



## Therapeutic Applications of Nitric Oxide in Cancer and Inflammatory-related Disorders

Accademia dei Fisiocritici (Siena),  
October 4<sup>th</sup>-5<sup>th</sup>, 2018

### Day 1: Thursday, October 4th

10-10:30am

Greetings from the Authorities

Francesco Frati, Rector of University of Siena  
Cosima Baldari, Director of Dept. Life Sciences  
Carlo Riccardi, Salvatore Cuzzocrea, SIF delegates

Opening address: Lucia Morbidelli

General introduction of the meeting: Ben Bonavida

### **I. Nitric Oxide and Cancer**

#### *Session 1*

#### *Nitric Oxide roles in tumor progression and regression*

*Chairs: Jordi Muntane, Marina Ziche*

10:30-10:50am

John Wallace – University of Calgary

Plenary lecture: **Potential for Chemoprevention with Nitric Oxide and Hydrogen Sulfide-Releasing Drugs**

10:50-11:10pm

Salvatore Rizza – Danish Cancer Society Research Center

**The Roles of the Denitrosylase GSNOR in Tumor Progression**

11:10-11:30pm

Khosrow Kashfi – University of New York School of Medicine

**Nitric oxide and cancer: To inhibit or to induce iNOS – That is the Question?**

11:30-11:45pm

Karim Zuhra – Sapienza University of Rome

**H<sub>2</sub>S Metabolism in Colon Cancer Cells Exposed to Hypoxia**

11:45-12:00pm *Coffee Break*

**Session 2**

***Nitric Oxide and Cancer Cell Death***

*Chairs: Sharon Glynn, Cristiana Perrotta*

12:00-12:15pm

Moran Benhar – Technion-Israel Institute of Technology

**Characterization of Nitroso-Redox Stress-Induced Cancer Cell Death**

12:15-12:30pm

Arnold Stern – New York University School of Medicine

**Pro-Apoptotic Effects of S-Nitrosothiols O-Chloro and M-Chloro S-Nitroso-Aryl-Amides in Human Breast Cancer Cell Lines**

12:30-12:45pm

Valerio Ciccone – University of Siena

**Antitumor Effect of a Metal Nonoate Through Angiogenesis Impairment**

12:45-1:00pm

Lorenzo Cinci – University of Florence

**New NO-Releasing Doxorubicins as Targeted Therapy Against Chemoresistance in Castration-Resistant Prostate Cancer: In Vitro and in Vivo Evaluations**

1:00-1:30pm **General discussion**

1:30-2:30pm **Lunch**

**Session 3**

***Nitric Oxide and therapy (I)***

*Chairs: Carlo Riccardi, Stefan Chlopicki*

2:30-2:45pm

Greta Varchi – University of Bologna

**Light Guided Production of Nitric Oxide and Singlet Oxygen for the Multi-modal treatment of cancer**

2:45-3:00pm

Claudiu T Supuran – University of Florence

**Carbonic Anhydrase Inhibitor – NO Donor Hybrids and Their Pharmacologic Applications**

3:00-3:15pm

Jan Scicinski - Janus Pharmaceutical Consulting LLC

**Cancer and Beyond: Discovery and Development of NO-releasing Therapeutics**

3:15-3:45pm

*Coffee break*

#### *Session 4*

#### ***Nitric Oxide and Therapy (II)***

*Chairs: Valentina Rapozzi, Andreas Papapetropoulos*

3:45-4:00pm

Stavroula Baritaki – University of Crete

**Nitric Oxide (NO): A Multifaceted Target for Reversal of Cancer Cell Pleiotropic Properties by NO-modulating Therapies**

