



## 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  
Alessandro Mugelli, SIF President  
Carlo Riccardi, Salvatore Cuzzocrea, Gruppo di lavoro SIF Infiammazione

Opening address: Lucia Morbidelli  
General introduction of the meeting: Benjamin Bonavida

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

#### *Session 1*

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

*Chairs: Jordi Muntane, Marina Ziche*

10:30-11:00am

John Wallace – University of Calgary

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

11:00-11:15am

Salvatore Rizza – Danish Cancer Society Research Center

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

11:15-11:30am

Khosrow Kashfi – University of New York School of Medicine

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

11:30-11:45am

Karim Zuhra – Sapienza University of Rome

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

11:45-12:15pm *Coffee Break*

**Session 2**

**Nitric Oxide and Cancer Cell Death**

*Chairs: Sharon Glynn, Cristiana Perrotta*

12:15-12:30pm

Moran Benhar – Technion-Israel Institute of Technology

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

12:30-12:45pm

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**

12:45-1:00pm

Valerio Ciccone – University of Siena

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

1:00-1:15pm

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**

1:15 -1:45pm **General discussion (Chairs: Jordi Muntane, Marina Ziche, Sharon Glynn, Cristiana Perrotta)**

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

Massimo Venturelli - University of Verona

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

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 (Chairs: Carlo Riccardi, Stefan Chlopicki, Valentina Rapozzi, Andreas Papapetropoulos)

8:00pm 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*

9:15-9:30am

Perwez Hussain – National Cancer Institute, Bethesda, Maryland

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

9:30-9:45am

Miriam Durante – University of Siena

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

9:45-10:00am

Asgar 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**

**10:15-10:45am**            *Coffee break*

**Session 6**

***Nitric oxide and Non-Cardiovascular Diseases***

*Chairs: Lucia Morbidelli, Vincenzo Calderone*

**10:45-11:00am**

Andreas Papapetropoulos - National and Kapodistrian University of Athens

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

**11:00-11:15am**

Josef Dulak - Jagiellonian University

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

**11:15-11:30am**

Stefan Chlopicki - Jagiellonian University

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

**11:30-11:45am**

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 Therapeutic Applications***

*Chairs: Benjamin Bonavida, Salvatore Cuzzocrea*

**12:30-12:45pm**

Chiara Platania – University of Catania

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

**12:45-1:00pm**

Rosana Pinto – University of Lisboa

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

**1:00-1:15pm**

Jan Scicinski - Avicenna Therapeutics, Inc

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

**1:15-1:45pm**            **General discussion and concluding remarks (all chairs of sessions 1-7)**