Course in Cancer Metabolism

Bertinoro di Romagna - CEUB
Bologna (Italy), November 29-30, 2018

Course Directors

A. M. Porcelli (University of Bologna, Italy)
G. Gasparre (University of Bologna, Italy)
B. Kofler (University of Salzburg, Austria)
R. Rossignol (University of Bordeaux, France)

Faculty Members

R. J. DeBerardinis (Children's Medical Center Research Institute, University of Texas Southwestern, USA)
F. Baltazar (Life and Health Sciences Research Institute, School of Medicine, University of Minho, Portugal)
B. Radlwimmer (Division of Molecular Genetics, German Cancer Research Center, Heidelberg, Germany)
A. Schulze (Department of Biochemistry and Molecular Biology, Theodor-Boveri-Institute, Würzburg, Germany)
C. Curtis (Biochemical Society, Portland Press Charles Darwin House, London, UK)
I. Malanchi (Tumour-Host Interaction Laboratory, The Francis Crick Institute, London, UK)
G. Szabadkai (Dept. of Biomedical Sciences, University of Padua, Italy; Dept.of Cell and Developmental Biology, Consortium for Mitochondrial Research, University College London, London; The Francis Crick Institute, London, UK)
F. M. Grigoriou (Institut Curie, Stress and Cancer Laboratory, Equipe labelisée Ligue Nationale Contre le Cancer, Paris; Inserm, Paris, France)
L. Le Cam (Institut de Recherche en Cancérologie de Montpellier, INSERM, Université de Montpellier, Institut Régional du Cancer de Montpellier, Montpellier, France)
C. Muñoz-Pinedo (Bellvitge Biomedical Research Institute L'Hospitalet, Barcelona, Spain)

TRANSMIT Marie Curie Fellows

ESR1	Saharnaz Sarlak	(University of Bordeaux, France)
ESR2	Ana Carolina Bastos Sant'Anna Silva	(OROBOROS Instruments GmbH, Austria)
ESR3	Floriana Jessica Di Paola	(Justus-Liebig University of Giessen, Germany)
ESR4	Christina Schmidt	(University of Cambridge, UK)
ESR5	Nikkitha Umesh Ganesh	(University of Bologna, Italy)
ESR6	Nicole Bezuidenhout	(Karolinska Institute, Sweden)
ESR7	Maheshwor Thapa	(BIOCRATES Life Sciences AG, Austria)
ESR8	Ana Catarina da Silva Almeida	(AvantiCell Science Ltd, UK)
ESR9	Houda Abla	(University of Bologna, Italy)
ESR10	Luca Zampieri	(Université catholique de Louvain, Belgium)
ESR11	Daniela Weber	(Paracelsus Medical University, Austria)

COURSE PROGRAM

Arrival day: November 28 afternoon

Thursday, November 29

Morning Session Chairperson: **C. Frezza** (University of Cambridge, UK) **S. Mazurek** (Justus-Liebig University of Giessen, Germany)	
08.00 – 09.00	**Registration to the course**
09.00 – 09.10	**Welcome speech**
09.10 – 10.00	**Keynote Lecture: Metabolic heterogeneity in human tumors** R. J. DeBerardinis (Advisory board member) *Children's Medical Center Research Institute, University of Texas Southwestern, USA*
10.00 – 10.50	**Lactate Transporters and pH Regulation: potential Targets in Cancer Therapy** F. Baltazar *Life and Health Sciences Research Institute, School of Medicine, University of Minho, Portugal*
10.50 – 11.20	**Coffee break**
11.20 – 12.10	**Branched-Chain Amino Acid Catabolism in Cancer** B. Radlwimmer *Division of Molecular Genetics, German Cancer Research Center, Heidelberg, Germany*
12.10 – 13.00	**Targeting lipid metabolism: finding the metabolic Achille's heel in cancer** A. Schulze *Department of Biochemistry and Molecular Biology, Theodor-Boveri-Institute, Würzburg, Germany*
13.00 – 14.30	**Lunch break**

