

VI International Workshop on "Nitric oxide in cancer and beyond" New York, September 20-22, 2019



Program

September 20th – Sheppard Hall 250

- 8:00 – 9:00 Registration / Coffee
- 9:00 – 9:30 **Opening Session**
Vincent Boudreau, PhD
President, City College of the City University of New York
Gonzalo Torres, PhD
*Chair, Department of Molecular, Cellular & Biomedical Sciences
CUNY School of Medicine*
- 9:30 – 10:30 **Lifetime Achievement Award**
Introduction: **Dr. David Wink**
NIH
Lifetime Achievement Award Presentation to
Dr. Larry K. Keefer
50 years of diazeniumdiolate research
Tribute to Dr. Keefer by colleagues, former trainees, family & friends
- 10:30 – 10:55 Coffee Break
- Session 1: Designer nitric oxide-releasing compounds for cancer and beyond**
Chairs: Drs. Carola Neumann & Paul Shami
- 11:00 – 11:30 Development of JS-K for the treatment of cancer
Paul J. Shami, MD
Division of Hematology and Hematologic Malignancies, Huntsman Cancer
Institute, University of Utah, Salt Lake City, UT
- 11:30 – 12:00 Nitrogen oxide releasing NSAIDs as anticancer agents
Katrina Miranda, PhD
Department of Chemistry, University of Arizona, Tucson, AZ
- 12:00 – 12:30 Development of novel phosphodiesterase 5 inhibitors for Alzheimer's disease
therapy
Jole Fiorito, PhD
Department of Biological and Chemical Sciences, New York Institute of
Technology, Old Westbury, NY

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12:30 – 1:30 Lunch

Chairs: Drs. Józef Dulak & Giuseppe Filomeni

1:30 – 2:00 Can nitro fatty acids be used as cancer therapeutics?

Carola Neumann, MD

Department of Pharmacology & Chemical Biology, University of Pittsburgh,
Pittsburgh, PA

2:00 – 2:30 Potential anti-cancer properties of new S-nitrosothiols esters and amides derivatives of NSAIDs (SNO-NSAIDS): Synthesis, conformational analysis and *in vitro* anti-inflammatory activity

Adriana Reis PhD

Department of Chemistry, Institute of Environmental, Chemical and
Pharmaceutical Sciences - Universidade Federal de São Paulo – Campus
Diadema, São Paulo, Brazil

3:00 – 3:30 Role of nitric oxide in suppression of erbb2-dependent breast lesions

Yashna Walia (Graduate Student)

Department of Cancer Biology, College of Medicine and Life Sciences, University
of Toledo Health Science Campus, Toledo, OH

3:30 – 4:00 Coffee Break

Session 2: *Nitric oxide, inflammation, and the tumor microenvironment*

Chairs: Drs. Sharon Glynn & Probal Banerjee

4:30 – 5:00 Nitric oxide regulation of human endogenous retrovirus K (HERV-K) activation in triple negative breast cancer and impact on invasive potential

Sharon Glynn, PhD

Discipline of Pathology, Lambe Institute for Translational Research, School of
Medicine, National University of Ireland Galway, Ireland

5:00 – 5:30 Eliminating cancer cells and cancer stem cells by enriching natural killer cells and inducible nitric oxide synthase-positive microglia/ macrophages in the tumor microenvironment

Probal Banerjee, PhD

Departments of Chemistry and Biology, City University of New York at The
College of Staten Island, NY

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5:30 – 6:00 Developing a family of resistance-proof, immune-friendly new generation anti-metabolites to eliminate cancer cells while stimulating tumoricidal innate immune cells in the tumor microenvironment

Juliet Baidoo (Graduate Student)

CUNY Doctoral Program in Biochemistry, CUNY Graduate Center, City University of New York at The College of Staten Island, NY

6:00 – 6:25 A study of the potency of curcumin in causing elimination of chemo-resistance and stimulation of the immune system against glioblastoma

Angela Fried (Graduate Student)

CUNY Doctoral Program in Biochemistry, CUNY Graduate Center, City University of New York at The College of Staten Island, NY

6:25 – 6:50 Role of iNOS in HERV-K activation in breast cancer

Dana Bhattacharyya (Graduate Student)

Discipline of Pathology, Lambe Institute for Translational Research, School of Medicine, National University of Ireland Galway, Ireland.

8:00 – 10:30 Dinner

Savann, Mediterranean Cuisine
2280 Frederick Douglass Blvd

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September 21st – Sheppard Hall 250

8:30 – 9:00 Coffee

Session 3: *Nitric oxide, oxidative stress, and protein modification*

Chairs: Drs. Qiuzhen Liu & Amedea Seabra

9:00 – 9:30 Evidences for the relevant role of oxidative and nitrosative stress in the mitochondrial dysfunction and cell death induced by sorafenib in liver cancer cells

Jordi Muntané, PhD

Institute of Biomedicine of Seville (IBIS), IBIH/Hospital University "Virgen del Rocío"/CSIC/University of Seville, Seville, Spain

9:30 – 10:00 Nitric oxide-releasing engineered nanoparticles: Tools for combating cancer and beyond

Amedea Seabra, PhD

Center for Natural and Human Sciences (CCNH), Universidade Federal do ABC (UFABC), Estadual de Campinas, Campinas, Brazil

10:00 – 10:30 NOS1 inhibits the interferon response of melanoma cells by S-nitrosylation of HDAC2

Qiuzhen Liu, PhD

Cancer Research Institute, Guangdong Provincial Key Laboratory of Cancer Immunotherapy, School of Basic Medical Sciences, Southern Medical University, Guangzhou, China

