6th International Conference on Polyamines: Biochemical, Physiological and Clinical Perspectives

SAPIENZA University of Rome
and Tivoli (Rome)
Italy
September 4-9, 2022

SCIENTIFIC PROGRAM

Sunday, September 4th

GRAND HOTEL DUCA D'ESTE, TIVOLI

1:30 pm – 5:30 pm **Registration at the Grand Hotel Duca d'Este (Tivoli)**

5:30 pm - 6:00 pm **Opening Ceremony**

E. Agostinelli, Rome, Italy

K. Igarashi, Chiba, Japan

U. Bachrach, Jerusalem, Israel

6:00 pm - 7:00 pm **Opening Lecture**

Session leaders: ***E. Agostinelli (SAPIENZA University of Rome, Italy)***

U. Bachrach (Hebrew University, Israel)

6:00 pm- 7:00 pm [PL 01] **K. Igarashi (Chiba University and Amine Pharma, Japan)**
Molecular mechanisms of cell and
tissue toxicity caused by acrolein

6:30 pm - 7:30 pm **Registration at the Grand Hotel Duca d'Este (Tivoli)**
7:30 pm - 10:30 pm **Welcome dinner at the Grand Hotel Duca d'Este (Tivoli)**

Monday, September 5th

9:00 am - 10:00 am **Session 1: POLYAMINES IN CELL GROWTH AND DIFFERENTIATION**

*Session leader**: T. Oka (Wakunaga Pharmaceutical Co.Ltd, Japan)***

9:00 am - 9:30 am [L 02] **A. Zabala Letona (Center for Cooperative Research in Biosciences, Spain)**
Emerging roles of polyamine metabolism in prostate cancer

9:30 am – 10:00 am [L 03] **M. Pujana Vaquerizo (Center for Cooperative Research in Biosciences, Spain)**
Analysis of the molecular and biological consequences of GC7 treatment in prostate cancer

10:00 am – 12:40 pm **Session 2: EIF5A AND TRANSLATION**

10.00 am – 10:35 am [PL 04] **A. Kaiser (University of Duisburg-Essen, Germany)**
Investigation of an allosteric deoxyhypusine synthase inhibitor in P.falciparum

10:35 am – 11:05 am **Coffee break**

11:05 am – 11:40 am [PL 05] **K.T. Wilson (Vanderbilt University Medical Center, USA)**
Protective Role of Spermidine and Hypusination in Colitis and Colitis-associated Colon Carcinogenesis

11:40 am - 12:10 pm [L 06] **G. Canettieri (Sapienza University of Rome, Italy)**
A novel interplay between polyamines, EIF5A and MYC in colorectal cancer

12:10 am – 12:40 pm [L 07] **A.Szepesi (University of Szeged, Hungary)**
Connection between GABA and
hypusination process of Arabidopsis thaliana seedlings
influencing polyamine catabolism.

1:00 pm – 2:30 pm **Lunch**

3:30 pm – 5:00 pm **Poster session and coffee break**

5.00 pm – 6:35 pm **Session 3: POLYAMINES AND PHYSIOLOGY**

Session leader: ***K.Igarashi, (Chiba University and Amine Pharma, Japan)***

5:00 pm – 5:35 pm [PL 08] **K. Kashiwagi (Chiba institute of science, Japan)**
Regulation of gene expression through translational
stimulation of histone modifying enzymes by polyamines

5:35 pm – 6:05 pm [L 09] **S. Coni (Sapienza University of Rome, Italy)**
Locomotor function in *Drosophila Melanogaster* is controlled by
a CNBP/ODC/polyamines translational axis

6:05 pm - 6:35 pm [L 10] **T. Sieckmann (Institute of translational Physiology, Germany)**
Dysregulation of the polyamine system
in favor of its catabolism is a common mechanism after kidney
injury

