

II EDITION

INTERNATIONAL SUMMER SCHOOL

Cancer biology and therapeutic strategies towards personalized medicine

Lipari, Italy - Hotel Carasco, June 4/9 2018

Lesson planning Summer School – 80minutes (or less) each including questions

Alessandro Mugelli – president of the Italian Society of Pharmacology

- **Welcome address and objectives of the school**

Francesco Squadrito – University of Messina, Full Professor of Pharmacology-

- **The importance of Pharmacogenetics for tailored medicine**

Andrea Ventura- Memorial Sloan Kettering Cancer Center, Associate Member, Cancer Biology and Genetics Program

- **A brief history of cancer**
- **Genetically engineered mouse models of human cancer**

Joseph Kissil- The Scripps Research Institute, Department of Molecular Medicine, Associate Professor

- **The multi-step nature of cancer**
- **Live or die: the regulation of cell proliferation and apoptosis**

Julien Sage – Stanford University, Full Professor of Genetics

- **The cell cycle machinery: from basic biology to the clinic**
- **Epigenetic mechanisms of cancer development**
- **URLs in cancer biology (commonly used tools and websites)**

Alejandro Sweet Cordero - University of California San Francisco, Associate Professor of Pediatrics

- **Tumor suppressor genes**
- **Cancer genomics and precision medicine**

Alain Charest – Harvard Medical School, Associate Professor, Department of Medicine

- **Principles of cancer immunotherapies**
- **Cancer signaling pathways**

Guido Ferlazzo – University of Messina, Full Professor of Immunology

- **Cancer cellular therapy and vaccines**

Eros Lazzerini Denchi –The Scripps Research Institute, Associate Professor:

- **Telomeres and Cancer: replicative senescence and genome instability.**

Goffredo Arena – McGill University Associate Professor of Surgery and Pathology-

- **Horizontal transfer of malignant traits: a novel concept to understand metastatic disease. Update on new discoveries**

Alessandra Bitto– University of Messina, Associate Professor of Pharmacology-

- **Pharmacogenetics and target therapy**

Christina Leslie - Memorial Sloan Kettering Cancer Center, Associate Member - Computational Biology Program

- **Essential computational methods in genomics (intro to relevant statistics, GLM, RNAseq, basics of single cell sequencing, available resources)**
- **Machine Learning applied to cancer biology**

Saverio Alberti - University of Messina, Associate Professor of Medical Genetics

- **Large-scale next-generation genomic profiling of healthy populations to identify determinants of cancer risk**