INTERNATIONAL COURSE:

Novel mechanisms of signal transduction involved in cancer chemoresistance - Focus on IGF signaling integration and cross-talk.

University Campus "S Venuta" - Catanzaro, Italy
Lecture Hall G3 - 6-8 May, 2015

Wednesday, May 6

14.00-14.30   Welcome and introduction to the Meeting

Chairman: G. Morrone
14.30-15.30   Re-purposing FDA-approved drugs to eradicate cancer stem cells
**Michael P. Lisanti, Manchester Centre for Cellular Metabolism
(MCCM), University of Manchester, UK**
15.30 –15.45   Discussion

15.45-16.00   Coffee-break

Chairman: A. Belfiore
16.00-17.00   IGF-1R and Wnt signaling crosstalk in triple-negative breast cancer
Terry Wood, Rutgers University, New Jersey Medical School, Newark, USA
17.00-17.15   Discussion

17.15-18.15   IGF system in prostate cancer and in Ewing sarcoma: new therapeutical
implications
Katia Scotlandi, Istituto Ortopedico Rizzoli, Bologna, Italy
18.15-18.30   Discussion

THURSDAY, May 7

Chairman: A. Belfiore

9.00-10.00	IGF-1R at sites of focal adhesion in cancer invasiveness and therapy resistance. **Rosemary O'Connor, University College Cork, Cork, UK**
10.00-10.15	Discussion
10.15-10.45	Coffee-break

Chairman: M. Maggiolini

10.45-11.45	Role of the tumor microenvironment in tamoxifen resistance **Federica Sotgia, Manchester Centre for Cellular Metabolism (MCCM), University of Manchester, UK**
11.45-12.00	Discussion
12.00-12.30	The non-classical estrogen receptor GPER is implicated in IGF/insulin signaling in cancer **Marcello Maggiolini, University of Calabria, Cosenza, Italy**
12.30-13.00	The IGF-IR - DDR1 crosstalk in cancer **Antonino Belfiore, University of Catanzaro, Italy**
13.00-13.15	Discussion
13.15	Lunch

FRIDAY, May 8

Chairman: G. Morrone

9.00 –10.00	Insulin and IGF receptor signalling in neural-stem-cell homeostasis **Steven Levison, New Jersey Medical School, Newark, USA**
10.00 –10.15	Discussion
10.15-10.30	Coffee-break

Chairman: G. Cuda

10.30-10.45	Old receptors learn new tricks: the RTK/GPCR dichotomy of the Insulin-like growth factor 1 receptor **Leonard Girnita, Karolinska Institute, Stockholm, Sweden**
11.45-12.00	Discussion
12.00-13.00	The sex steroid receptors/Src complex modulates the activity of peptide growth factors **Antimo Migliaccio, II University of Naples, Naples, Italy**
13.00-13.15	Discussion
13.15	Lunch

Scientific Committee:

Antonino Belfiore

Marcello Maggiolini

Organizing Committee:

Antonino Belfiore

Marcello Maggiolini

Giovanni Morrone

Giovanni Cuda

Roberta Sgrò

FACULTY

MICHAEL P. LISANTI	Manchester Centre for Cellular Metabolism (MCCM) University of Manchester	Manchester, UK	michael.lisanti@manchester.ac.uk

Dr Lisanti is Director of the Manchester Breakthrough Breast Cancer Research Unit and holds the Muriel Edith Rickman Chair of Breast Oncology within the Institute of Cancer Sciences. He is also Professor of Cancer Biology and the new founding Director of the Manchester Centre for Cellular Metabolism (MCCM).

Professor Lisanti's research programme focuses on the role of Caveolin-1 (Cav-1) in the pathogenesis of human breast cancer, with a strong emphasis on its role in signalling, cancer, metabolism and stem cell biology. Cav-1 status in the stroma provides important information about the aggressiveness of the cancer and may be a valuable and accessible biomarker to predict breast cancer recurrence and metastasis. These biomarkers will allow us to identify patients most likely to have poor prognosis and will also have a role to play in informing patient selection for clinical trials.

TERESA WOOD	Rutgers University, New Jersey Medical School,	Newark, USA	terri.wood510@gmail.com

Dr. Wood , PhD, is Professor and Vice Chair for Research, Dept. Neurology & Neuroscience, Cancer Research Center (CANCT) at Rutgers, New jersey Medical School, USA.

Her research is focused on determining how growth factors and signaling pathways interact to promote growth, survival and differentiation of breast epithelial and neural progenitor cells. She uses mouse models carrying genetic alterations in genes of interest, particularly in the insulin-like growth factor family of ligands and receptors and in the mTOR signaling pathway. These studies are designed to reveal normal functions of these signaling systems in growth and development as well as how these functions relate to cancer susceptibility and progression and in neurological disorders.

FEDERICA SOTGIA

Manchester Centre for Cellular Metabolism (MCCM) University of Manchester

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Dr. Sotgia obtained the PhD in Medical Genetics in 2001 from the University of Genova, Italy. Then moved to Albert Einstein College of Medicine, New York, as a post-doctoral fellow. In 2006, she was appointed as an Assistant Professor in the Department of Cancer Biology at the Kimmel Cancer Center, Thomas Jefferson University, in Philadelphia. In September 2012, she started a new role at the University of Manchester as a Senior Lecturer.