7:00 pm – 8:15 pm **Dinner**

8:30 pm – 12:00 am **Rome by night**

Tuesday, September 6th

9:00 am - 12:40 pm **Session 4: POLYAMINES IN HUMAN HEALTH: IN CANCER AND OTHER DISEASES. THERAPEUTIC APPLICATIONS**

Session leader: ***D. A. Spandidos (University of Crete, Greece)***

9:00 am - 9:35 am	[PL 11]	**S. Gilmour (Lankenau Institute for Medical Research, USA)** Targeting the Immunomodulatory Effects of Polyamines in Cancer
9:35 am - 10:05 am	[L 12]	**M. Azfar (Laboratory of Cellular Transport Systems, Belgium)** ATP13A3 in polyamine homeostasis and in the pathogenesis of Pulmonary Arterial Hypertension
10:05 am - 10:35 am	[L 13]	**T. Murray Stewart (Johns Hopkins University School of Medicine, Baltimore, USA)** Polyamine metabolism in the pathology and treatment of Snyder-Robinson syndrome

10:35 am – 11:05 am Coffee break

1:00 pm – 2.30 pm Lunch

11:05 am-11:40 am	[PL 14]	**A.S. Bachmann (Michigan State University, USA)** DFMO Treatment of children with ODC-1 linked Bachmann-Bupp Syndrome: from discovery to clinic
11:40 am - 12:10 pm	[L 15]	**E. Agostinelli (Sapienza University of Rome, Italy)** Enzymatic Spermine metabolites induce apoptosis associated with increase of p53, caspase-3 and miR-34a in both Neuroblastoma cells, SJNKP and the N-Myc-Amplified form IMR5
12:10 pm - 12:40 pm	[L 16]	**G. Weiman (Children's Cancer Institute, Australia)** Polyamine blockade inhibits cell growth and induces apoptosis in high-risk childhood leukaemia

12:45 pm Photograph

2:30 pm – 3.30 pm **Meeting International Polyamines Foundation**

3.30 pm – 4.00 pm **Oral poster presentation**

Session leader: ***P. Mariottini (University ROMA TRE, Rome, Italy)***

4:00 pm - 5:00 pm **Poster session and Coffee break**

5:00 pm – 6:50 pm **Session 5: POLYAMINES IN NUTRITION AND LONGEVITY**

Session leader: ***P. Mariottini (University ROMA TRE, Rome, Italy)***

5:00 pm - 5:30 pm [L 17] **M. Cervelli (*Department of Science, University Roma Tre, Rome, Italy)***
Spermidine treatment affects gene expression in mouse model of Amyotrophic Lateral Sclerosis

5:30 pm – 6:00 pm [L 18] **T. Uemura (Department of Forensic Medicine, Kyoto Prefectural University of Medicine, Japan)**
Aging associated change in polyamine metabolism

6:00 pm - 6:30 pm [L 19] **H-J Lin (Department of Bioscience and Biotechnology, Taiwan)**
Nutritional value of Spermidine for Strombidium sp. NTOU1, a marine ciliates, and its potential on the ocean food chain and ecosystem

6.30 pm – 6.50 pm [L20] **D. A. Spandidos (University of Crete, Greece)**
Publishing in Biochemical science

7.30 pm **Dinner**

Wednesday, September 7th

9:00 am – 12:05 pm **Session 6 : POLYAMINES AND THEIR ANALOGS:CHEMISTRY AND MOLECULAR PHARMACOLOGY**

Session leader: ***A. R. Khomutov (Russian Academy of Sciences, Russia)***

9:00 am - 9:35 am [PL 21] **U. Bachrach (Hebrew University-Hadassah Medical School, Israel)**
The effect of substituted Amino-Alkyl-Anthraquinones on Eukaryotic cells

9:35 am – 10:05 am [L 22] **S.Tevosian (Department of Physiological Sciences, University of Florida, USA)**
Mechanism of action for an alkylated polyamine analogue diethylnorspermine (DENSPM) in treating pheochromocytoma/paraganglioma

10:05 am - 10:35 am [L 23] **R. Ragno (Sapienza University of Rome, Italy)**
Ligand-Based and structured-based studies on Polyamine analogues as Bovine Serum Amine Oxidase substrates

