MITOCHONDRIAL BIOMEDICINE
WINTER SCHOOL
From 28 January 2024
to 2 February 2024
Hotel Grüner Baum
BRESSANONE - BRIXEN BZ
Rationale

First European Winter School in Mitochondrial Biomedicine: a unique training opportunity for PhD students, medical residents, and postdoctoral researchers with a keen interest in mitochondrial biology and medicine.

The project aims to encourage the training of doctoral students, residents and post-doctoral researchers interested in the topics of mitochondrial biology and medicine by bringing together international experts in the biology, genetics, pathophysiology of mitochondria and in the clinic of mitochondrial diseases. The participation of the Mitocon, the Italian association of mitochondrial patients will add the patients' perspective to the school.

The school will be held in person from January 28th to February 2nd 2024 at the Grüner Baum Hotel in Bressanone, Italy and will be open to 40 attendees from across Europe. Mitochondria are organelles often referred to as the energy plants of the cell as they are mainly responsible for converting energy derived from food into ATP, the high-energy molecule used by the biochemical systems of cells. The series of reactions that lead to the synthesis of ATP forms the mitochondrial respiratory chain consisting of respiratory complexes I-IV and ATP synthase. A unique feature of mitochondria is that they have their own genetic material (mitochondrial DNA) that contains some essential genes of the respiratory complexes, although most of the genes that code for proteins found in mitochondria are found in nuclear DNA. The malfunction in the processes that lead to the synthesis of ATP due to mutations in the mitochondrial or nuclear DNA can give rise to mitochondrial diseases, rare genetic pathologies, characterized by extreme heterogeneity and clinical, biochemical and genetic complexity. The role of mitochondria, however, is not limited to the synthesis of ATP, but includes a large number of essential metabolic pathways (e.g. the Krebs cycle, beta oxidation etc.), the regulation of cellular calcium levels, the synthesis of nucleotides etc...

The European Winter School in Mitochondrial Biomedicine responds to a need felt at an international level to improve the interaction between basic researchers and clinicians engaged in the study of mitochondrial biology and mitochondrial diseases. The cross-contamination that the course aims to promote will train the next generation of researchers attentive to the problems of mitochondrial diseases and will increase clinicians' awareness of the potential and problems of basic research. Overall, the School will strengthen the role and visibility of UNIPD in the field of mitochondrial biomedicine.

The school will include the holding of seminar lessons and small thematic workshops ensuring close interaction between attendees and faculties. All the topics will be treated both from a clinical point of view and from that of basic biological mechanisms with the contribution of national and international experts.

Faculty

Organizers:
- Carlo Viscomi, University of Padova, Italy
- Erika Fernandez-Vizarra, University of Padova, Italy
- Luca Scorrano, University of Padova, Italy
- Maria Andrea Desbats, University of Padova, Italy
- Sukru Anil Dogan, Bosphorus University, Turkey

Confirmed Speakers:
- Anna Wredenberg, Karolinska Institute, Sweden
- Aurora Gomez-Duran, Centro de Investigaciones Biológicas Margarita Salas (CIB-CSIC), Spain
- Caterina Agosto, University of Padova, Italy
- Costanza Lamperti, Neurological Institute “C. Besta”, Milan, Italy
- Daria Diodato, Bambin Gesù Hospital, Italy
- Holger Prokisch, Helmholtz Zentrum, Munich, Germany
- Leonardo Salvati, University of Padova, Italy
- Marie Eugenia Soriano, University of Padova
- Maria Falkenberg, University of Gothenburg, Sweden
- Michal Minczuk, University of Cambridge, UK
- Patrick Yu Wai Man, University of Cambridge, UK
- Rita Horvath, University of Cambridge, UK
- Robert MacFarland, University of Newcastle, UK
- Robert Piteathly, UCL, UK
- Serena Massucci, Mitocon, Italy
Sunday 28 January 2024
18:00 Welcome from organizers
18:15 - 18:45 Keynote lecture: Bobby McFarland (mitochondrial disease)

Monday 29 January 2024
9:30 - 10:00 Luca Scorrano (ADOA/Opa)
10:00 - 10:30 Patrick Yu Wai Man (LHON)

Break
11:30 - 12:00 Aurora Gomez-Duran (mtDNA haplotypes)
12:00 - 12:30 Costanza Lamperti (malattie adulto)
Free time until 5:00 pm
17:00 - 19:00 Discussion with students

Tuesday 30 January 2024
9:30 - 10:00 Anna Wredenberg (fly)
10:00 - 10:30 Rita Horvath (fish)

Break
11:00 - 11:30 Anil Dogan (mice)
11:30 - 12:00 Maria Andrea Desbats (lievito e elegans)
Free time until 5 pm
17:00 - 19:00 Discussion with students

Wednesday 31 January 2024
9:30 - 10:00 Rob Pitceathly (diagnostics)
10:00 - 10:30 Holger Prokisch (omic approaches)

Break
11:00 - 11:30 Mageni Soriano
11:30 - 12:00 Michal Minczuk (editing)
17:00 - 19:00 Discussion with students

Thursday 1 February 2024
9:30 - 10:00 Costanza Lamperti / Rob Pitceathly (trial clinici)
10:00 - 10:30 Daria Diodato (pediatric diseases)

Break
10:30 - 11:00 Mitocon
11:00 - 11:30 Caterina Agosto
Free time until 5:00 pm
17:00 - 19:00 Discussion with students
19:00 - 19:10 Carlo Viscomi (conclusion remarks)

Friday 2 February 2024
Departures
GENERAL INFORMATION

VENUE
Grüner Baum Hotel
Via Stufles, 11,
39042 Brixen – Bressanone (BZ)
Italy

REGISTRATION COSTS

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<th>until 10/12/23</th>
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<td>E-mit members, shared double bedroom</td>
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