

PhD Programme in Molecular Life Sciences

Day 1

Wednesday, 5 October 2022

09:30– 09:40 Andrea Riccio and Angela Chambery Opening of the PhDays 2022

9:40 – 15:05 Session

Molecular Cell Biology

Chairs: Alessandra Pescatore, Alberto Luini, Carmen Valente, Giuseppe Manco, Pieter De Lange, Aniello Russo, Nicoletta Potenza, Antonia Lanni, Alessandro Usiello, Aurora Daniele, Francesca Pisani, Giovanna Grimaldi, Elia Di Schiavi, Lucia Rocco, Seetharaman Parashuraman, Maria Maddelana Di Fiore

Seyedehnegr Parizadeh 9:40- 9:55 *

Investigation of cargo-specific autoregulatory and export systems in secretory pathway

Tutor: Alberto Luini

Miriam Lucariello 09:55-10:15

SARS-CoV-2 infection: pseudovirus system and the role of the CtBP1/BARS protein

Tutor: Carmen Valente

Debora Latino 10:15-10:25

The protective role of D-Aspartate in counteracting cadmium toxicity in the rat testis.

Tutor: Maria Maddalena Di Fiore

Chiara Siniscalchi 10:25- 10:45

Human microRNAs targeting SARS-CoV-2

Tutor: Aniello Russo; Nicoletta Potenza

Maria Carannante 10:45-10:55

Genotoxic effects of Polystyrene microplastics in Zebrafish

Tutor: Lucia Rocco

Arianna Cuomo 10:55-11:15

Mild endurance exercise and fasting induce thyroid hormone action associated with BHB and BDNF signaling in rat muscle

Tutor: Pieter De Lange

Ilenia De Leo 11:15-11:25

RNA regulatory networks governed by miR-125a in hepatocarcinoma cells

Tutor: Nicoletta Potenza

Roberta Simiele 11:25-11:45 *

The association between depression and gut microbiota related to physical activity, diet and sleep

Tutor: Pieter De Lange

Nunzia Magnacca 11:45-11:55

Involvement of miR-18a-5p/SREBP1/PERK axis in the induction of endoplasmic reticulum stress induced by hyperlipidic diet

Tutor: Antonia Lanni

Ana Sofia Cabaço Boavida 11:55-12:15

FANCJ the missing piece of the AND 1 interaction hub at the DNA replication fork

Tutor: Francesca Pisani

Carmela Casale 12:15-12:25Cancer selective targeting of NF- κ B: unravel the role of GADD45 β in TNF signaling

Tutor: Alessandra Pescatore

Marta Mallardo 12:25-12:45

Exploring adiponectin involvement in Multiple Sclerosis

Tutor: Aurora Daniele

Antonietta Esposito 12:45- 12:55

Identify molecular pathway regulating cell proliferation through glycosphingolipids biosynthesis

Tutor: Seetharaman Parashuraman

Giada Onorato 12:55- 13:15Identification of environmental and genetic cues that modulate neuron degeneration in *C. elegans*

Tutor: Elia Di Schiavi

Nagendra sai kumar Achanta 13:15-13:25

PON2 post-translational modifications and cancer

Tutor: Manco Giuseppe

13:25 – 14:25 Lunch Break

Anupama Pavithran 14:25-14:45

Role of ADP-ribosylation in breast cancer sensitization to apoptosis: PARP12 as a novel therapeutic target

Tutor: Giovanna Grimaldi

Martina Garofalo 14:45- 15:05

Role of D-aspartate metabolism in neurodevelopmental disorders

Tutor: Alessandro Usiello

15:05 – 17:25 Session

Human Genetics

Chairs: Bruna De Felice, Sandro Banfi, Francesca Fusco, Sabrina Carrella, Fernando Gianfrancesco, Andrea Riccio, Brunella Franco, Alessia Indrieri, Marina Ciullo, Teresa Esposito

Concetta Montanino 15:05-15:15

MicroRNAs as diagnostic biomarkers in neurodegenerative disease. A focus on MCI (Mild Cognitive Impairment) – Alzheimer's disease and MS (Multiple Sclerosis).