10:35 am - 11:05 am **Coffee Break**

11:05 am - 11:35 am [L 24] **O. Phanstiel (University of Central Florida, Orlando, USA)**
Development of FUBP1 inhibitors to control cancer cell growth

11:35 am – 12:05 pm [L25] **M. Houdou (Laboratory of Cellular Transport Systems, Belgium)**
Characterization of novel green fluorescent polyamine analogs for measuring polyamine transport of the P5B-type ATPases

12.05 pm -1:30 pm **Lunch**

1:30 pm – 7:30 pm **Sightseeing**

8:00 pm – 10:30 pm **Dinner**

Thursday, September 8th

9:00 am - 12:30 pm **Session 7 : POLYAMINES IN PLANTS AND IN BIOTECHNOLOGICAL APPLICATIONS**

Session leader: ***F. Vianello (University of Padua, Italy)***

9:00 am – 9:30 am [L 26] **A. Mattoo (Sustainable Agricultural Systems Laboratory, USA)**
Comparative genomics assisted mapping of polyamine (PA) biosynthetic pathway in duckweed (Spirodela polyrhiza) genome reveals absence of ODC pathway and that PA synthesis genes are differentially regulated during growth, MeJA exposure and salt stress

9:30 am – 10:00 am [L27] **E. Sobieszczuk-Nowicka (Department of Plant Physiology, Poland)**
Unravelling the genetics of polyamine metabolism in barley for senescence-related crop improvement

10.00 am – 10:30 am [L28] **M. Arasimowicz-Jelonek (Department of Plant Ecophysiology, Poland)**
Genome-wide exploration of genetics of biogenic polyamines in barley

10:30 am – 11:00 am **Coffee break**

11:00 am – 11:30 am [L29] **A. Venerando (Department of Comparative Biomedicine and Food Science, Padua, Italy)**
Biotechnological and therapeutic applications of nanostructured hybrids of magnetic nanoparticles conjugated with amine oxidase

11:30 am -12:30 pm **Oral poster presentation**

Session leader: ***A.Toninello (University of Padua, Italy)***

1:00 pm – 2:30 pm **Lunch**

3:00 pm – 4:30 pm **Session 8: POLYAMINES METABOLISM, TRANSPORT AND SIGNAL TRANSDUCTION**

Session leader: ***A. Ilari (National Research Council of Italy (CNR), Italy)***

3:00 pm – 3:30 pm [L30] **N. Ignatenko (University of Arizona, Tucson, USA)**
Targeting polyamines metabolism to suppress SARS-CoV-2- related disease

3:30 pm – 4:00 pm [L31] **S. van Veen (Laboratory of Cellular Transport**

Systems, Department of Cellular and Molecular Medicine, Belgium)
A novel class of polyamine transporters in health and disease

4.00 pm – 4.30 pm [L32] **S. Vrijsen (Laboratory of Cellular Transport Systems, Department of Cellular and Molecular Medicine, Belgium)**
Elucidating the role of the lysosomal polyamine exporter ATP13A2 in mitochondrial-lysosomal interplay

4:30 pm – 5:30 pm **Poster session and coffee break**

5:30 pm – 6:30 pm **Session 9: POLYAMINES METABOLISM IN PARASITES AND OTHER MICROORGANISMS**

5:30 pm – 6:00 pm [L 33] **S. Fujiwara (Department of Bioscience, Kwansei-Gakuin University, Japan)**
Identification of unique arginine decarboxylase involved in low pH dependent agmatine production in solid-state cultivated Aspergillus oryzae

6:00 pm – 6:30 pm [L34] **G. Colotti (National research council, CNR, Italy)**
Optimization of potent and Specific Trypanothione Reductase Inhibitors: a structure-based drug discovery approach

6:30 pm – 6:50 pm ***Concluding Remarks: E. Agostinelli (SAPIENZA University of Rome, Italy)***

8:00 pm **Gala Dinner**

Friday, September 9th

9:00 o' clock am **Departure to Fiumicino Airport and Termini Station**