ISSNAF
The Italian Scientists and Scholars of North America Foundation

Consulate General of Italy in New York

ISSNAF NEW YORK

ISSNAF SEMINARS

A series of talks open to the public, organized by the New York Chapter

The Italian Scientists and Scholars in North America Foundation cordially invites you to

From Cancer Genetics to Cancer Genomics: A Systems Biology Approach to Cancer Research

A conference promoted by the Consulate General of Italy in New York as part of The New York Colloquia of Italian Scientific Culture

Program:

Cancer Systems Biology: Building the Assembly Manual of the Cancer Cell

Andrea Califano, PhD
Columbia University, New York
Professor of Systems Biology and Biomedical Informatics
Director, Columbia Initiative in Systems Biology
Director, J. Sulzberger Columbia Genome Center
Associate Director, Herbert Irving Comprehensive Cancer Center

The Master Regulators of Stem Cells and Cancer in the Brain

Antonio Iavarone, MD
Columbia University, New York
Associate Professor of Pathology and Neurology

Oncogenic Pathways and Targeted Therapy in T-ALL

Adolfo Ferrando, MD, PhD
Columbia University, New York
Assistant Professor of Pathology and Pediatrics

Thursday, 25th February 2010 at 6:00 p.m.

(the event is open to the general public. Refreshments will follow)

Consulate General of Italy, 1st Floor Conference Room, 690 Park Avenue, New York, NY 10065

Please **R.S.V.P.** (acceptances only) by February 20 at info@newyork.issnaf.org

Kindly indicate the name of your guest, ID required

From Cancer Genetics to Cancer Genomics: A Systems Biology Approach to Cancer Research

Abstract:

Despite our success in mapping the human genetic code and in profiling molecular species in the cell, our understanding of cellular regulation is still in its infancy. For instance, while some of the cellular "circuitry" driving a few human malignancies has been elucidated, thus providing valuable hypotheses for disease diagnostics and treatment, our mechanistic understanding of cancer initiation, progression, and response to treatment is still in its infancy. Additionally, the majority of gene-product in the cell have exquisitely context-specific behavior and their interplay with other components of the cellular machinery is both complex and still poorly understood. Thus, genes playing a key role in one malignancy may not generalize to other tumor subtypes. This is a major source of failure for compounds in clinical trials, a testimony to our virtually non-existent ability to predict cell, organ, and population response to pharmacological intervention.

In these talks we will highlight novel Systems Biology approaches that are for the first time allowing researchers to build predictive and genome-wide models of cellular regulation. These models are being applied to the discovery of tumor-subtype specific vulnerabilities that may be targeted therapeutically and to the identification of biomarkers that can be used for disease stratification and drug-development. These approaches promise to target genes that are both tumor-specific and necessary for tumor maintenance, thus reducing failure rate in drug discovery due to toxicity and lack of efficacy.