Tutor: Buna De Felice

Pasqualina Cennamo 15:15-15:35

Polygenic Risk Score of oxidative status and Alzheimer's Disease

Tutor: Marina Ciullo

Martina Di Guida 15:35-15:50

miR-181a/b downregulation: a mutation-independent therapeutic approach for Inherited Retinal Diseases

Tutor: Sandro Banfi, Sabrina Carrella

Romina D'Alterio 15:50 -16:10

The role of microRNAs 181a and b in Parkinson's Disease: from promising therapeutic targets to potential biomarkers

Tutor: Brunella Franco, A. Indrieri

Abu Saadat 16:10-16:25

Genome-wide studies for the molecular characterization of isolated Wilms tumor

Tutor: Andrea Riccio

Ezia Spinosa 16:25-16:35

Inclusion and extension of data from families with IP to reveal the characteristic of IFN-I autoimmunity

Tutor: Francesca Fusco

Georgios Petropiannakis 16:35-16:55

Identification and evaluation of microRNAs involved in photoreceptor degeneration

Tutor: Sandro Banfi, Sabrina Carrella

Giorgio Fortunato 16:55-17:10

Generation of PD-disease cellular models to explore the genetic heterogeneity of Parkinson's disease

Tutor: Teresa Esposito

Sharon Russo 17:10-17:25

The ZNF687 mutation of Paget's disease causes bone remodelling alteration dysregulating osteoclast transcriptional program and osteoblast activity

Tutor: Fernando Gianfrancesco

Day 2

09:30 – 17:15 Session

PhD Programme in Molecular Life Sciences

Thursday, 6 October 2022

Structure and Functions of Biomolecules

Chairs: Antimo Di Maro, Paolo Vincenzo Pedone, Roberto Fattorusso, Angela Chambery, Assunta Borzacchiello, Francesca M. Pisani, Monica Scognamiglio, Luigi Russo, Rita Berisio, Silvia Onesti, Alessia Ruggiero, Giuseppe Manco, Carla Isernia

Veronica Russo 9:30-9:50

Prokaryotic and Eukaryotic zinc-finger proteins
Tutor: Paolo Vincenzo Pedone

Angela Clemente 9:50-10:05

The Structural Characterization of quinoin, type-1 ribosome-inactivating protein from *Chenopodium quinoa* Willd seeds
Tutor: Antimo Di Maro

Antonello Prodomo 10:05-10:15

Single-molecule biophysical study of the FANCJ DNA helicase
Tutor: Francesca M. Pisani

Diana Santos 10:15-10:35

Dissecting the interaction of DDX11 with Tim, a fork-protection complex subunit
Tutor: Francesca M. Pisani

Eliza Kramarska 10:35-10:50

Structural characterization of novel vaccine antigens
Tutor: Rita Berisio

Maria Marone 10:50-11:00

A Mesophilic Phosphotriesterase-Like Lactonase Shows High Stability And Proficiency As Quorum Quenching Enzyme
Tutor: Giuseppe Manco

Giovanna Valentino * 11:00- 11:20 *

Specialized metabolites as potential lead compounds for anticancer drug discovery
Tutor: Antonio Fiorentino

Manil Kanade * 11:20-11:35

Structural studies of the RTEL1 FeS helicase
Tutor: Silvia Onesti

Giovanni Barra 11:35-11:45

Biocompatible Polymers For Human Health
Tutor: Rita Berisio, Alessia Ruggiero

Mario di Gennaro 11:45-12:05

Hyaluronic acid and its derivatives based multifunctional nanostructured devices in cancer therapy and regenerative medicine
Tutor: Assunta Borzacchiello

Martina Slapakova 12:05-12:20

Transcriptional factors with a single zinc-finger domain in *Arabidopsis thaliana*
Tutor: Paolo Vincenzo Pedone

Hafiza Zumra Fatima Hussain 12:20-12:30

Characterization of ribotoxic enzymes from Edible Mushrooms
Tutor: Antimo Di Maro

Mohammad Mahtab 12:30-12:45

Elucidating the role of DDX11, the Warsaw breakage syndrome DNA helicase, at the DNA replication fork.
Tutor: Francesca M. Pisani

