



COURSE IN MITOCHONDRIAL MEDICINE

Bertinoro di Romagna - CEUB

Bologna (Italy), December 1-3, 2014

Course Directors:

G. Gasparre (Dept. of Medical and Surgical Sciences, University of Bologna, Italy), **A. M. Porcelli** (Dept. of Pharmacy and Biotechnology, University of Bologna, Italy)

Faculty members:

J. Guy (Bascom Palmer Eye Institute, University of Miami, USA), **J. Montoya** (Dept. of Biochemistry, University of Saragoza, Spain), **H.T. Jacobs** (Institute of Medical Technology, University of Tampere, Finland), **G. Lenaers** (Institute of neurosciences, University of Montpellier, France), **C.T. Moraes** (Dept. of Cell Biology, Miller School of Medicine, University of Miami, USA), **R. Rizzuto** (Dept. of Biomedical Sciences, University of Padua, Italy), **G. Romeo** (Dept. of Medical and Surgical Sciences, University of Bologna, Italy), **R. Rossignol** (Division of Genetics and Metabolism, University of Bordeaux, France), **E. Schon** (Dept. of Genetics and Development, Columbia University Medical Center, Usa), **E. White** (Rutgers Cancer Institute, NJ, USA), **Y. Bai** (Department of Cellular and Structural Biology, Columbia University, USA).



MEET Marie Curie Fellows:

- ESR1 R. Vatrinet** (Department of Pharmacy and Biotechnology, University of Bologna, Italy)
- ESR2 S. Trifunov** (Department of Biomedical and NeuroMotor Sciences, University of Bologna, Italy)
- ER3 O. Lytovchenko** (Mitochondrial Biology Unit, MRC, United Kingdom)
- ESR4 S. Vidali** (Gemeinnutzige Salzburger Landeskliniken Betriebsgesellschaft, Research Program for Tumor metabolism, Centre for the Diagnosis of Mitochondrial Disorders, Dept. Of Pediatrics, Austria)
- ESR 5 L. Mataković** (Gemeinnutzige Salzburger Landeskliniken Betriebsgesellschaft, Research Program for Tumor metabolism, Centre for the Diagnosis of Mitochondrial Disorders, Dept. Of Pediatrics, Austria)
- ESR6 M. Pezet** (University of Newcastle Upon Tyne, Mitochondrial Research Group, United Kingdom)
- ESR7 M. Giunta** (University of Newcastle Upon Tyne, Mitochondrial Research Group, United Kingdom)
- ESR8 E. Holzerova** (Helmholtz Zentrum München, Institut für Humangenetik, Germany),
- ESR9 L. Sanchez Caballero** (Stichting Katholieke Universiteit, Nijmegen Center for Mitochondrial Disorders, The Netherlands)
- ER10 U. Cagin** (Fundación Centro Nacional de Investigaciones Cardiovasculares, Carlos III, CNIC, Spain)
- ESR11 E. Iannetti** (Khondrion, Research and Development, The Netherlands)
- ESR12 S. Foriel** (Khondrion, Research and Development, The Netherlands)
- ESR13 M. Mennuni** (National Institute for Medical Research, MRC, Mitochondrial Biology Unit, United Kingdom)
- ER14 M. Aoun** (Fondazione IRCCS Istituto Neurologico Carlo Besta, Unit of Molecular Neurogenetics, Italy).



Course Programme:

Arrival day: Sunday November 30

Monday, December 1

Mitochondrial Determinants of Diseases

Chairman: **M. Rugolo** (Department of Pharmacy and Biotechnology, University of Bologna, Italy)

08.00 – 09.30	<i>Registration to the course</i>	
09.30 – 10.30	<i>Keynote Lecture</i>	E. Schon
10.30 – 11.00	Coffee Break	
11.00 – 12.00	<i>Mitochondrial genetic system: mutations in mitochondrial disorders</i>	J. Montoya
12.00 – 13.00	<i>Mitochondrial calcium homeostasis</i>	R. Rizzuto
13.00 – 14.30	Lunch Break	
14.30 – 15.30	<i>Involvement of membrane dynamics in mitochondrial physiology and pathologies.</i>	G. Lenaers

Afternoon Sessions: ESR/ER lectures

Chairman: **H. Prokisch** (Helmholtz Zentrum München Institut für Humangenetik, München, Germany)