Dr. Sotgia's research programme mainly focuses on the role of the tumour-microenvironment in breast cancer. More specifically, the main theme is studying how metabolic alterations in the tumour-microenvironment affect tumour growth. She also provided genetic evidence that enhanced glycolysis in stromal cells favors tumourigenesis.

ROSEMARY O'CONNOR

University College Cork

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Dr. O'Connor is Professor of Cell Biology, Biochemistry & Cell Biology at Cell Biology Laboratory, Biosciences Institute of University College Cork, Ireland. Her research interests are focused on the molecular mechanisms that regulate the IGF signalling pathway, how insulin and IGF actions are different, and how they may be manipulated in cancer, neurodegeneration, and tissue regeneration. By combining mutational analysis of the IGF-IR with protein interaction studies she has determined the mechanisms by which IGF-IR signaling is regulated and propagated in cancer cells through association with adapter proteins, phosphatases, and adhesion receptors. Some of these interactions may distinguish cancer cells and normal cells. These findings have revealed how the IGF-IR contributes to tumour growth and invasiveness and also have relevance for selecting tumours that may responsive to IGF-IR targeting.

KATIA SCOTLANDI

Istituto Ortopedico Rizzoli

Bologna, Italy

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Dr. Scotlandi is Head of CRS Development of Biomolecular Therapies Experimental Oncology Laboratory at Istituto Ortopedico Rizzoli, Bologna, Italy.

Her research interests concern the definition of the genetic and molecular basis responsible for drug resistance in human musculoskeletal tumors. In particular, current research has led to the identification of new therapeutic targets and preclinical validation of new treatment strategies, mainly for patients with bone tumors, as well as studies on the function of miRNA profiling and sarcomas.

ANTONINO BELFIORE

University Magna Græcia

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Dr. Belfiore is Professor of Endocrinology at University Magna Graecia of Catanzaro, Department of Health Sciences. His main research interests concern the study of involvement of IGF system in cancer, with special focus on the role of insulin receptor isoforms and molecular modulators of their intracellular signaling and biological effects, with the final aim to discover new biomarkers and molecular targets in cancers with dysregulated IGFaxis.

STEVEN W. LEVISON   Rutgers University,   Newark, USA   levisosw@njms.rutgers.edu
New Jersey Medical School

Dr. Levison is Professor of Neuroscience and Director of the Laboratory For Regenerative Neurobiology at the Department of Neurology & Neuroscience, Rutgers University, New Jersey Medical School, USA. The overall goal of Dr. Levison's research is to enhance regeneration of the CNS from its resident stem cells and progenitors and to better understand the impact of neuroinflammation on this process. His lab uses a variety of cell culture and in vivo models to investigate neurological deficits caused by multiple sclerosis, neonatal hypoxia ischemia, traumatic brain and spinal cord injury, and stroke.

LEONARD GIRNITA   Karolinska Institute   Stockholm, Sweden   Leonard.Girnita@ki.se

Dr. Girnita, MD, PhD, is Associate Professor of Pathology at the Department of Oncology-Pathology (OnkPat), K7, Research Group, Karolinska Universitetssjukhuset Solna 171 76 Stockholm, Sweden
He is the leader of a receptor pathology laboratory, which conduct translational research focused on the molecular properties and regulatory mechanisms that control the function of plasma membrane receptors under normal and pathological circumstances. The final goal is to determine potential utility of the signaling complexes involved in the RTKs-GPCR cross-talk as biomarkers or molecular targets in cancer. The hypothesis underlying research is that the signaling complexes coordinated by beta-arrestins, kinases and ubiquitine ligases contribute to tumourigenesis and the progression of cancer and could be targeted in therapies.
Current research focus is on the β-arrestin system in cancer and the characterization of its association with cellular transformation and cancer progression.

ANTIMO MIGLIACCIO   II University of Naples   Naples, Italy   antimo.migliaccio@unina2.it

Dr. Migliaccio is Professor of General Pathology at the Medical School of II University of Naples, Italy. His research activity is mainly focused on the mechanism of membrane initiated actions of sex steroid hormones. His group has recently shown that two signal transduction pathways, namely the src/ras erk and PI3-K pathways, are required for androgen-, estrogen and progestin-dependent DNA synthesis. On the basis of these findings, small molecule inhibitors have been set are being developed as an innovative approach for the treatment of hormone-dependent cancers.

MARCELLO MAGGIOLINI   University of Calabria   Cosenza, Italy   marcellomaggiolini@yahoo.it

Dr. M. Maggiolini is Professor of General Pathology at Department of Pharmacy, Health and Nutritional Sciences, University of Calabria , Rende , Italy.
His research interests concern the molecular mechanisms involved by endogenous hormones and environmental chemicals in activating estrogen receptors and GPR30/GPER-mediated signaling. Mechanisms of signal transduction by the membrane and nuclear estrogen receptors and their crosstalk with growth factor receptors. Physiological implications of ligand promiscuity and signaling crosstalk of the estrogen receptors, in particular for cancer progression.