10:30 – 11:00 Coffee

Chairs: Drs. Jordi Muntané & Katrina Miranda

11:00 – 11:30 Oxidative stress modulates S-nitrosylation and mitophagy *via* ATM

Giuseppe Filomeni, PhD

Department of Biology, Tor Vergata University of Rome, Italy

11:30 – 12:00 Chloro derivatives of S-Nitroso-aryl-amides induce apoptosis in human breast cancer cell lines without affecting normal cell lines

Hugo Monteiro, PhD

Department of Biochemistry, Center for Cellular and Molecular Therapy – Universidade Federal de São Paulo- Campus São Paulo- São Paulo – Brazil

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12:00 – 12:30 Nitric oxide is a master regulator of chromatin methylation

Douglas Thomas, PhD

Department of Medicinal Chemistry and Pharmacognosy, College of Pharmacy,
University of Illinois at Chicago, Chicago, Illinois

12:30 – 12:55 Nitric oxide and its modulating effect on transforming growth factor beta in human mammary breast cancer

Joshua Letson (Graduate Student)

Department of Cancer Biology, College of Medicine and Life Sciences, University
of Toledo Health Science Campus, Toledo, OH

1:00 – 2:00 Lunch

2:00 – 2:30 Laughter Yoga with Dr. Janet Stephens

Session 4: *Pleotropic effects of NO*

Chairs: Drs. Thomas Sutter & Miriam Cortese-Krott

2:30 – 3:00 Nitric oxide and heme oxygenase-1 in cancer: mechanisms, effects and therapeutic possibilities

Józef Dulak, PhD

Department of Medical Biotechnology, Faculty of Biochemistry, Biophysics and
Biotechnology, Jagiellonian University, Kraków, Poland

3:00 – 3:30 Role of red blood cells in systemic NO metabolism and blood pressure regulation

Miriam Cortese-Krott, PhD

Division of Cardiology, Pulmonology and Vascular Medicine, Medical Faculty,
Heinrich Heine University, Moorenstrasse 5, 40225 Düsseldorf, Germany

3:30 – 4:00 Aryl hydrocarbon receptor (AHR)-mediated keratinocyte differentiation is dependent on metabolic reprogramming and the production of ROS: A potential role of nitric oxide?

Thomas Sutter, PhD

Department of Biological Sciences, University of Memphis, TN, USA

4:00 – 4:30 Coffee

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Chairs: Drs. Adriana Reis & Hugo Monteiro

4:30 – 5:00 NMDA receptor-mediated signaling and activation of NOS in healthy human glia and glial tumors

Hoau-Yan Wang, PhD

Department of Molecular, Cellular & Biomedical Sciences, City University of New York School of Medicine, New York, NY, USA

5:00 – 5:30 Synaptic and memory dysfunction induced by soluble tau oligomers is rescued by up-regulation of the nitric oxide cascade

Ottavio Arancio, PhD

Departments of Medicine, Pathology and Cell Biology, Columbia University, NY, USA

5:30 – 6:00 Early pulmonary NO deficiency in breast cancer progression predisposes the lungs to become a major metastatic site: Implications for anti-metastatic therapy

Marta Smeda, PhD

Jagiellonian Centre for Experimental Therapeutics, Jagiellonian University, Krakow, Poland

Dinner: On your own

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September 22nd – Sheppard Hall 250

8:00 – 8:30 Coffee

Session 5: *NO~H₂S in cancer*

Chairs: Drs. Rodney Shackelford & John Matson

8:30 – 9:00 Protein denitrosylation control of mitochondrial homeostasis and cell death: implications in tumor progression and therapy

Salvatore Rizza, PhD

Cell Stress and Survival Unit, Danish Cancer Society Research Center, Copenhagen, Denmark

9:00 – 9:30 Hydrogen Sulfide and Cancer

Rodney Shackelford, DO

Department of Pathology & Translational Pathobiology, LSU Health Sciences Center Shreveport, Shreveport, Louisiana

9:30 – 10:00 Delivering Reactive Sulfur Species: From Small Molecules to Materials

John B. Matson, PhD

Department of Chemistry, Virginia Tech Center for Drug Discovery, Macromolecules Innovation Institute, Blacksburg, VA

10:00 – 10:30 Coffee

Chairs: Drs Benjamin Bonavida & Jole Fiorito

10:30 – 11:00 The Role of H₂S in Tumor Progression and Metastasis

Niharika Nath, PhD

Department of Biological and Chemical Sciences, New York Institute of Technology, New York, NY

11:00 – 11:30 NBS-1120: An enhanced NSAID with potent anti-cancer activity acting through protein nitrosylation and persulfidation that targets cell cycle proteins

Jan Scicinski, PhD, FRSC

Avicenna Therapeutics Inc., Raleigh NC

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11:30 – 12:00 NO-induced modification of the dysregulated NF- κ B/Snail/YY-1/RKIP/PTEN loop responsible for cancer pleiotropic activities

Yuhao Wang (Graduate Student)

Department of Microbiology, Immunology and Molecular Genetics, David Geffen School of Medicine, University of California, Los Angeles, CA

12:00 – 12:30 The dichotomous role of NO~H₂S in cancer biology

Khosrow Kashfi, PhD, FRSC

Department of Molecular, Cellular and Biomedical Sciences, City University of New York School of Medicine, New York, NY

12:30 – 1:30 **Young Investigator Awards**

General Discussion and Therapeutic Approaches: NO donors and inhibitors
Future perspectives

Discussion with Elena Shafeyeva, Beggel Publisher

Sharon Glynn: The VII conference in Ireland

Publication and deadlines: Kashfi

1:30 Light lunch and departure