Afternoon Session I: ESR1-ESR7 Lectures Chairperson: **E. Gnaiger** (OROBOROS Instruments GmbH, Austria) **M. Shoshan** (Karolinska Institute, Sweden)	
14.30 – 14.50	**Bioenergetics of lung tumors** S. Sarlak (ESR1) *University of Bordeaux, France*
14.50 – 15.10	**Cell ergometry and mitochondrial metabolic biomarkers in cancer** A. C. Bastos Sant'Anna Silva (ESR2) *OROBOROS Instruments GmbH, Austria*
15.10 – 15.30	**Coordination of glutaminolysis and glycolysis in cancer cells** F. J. Di Paola (ESR3) *Justus-Liebig University of Giessen, Germany*
15.30 – 15.50	**Fumarase and fumarate: epigenetic modifications in FH-deficient tumors** C. Schmidt (ESR4) *University of Cambridge, UK*
15.50 – 16.20	**Coffee break**
16.20 – 16.40	**Mitochondrial complex I-driven regulation of the hypoxic response in cancer cells** N. Umesh Ganesh (ESR5) *University of Bologna, Italy*
16.40 – 17.00	**Roles of mitochondrial biogenesis enzymes in regulation of chemoresistance** N. Bezuidenhout (ESR6) *Karolinska Institute, Sweden*
17.00 – 17.20	**Quantitative analysis of coenzymes in cancer cells** M. Thapa (ESR7) *BIOCRATES Life Sciences AG, Austria*
17.20 – 18.10	**Publishing your work: what you need to know** C. Curtis (Advisory board member) *Biochemical Society, Portland Press Charles Darwin House, London, UK*

18.10 – 19.10	**Poster viewing session**
19.10 – 20.30	**Regeneration**
20.30	**Dinner**

Friday, November 30

Morning Session Chairperson: **P. Sonveaux** (Université catholique de Louvain, Belgium) **C. Wilde** (AvantiCell Science Ltd, UK)	
09.10 – 10.00	**Cancer: The Evil Companion Corrupting Good Behaviour** I. Malanchi *Tumour-Host Interaction Laboratory, The Francis Crick Institute, London, UK*
10.00 – 10.50	**Understanding mitochondrial adaptation in cancer by gene expression data** G. Szabadkai *Dept. of Biomedical Sciences, University of Padua, Italy; Dept.of Cell and Developmental Biology, Consortium for Mitochondrial Research, University College London, London; The Francis Crick Institute, London, UK*
10.50 – 11.20	**Coffee break**
11.20 – 12.10	**Relationship between OXPHOS function and oxidative stress in cancer** F. M. Grigoriou *Institut Curie, Stress and Cancer Laboratory, Equipe labelisée Ligue Nationale Contre le Cancer, Paris; Inserm, Paris, France*
12.10 – 13.00	**The p53 pathway and metabolism: implications in normal tissue homeostasis, aging and carcinogenesis** L. Le Cam *Institut de Recherche en Cancérologie de Montpellier, INSERM, Université de Montpellier, Institut Régional du Cancer de Montpellier, Montpellier, France*
13.00 – 14.30	**Lunch break**

Afternoon Session II: ESR8-ESR11 Lectures Chairperson: **G. Dallman** (BIOCRATES Life Sciences AG, Austria) **M. A. Ewart** (AvantiCell Science Ltd, UK)	
14.30 – 14.50	**Cancer cell models to test metabolic intervention strategies** A. C. da Silva Almeida (ESR8) *AvantiCell Science Ltd, UK*
14.50 – 15.10	**Inducing pseudonormoxia as adjuvant therapeutic strategy for cancer** H. Abla (ESR9) *University of Bologna, Italy*
15.10 – 15.30	**Targeting mtROS to prevent cancer metastasis** L. Zampieri (ESR10) *Université catholique de Louvain, Belgium*
15.30 – 15.50	**Impact of ketogenic diet on tumor behavior** D. Weber (ESR11) *Paracelsus Medical University, Austria*
15.50 – 16.10	**Discussion and conclusions**
16.10 – 16-40	**Coffee break**
16.40 – 17.30	**Closing Lecture: Different forms of cell death induced by inhibition of cancer metabolism** C. Muñoz-Pinedo *Bellvitge Biomedical Research Institute L'Hospitalet, Barcelona, Spain*

17.30 – 18.00	Best Poster Ceremony
18.00	Departure of extra-partnership participants
19.30	**Consortium Dinner**