15.30 – 15.50	<i>mtDNA deletions, accumulation and their clonal expansion in tumorigenesis and neurodegeneration</i>	ESR 2 S. Trifunov
15.50 – 16.10	<i>Cofactor deficiency in mitochondrial diseases</i>	ESR 5 L. Mataković
16.10 – 16.30	<i>Investigation of the mechanism underpinning the inheritance of mitochondrial DNA</i>	ESR 6 M. Pezet
16.30 – 17.00	Coffee Break	
17.00 – 17.20	<i>Modifying factors in reversible mitochondrial disease/zebrafish as a model system in RNA metabolism deficiencies</i>	ESR 7 M. Giunta
17.20 – 19.00	Poster Viewing Session	



Tuesday, December 2

Mitochondria in cancer

Chairman: **B. Kofler** (Department of Pediatrics Paracelsus Medical University, Salzburg, Austria)

09.00 – 10.00	<i>The role of mitochondrial DNA mutation and mitochondrial dysfunction in tumorigenesis</i>	Y. Bai
10.00 – 11.00	<i>Metabolic Remodeling induced by the oncogenic HRASG12V mutation</i>	R. Rossignol
11.00 – 11.30	Coffee Break	
11.30 – 12.30	<i>Importance of autophagy in mitochondria metabolism and cancer</i>	E. White
12.30 – 12.50	<i>Targeting CI as an anticancer strategy</i>	ESR 1 R. Vatrinet
12.50 – 14.30	Lunch Break	

Afternoon Sessions: ESR/ER lectures

Chairman: **I. Holt** (MRC National Institute for Medical Research, London, UK)

14.30 – 14.50	<i>Metabolic targeting of solid cancers</i>	ESR 4 S. Vidali
14.50 – 15.10	<i>Mitochondrial transport in cancer and normal cells</i>	ER 3 O. Lytovchenko
15.10 – 15.30	<i>Respiratory complexes assembly and mitochondrial lipid metabolism</i>	ESR 8 E. Holzerova
15.30 – 15.50	<i>Structure, function and assembly defects of cI: comprehensive identification and characterization of cI chaperones</i>	ESR 9 L. Sanchez Caballero
15.50 – 16.20	Coffee Break	
16.20	Social activity	



Wednesday, December 3

Chairman: **R. Horvath** (Institute of Human Genetics Newcastle University International Centre for Life, Newcastle upon Tyne, UK)

Molecular strategies for diseases treatment

09.00 – 10.00	<i>The use of mitochondrial nucleases to change mtDNA heteroplasmy</i>	C. T. Moraes
10.00 – 11.00	<i>Return from the darkside : the Lhon gene therapy trial</i>	J. Guy
11.00 – 11.30	Coffee Break	
11.30 – 12.30	<i>Alternative respiratory chain enzymes: a possible therapy for mitochondrial dysfunction</i>	H. Jacobs
12.30 – 12.50	<i>Automated quantitative high-content and high-throughput analysis of mitochondrial morphology and membrane potential</i>	ESR 11 E. Iannetti
12.50 – 14.30	Lunch Break	

Afternoon Sessions: ESR/ER lectures

Chairman: **P. Chinnery** (Mitochondrial Research Group, Institute of Genetic Medicine, Newcastle University International Centre for Life, Newcastle upon Tyne, UK)

14.30 – 14.50	<i>Drosophila as a model to study therapeutic approaches for mitochondrial diseases</i>	ESR 12 S. Foriel
14.50 – 15.10	<i>Manipulating segregation of human mitochondrial DNA</i>	ESR 13 M. Mennuni
15.10 – 15.30	<i>Nuclear adaptation to mitochondrial dysfunction</i>	ER 10 U. Cagin
15.30 – 15.50	<i>Cellular and animal models for the study of mitochondrial dysfunctions in Neurodegeneration with Brain Iron Accumulation</i>	ER 14 M. Aoun
15.50 – 16.20	Coffee Break	
16.20 – 16.40	<i>IMP and Mitocon Presentations</i>	P. Santantonio
16.40 – 17.00	<i>Training and/or self-teaching? Three successful examples</i>	G. Romeo
17.00 – 17.20	<i>Best Posters Ceremony</i>	
17.20	<i>Conclusions and departure of outside-partnership participants</i>	