Maria della Valle 12:45-13:05

Polystyrene nano-plastics affect human Ubiquitin structure and ubiquitination in cell: a high-resolution study
Tutor: Roberto Fattorusso

Martina Dragone 13:05-13:15

Interchange of different metal ion in metallo-protein
Tutor: Carla Isernia

Clementina Acconci 13:15-13:30

High-resolution conformational analysis of RGDechi1-14 and ψ RGDechi peptides using a combination approach of Nuclear Magnetic Resonance and Molecular Dynamic simulations
Tutor: Luigi Russo

13:30 – 14:30 Lunch Break

Chairs: Roberto Fattorusso, Stefania De Luca, Antonio Fiorentino, Anna Messere, Brigida D'Abrosca, Monica Scognamiglio, Annamaria Sandomenico, Menotti Ruvo, Gaetano Malgieri, Nunzianna Doti, Emilia Pedone, Simona Maria Monti, Milena Petriccione, Giuseppina De Simone

Manoj Madheswaran 14:30-14:50

Characterization of Human Prion Protein Conformation Equilibria Using NMR Methodologies Under Cell Mimicking Conditions
Tutor: Roberto Fattorusso

Vincenzo Massimiliano Vivenzio 14:50-15:00

Carbonic Anhydrases represent novel molecular targets against pathogen infections.
Tutor: Simona Maria Monti, Giuseppina De Simone

Francesca Guzzo 15:00-15:15

Bio-guided approach as a valuable strategy in the search of antibacterial compounds from three Myrtaceae plants.
Tutor: Brigida D'Abrosca

Getasew Shitaye Ayalew 15:15-15:25

Unmasking Viral RNA: targeting viral RNA capping machinery to tackle COVID-19 and future CoV emergencies
Tutor: Gaetano Malgieri

Joyce Rodriguez 15:25-15:40

NMR-based metabolomics reveals the allelopathic potential of selected invasive plants in the Mediterranean basin
Tutor: Monica Scognamiglio

Rita Russo 15:40-15:50

Plant-based investigation to discover new bioactive molecules as galectin inhibitors
Tutor: Emilia Pedone

Vikram Pratap Singh 15:50-16:05

Innovative mass spectrometry-based proximity labeling method for unraveling the Macrophage migration inhibition factor (MIF) interactome
Tutor: Angela Chambery

Chidoh Kootole 16:05-16:15

Plant specialized metabolites for treatment of Leukemia
Tutor: Monica Scognamiglio

Valentina Verdoliva 16:15-16:30

Development of biocompatible hyaluronan-based materials as drug-carriers and implant systems for tissue engineering
Tutor: Stefania De Luca

Angela Oliver 16:30-16:40

Structural and functional characterization of the recombinant FVII of coagulation
Tutor: Annamaria Sandomenico, Menotti Ruvo

Alessandra Del Bene 16:40-16:55

Tailoring the structure of cell penetrating DNA and RNA binding nucleopeptides
Tutor: Anna Messere

Anna Magri 16:55-17:05

Development and application of new edible active formulations to preserve beneficial biomolecules and reduce fruit losses: study of treatment-induced changes to fruit metabolism.
Tutor: Antonio Fiorentino, Milena Petriccione

Mehwish Kanwal 17:05-17:15

Purification, structural and functional characterization of FV zymogen from plasma fraction concentrates.
Tutor: Nunzianna Doti

PhD Programme in Molecular Life Sciences

Day 3

Friday, 7 October 2022

09:30 – 10:50 Session

Gene Regulation and Computational Biology

Chairs: Annamaria Carissimo, Claudia Angelini, Andrea Riccio, Flavia Cerrato, Sandro Banfi, Denis Dupuy, Elia Di Schiavi

Valeria Policastro 09:30-09:50

Network Methods for Biomedical Discoveries

Tutor: Annamaria Carissimo, Prof Claudia Angelini

Sara Savaheli 09:50-10:00 *Elucidation of the link between RNA maturation and neurodegeneration by a cell-specific transcriptomic analysis in *C. elegans*