4:00-4:15pm

Cristiana Perrotta - Università degli Studi di Milano

**Nitric Oxide in Cancer Resistance to Cisplatin: Tumor Associated Macrophages as Key Players**

4:15-4:30pm

Joanna Kopecka – University of Torino

**Nitric Oxide Re-Instates Doxorubicin Cytotoxic and Pro-Immunogenic Effects in Refractory Breast Cancer**

4:30-4:45pm

Alma Martelli – University of Pisa

**Anti-Cancer Activities of Erucin a H<sub>2</sub>S-donor Isothiocyanate from Eruca Sativa Mill.: Is H<sub>2</sub>S the Real Player?**

4:45-5:00pm

Valentina Citi – University of Pisa

**Anticancer Effect of a Novel H<sub>2</sub>S-Hybrid Molecule on Human Breast Adenocarcinoma (MFC-7) and Human Breast Epithelial (MCF-10A) Cell Lines**

**5:00-5:30pm**    **General discussion**

**7:00pm**            ***Dinner in Contrada***

**Day 2: Friday, October 5<sup>th</sup>**

## **II. Nitric Oxide and Inflammatory Related Disorders**

### ***Session 5***

#### ***Nitric oxide and cardiovascular diseases***

*Chairs: Maria Foti, Giuseppe Cirino*

**9:00-9:15am**

Perwez Hussain – National Cancer Institute, Bethesda, Maryland

**Nitric oxide (NO•)/kynurenine/AHR signaling enhances disease aggressiveness in pancreatic cancer**

**9:15-9:30am**

Camille Balarini - Universidade Federal da Paraíba

**New Approaches in Atherosclerosis: Insights from Preclinical Studies**

**9:30-9:45am**

Miriam Durante – University of Siena

***In vitro* Assessment of NitDox Toxicity Towards Vasculature**

**9:45-10:00am**

Asghar Ghasemi - Shahid Beheshti University of Medical Sciences

**Effects of long-term nitrite supplementation on gene expressions of GLUT2, GLUT4 and glucokinase in male obese type 2 diabetic rats**

**10:00-10:15am**

Zahra Bahadoran - Shahid Beheshti University of Medical Sciences

**Serum Nitric Oxide Metabolites and The Incidence of Metabolic Syndrome and Its Phenotypes: A Population-Based Prospective Study**

**10:15-10:40am** ***Coffee break***

**Session 6**

***Nitric oxide and Non-Cardiovascular Diseases (I)***

*Chairs: Lucia Morbidelli, Vincenzo Calderone*

10:40-10:55am

Andreas Papapetropoulos - National and Kapodistrian University of Athens

**Hydrogen Sulfide as a Signaling Molecule in The Cardiovascular System: Actions and Interactions with NO.**

10:55-11:10am

Josef Dulak - Jagiellonian University

**Heme Oxygenase-1 In Duchenne Muscular Dystrophy: Interaction with Nitric Oxide Synthase Pathway in Satellite Cells Differentiation**

11:10-11:25am

Stefan Chlopicki - Jagiellonian University

**Pharmacology of Hepatoselective Nitric Oxide - Donors in NAFLD in Mice**

11:25-11:40am

Giuseppe Filomeni - Danish Cancer Society Research Center

**The Regulation of GSNOR Expression Discloses the Role of S-nitrosylation in Aging and Disease**

**12:00-12:30pm *Coffee break & snacks***

**Session 7**

***Nitric Oxide and Non-Cardiovascular Diseases (II)***

*Chairs: Benjamin Bonavida, Salvatore Cuzzocrea*

12:30-12:45pm

Massimo Venturelli - University of Verona

**The Role of Nitric Oxide on Vascular Dysfunction During Aging and Alzheimer's Disease**

12:45-1:00pm

Rosana Pinto – University of Lisboa

**Emerging Nitric Oxide-releasing Porous Materials for Therapeutic Applications**

1:00-1:15pm

Chiara Platania – University of Catania

**Therapeutic Potential of Nitric Oxide Modulation in Ocular Diseases: A Focus on Novel NO-Releasing Molecules**

1:15-1:45pm

**General Discussion and concluding remarks**