Piccoli, Giovanni Quarato, Rossella Scrima, Annamaria D'Aprile, Domenico Boffoli, Darius Moradpour, Nazzareno Capitano

17.00 GENETIC ABLATION OF CYCLOPHILIN D RESCUES MITOCHONDRIAL DEFECTS AND PREVENTS MUSCLE APOPTOSIS IN COLLAGEN VI MYOPATHIC MICE

Elena Palma, Tania Tiepolo, Alessia Angelin, Patrizia Sabatelli, Nadir M. Maraldi, Emy Basso, Michael A. Forte, Paolo Bonaldo, Paolo Bernardi

17.15 IDENTIFICATION OF A NOVEL DESENSITIZER OF THE MITOCHONDRIAL PERMEABILITY TRANSITION PORE: THE *Amanita phalloides* DERIVATIVE ANTAMANIDE

Luca Azzolin, Nicola Antolini, Andrea Calderan, Paolo Ruzza, Oriano Marin, Stefano Mammi, Paolo Bernardi, Andrea Rasola

17.30 ACTIVATION OF MITOCHONDRIAL ERK PROTECTS CANCER CELLS FROM DEATH THROUGH INHIBITION OF THE PERMEABILITY TRANSITION

Marco Sciacovelli, Andrea Rasola, Federica Chiara, Boris Pantic, William S. Brusilowà, Paolo Bernardi

17.45 MITOCHONDRIAL ACTIVITY CHANGES DURING SOMATIC EMBRYO DEVELOPMENT IN *Abies alba* Mill.

Alberto Bertolini, Elisa Petrusa, Valentino Casolo, Jana Krajiňáková, Francesco Macrì, Angelo Vianello

18.00 MEMBRANE ALTERATION INDUCED BY ISLET AMYLOID POLYPEPTIDE (IAPP) OLIGOMERS CAUSE EARLY CELL'S FAILURE IN CULTURED CELL LINES

Flora M. Tomasello, Antonio Magri, Paolo De Bona, Giuseppe Pappalardo

18.15 ASSEMBLEA DEI SOCI

20.00 CENA SOCIALE

MARTEDI' 16 GIUGNO

REDOX SYSTEMS IN MICROORGANISMS, PLANTS AND MAMMALS

Chairperson: Nazzareno Capitanio

8.30 PROTEIN-MATRIX COUPLING/UNCOUPLING IN "DRY" SYSTEMS OF PHOTOSYNTHETIC REACTION CENTRE EMBEDDED IN TREHALOSE/SUCROSE

Francesco Francia, Marco Malferrari, Manuela Dezi, Giovanni Venturoli

8.45 ELECTRON TRANSFER KINETICS AND PROTEIN DYNAMICS IN WILD TYPE AND CAROTENOID-LESS BACTERIAL REACTION CENTERS: STUDIES IN TREHALOSE GLASSES

Marco Malferrari, Francesco Francia, Sophie Sacquin-Mora, Giovanni Venturoli

9.00 INVOLVEMENT OF MEMBRANE REDOX ACTIVITIES DURING THE RECOVERY FROM PHYTOPLASMA DISEASE IN APPLE LEAVES

Sonia Patui, Enrico Braidot, Marco Zancani, Alberto Bertolini, Nicole Del Linz, Francesco Macrì, Angelo Vianello

9.15 HEMATOPIETIC STEM/PROGENITOR CELLS EXPRESS MULTIPLE FUNCTIONAL GLOBINS: ADAPTATION TO HYPOXIC ENVIRONMENT?

Annamaria D'Aprile, Claudia Piccoli, Rossella Scrima, Giovanni Quarato, Maria Ripoli, Mauro Di Ianni, Antonio Tabilio, Domenico Boffoli, Nazzareno Capitanio

9.30 COFFEE BREAK

RNS AND ROS BIOLOGY

Chairperson: Mario Zoratti

10.00 HEALTH EFFECTS OF FOOD RICH IN ANTIOXIDANTS: THE CONTRIBUTION FROM HUMAN STUDIES

Marisa Porrini (Invited Speaker)

11.00 THE CELLULAR ANTIOXIDANT ACTIVITY OF CYANIDIN 3-GLUCOSIDE DEPENDS ON BILITRANSLOCASE-MEDIATED PLASMA MEMBRANE TRANSPORT

Federica Tramer, Spela Moze, Lovro Ziberna, Sabina Passamonti

11.15 POLYPHENOLS AND MITOCHONDRIA: A COMPLEX INTERACTION

Lucia Biasutto, Andrea Mattarei, Umberto De Marchi, Antonio Toninello, Spiridione Garbisa, Mario Zoratti

11.30 ISOPROTERENOL PROMOTES THE ACTIVITY OF THE RESPIRATORY CHAIN COMPLEX I AND LOWERS ROS CELLULAR LEVEL IN FIBROBLASTS AND HEART MYOBLASTS

Anna Signorile, Arcangela Santeramo, Domenico De Rasmio, Michele Scivetti, Francesco Papa, Sergio Papa

11.45 SUCCINATE IS THE CONTROLLER OF O₂ /H₂O₂ RELEASE AT COMPLEX I OF THE MITOCHONDRIAL RESPIRATORY CHAIN. NEGATIVE CONTROL BY MALATE AND POSITIVE CONTROL BY CYANIDE

Franco Zoccarato, Lucia Cavallini, Adolfo Alexandre

12.00 N-ARACHIDONYL-GLYCINE CAUSES ROS PRODUCTION AND CYTOCHROME c RELEASE IN LIVER MITOCHONDRIA

Patrizia Zaccagnino, Maddalena Saltarella, Susanna D'Oria, Angela Corcelli, Matilde Sublimi Saponetti, Michele Lorusso

12.15 L-BUPIVACAINE: A REAPPRAISAL OF ITS EFFECTS ON MITOCHONDRIAL OXPHOS BY A STUDY ON CULTURED CELL LINES

Rossella Scrima, Olga Cela, Claudia Piccoli, Alessandra Marolla, Michele D'Ambrosio, Nazzareno Capitanio

12.30 INSIGHTS INTO O₂-DETOXIFICATION IN THE ANAEROBIC HUMAN PARASITE *Giardia intestinalis*

Daniela Mastronicola, Fabrizio Testa, Antonella Mura, Elena Forte, Eugenio Bordi, Leopoldo Paolo Pucillo, Pier Luigi Fiori, Paolo Sarti, Alessandro Giuffrè

13.00 CONCLUSIONE DEI LAVORI, ARRIVEDERCI A...

14.00 PARTENZA PER AQUILEIA