Tutor: Denis Dupuy, Andrea Riccio, Elia Di Schiavi

Francesco Cecere 10:00-10:20

Investigating the causes of DNA methylation disturbances in the Beckwith-Wiedemann syndrome

Tutor: Andrea Riccio, Flavia Cerrato

Lucia Argenziano 10:20-10:30The effects of the maternal-effect gene *Padi6* on mouse female fertility, embryogenesis, and epigenetic reprogramming

Tutor: Andrea Riccio

Karla Alejandra Ruiz Ceja 10:30-10:50

Inherited retinal disease genes: study of their genomic organization and identification of co-expressed long noncoding RNAs by meta-analysis of human retina transcriptome data

Tutor: Sandro Banfi

10:50 – 15:50 Session

Cancer biology, Immunology, Microbiology, Drug design

Chairs: Luigi Buonaguro, Salvatore Di Maro, Valerio Costa, Lidia Muscariello, Carmela Gianfrani, Piergiuseppe De Berardinis, Bruno D'agostino, Lidia Muscariello, Sandro Cosconati, Ivana D'Angelo, Donatella de Pascale, Giovanna Del Pozzo, Antonella Zannetti, Elia Di Schiavi, Donatella Cimini, Paola Italiani

Annachiara Sarnella 10:50- 11:10

Inhibition of hypoxia-induced carbonic anhydrase IX sensitizes triple negative breast cancer cells and murine models to cisplatin

Tutor: Antonella Zannetti

Beatrice Cavalluzzo 11:10-11:20

Novel molecular targets for Hepatocellular carcinoma

Tutor: Luigi Buonaguro

Antonia D'Aniello 11:20- 11:35

Low-molecular weight lipopeptides as strategy for fighting the antimicrobial resistance

Tutor: Salvatore Di Maro

Carmine Buonocore 11:35-11:55*Pseudomonas gessardii* M15: a source of biotechnologically valuable molecules from Antarctic waters

Tutor: Donatella de Pascale

Ida De Chiara 11:55-12:05*In vitro* evaluation of probiotic properties of newly LAB strains isolated from natural whey cultures.

Tutor: Lidia Muscariello

Renata Esposito 12:05-12:20

Similar Programmed Death Ligand 1 (PD-L1) expression profile in COPD and NSCLC

Tutor: Bruno D'Agostino

Mariavittoria Laezza 12:20-12:40

Molecular characterization of Antigen Presenting Cells from patients with active celiac disease versus subjects on gluten free diet

Tutor: Giovanna Del Pozzo

Ilaria Mottola 12:40-12:50

Identification of diagnostic biomarkers of intestinal damage in the different forms of celiac disease

Tutor: Carmen Gianfrani

Nicoletta Campolattano 12:50-13:10Characterization of the MSMEG-3762/63 efflux pump in *Mycobacterium smegmatis*

Tutor: Lidia Muscariello

Caterina Perfetto 13:10-13:25

Metabolic rewiring in thyroid carcinomas induced by BRAF gene mutations

Tutor: Valerio Costa

Saba Sadiq 13:25-13:35

Optimization of growth of probiotic strains for potential health applications

Tutor: Donatella Cimini

13:35 – 14:35 Lunch Break

Federica La Rocca 14:35-14:50Identification of neuroprotective natural compounds for the development of nutraceuticals and drugs: the effects of CLA on *C. elegans* neurodegenerative disease models.

Tutor: Elia Di Schiavi

Roberta Mancò 14:50-15:10 *

Induction of anti-tumor response by filamentous bacteriophage targeting

Tutor: Piergiuseppe De Berardinis

Pouria Savadi Someeh 15:10-15:20

Surface Engineering of PLGA Nanoparticles with Poly (vinyl alcohol) to Overcome the Airway Mucus barrier

Tutor: Ivana d'Angelo

Rahul Ravichandran 15:20-15:40 **In silico* application of advanced docking strategies based upon the nature of the drug targets: Carbonic Anhydrases and Rhodesain of *Trypanosoma brucei rhodesiense*.

Tutor: Sandro Cosconati

THE PHUC NGUYEN 15:40-15:50 *

Monocytic cell line U937 as the valid model for LPS detection cell-based assay

Tutor: Paola Italiani

* These students participate in remote