



Day 1 Wednesday, 25 September 2024

09:20– 09:30 Angela Chambery Opening of the PhDays 2024

Structural biology and protein function

9:30 – 11:35 Session

Chairs: Carla Isernia, Gaetano Malgieri

Angela Oliver (37° cycle)

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

Antonello Prodomo (37° cycle)

Strategies for fluorescent labelling of DNA-binding proteins in single-molecule biophysical studies
Tutor: Francesca Pisani

Bartosz Malinski * (39° cycle)

Use of Nuclear Extracts to study Cohesin at Single Molecule level
Tutor: Gijs Wuite

Eunice Wairimu Maina (38° cycle)

Effects of Plastic on Human Gut Bacteria
Tutor: Gaetano Malgieri

Salvatore Mottola (39° cycle)

Sustainable Ultrasound-Assisted Solid Phase Peptide Synthesis (SUS-SPPS)
Tutor: Anna Messere

Linsheng Zhang (39° cycle)

Role of the DDX11 DNA helicase at the interface between DNA replication and chromosomal cohesion
Tutor: Francesca Pisani

Mario Privitera (39° cycle)

Alternative strategies against Klebsiella pneumoniae infection through structural studies
Tutor: Rita Berisio, Alfonso De Simone

Polina Selkova (39° cycle)

In vitro reconstitution of the de novo human cohesin loading pathway operating at the DNA replication fork
Tutor: Francesca Pisani

Giovanni Barra (37° cycle)

Biocompatible polymers for human health
Tutor: Rita Berisio, Alessia Ruggiero

Martina Dragone (37° cycle)

Experimental and computational methods to explore non covalent interactions in metal coordinating proteins and host-guest β -CD complexes
Tutor: Carla Isernia

11:35 – 11:50 Break

11:50 – 13:30 Session

Mehwish Kanwal (37° cycle)

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

Getasew Shitaye Ayalew (37° cycle)

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

Vincenzo Massimiliano Vivenzio (37° cycle)

Targeting Bacterial Carbonic Anhydrases: Identification, Structural Characterization, and Inhibition Studies in Acinetobacter baumannii
Tutor: Simona Maria Monti, Giuseppina De Simone

Ilaria Mottola (37° cycle)

Interleukin-4 inhibits the inflammatory cascade leading to villous atrophy in potential celiac disease
Tutor: Carmen Gianfrani

Martina Filocaso (39° cycle)

Advances in Galectin Research: new insights into Gal-3 interactors and Gal-7 characterization
Tutor: Michele Saviano

Maria Marone (37° cycle)

Microbial and human lactonases for the control of virulence factors in pathogenic bacteria
Tutor: Giuseppe Manco

13:30 – 14:00 Lunch Break

14:00-16:35 Session

Chairs: Luigi Russo, Roberto Fattorusso

Anna Magri (37° cycle)

Development and application of new active packaging to preserve beneficial biomolecules to reduce fruit losses
Tutor: Antonio Fiorentino, Milena Petriccione

Awet Ghebretinsae Tewelde (38° cycle)

The evaluation of in vitro genotoxicity and cytotoxicity of polystyrene nanoparticles on HeLa cells and of molecular basis of the processes involved
Tutor: Roberto Fattorusso

Rita Russo (37° cycle)

Galectin-3: an ever fashionable protein
Tutor: Emilia Pedone

Domenico Sgambati (38° cycle)

Zinc Finger Proteins: Roles and Functions in Eukaryotic and Prokaryotic Systems
Tutor: Paolo Vincenzo Pedone

Maria Giuseppina Campanile (39° cycle)

Purification of hortensins, type 1 ribosome inactivating proteins from the seeds of Atriplex hortensis L. var. rubra
Tutor: Antimo Di Maro

Martina Slapakova (36° cycle)

Defining the Roles of MucR and MucR2 in Symbiotic Regulation and DNA Structuring in Sinorhizobium meliloti
Tutor: Paolo Vincenzo Pedone

Ivan Mercurio * (38° cycle)

Disrupting protein-protein interactions involving PED/PEA15
Tutor: Roberto Fattorusso

Maryam Kamarehei * (38° cycle)

Design neuroprotective peptides against prion diseases
Tutor: Luigi Russo

Hafiza Zumra Fatima Hussain (37° cycle)

Melleatin, a multitasking enzyme with rRNA N-glycosylase and nuclease activity from Armillaria mellea fruiting bodies
Tutor: Antimo Di Maro

Mohammad Hossein Mosalaeizadeh (39° cycle)

Bioinformatics analysis outlines the diffusion of a novel H-NS-like protein family largely present in Proteobacteria
Tutor: Roberto Fattorusso

Nataliia Ventserova (38° cycle)

Insights into the formation of transient oligomeric species involved at the initial stages of Prion protein fibrillation
Tutor: Roberto Fattorusso



Day 2 Thursday, 26 September 2024

Cellular and molecular bases of human diseases

09:30 – 11:20 Session

Chairs: Pieter de Lange, Nicoletta Potenza

Antonietta Esposito (37° cycle)

Identify molecular pathway regulating cell proliferation through glycosphingolipids biosynthesis

Tutor: Seetharaman Parashuraman

Anna Truda * (38° cycle)

Identification of genomic and epigenomic biomarkers in liquid biopsy by Next-Generation Sequencing in prostate cancer

Tutor: Nicoletta Potenza, Giovanna Marchese

Giulia Grillo (38° cycle)

Polystyrene microplastics impair steroidogenesis by inducing mitochondrion-endoplasmic reticulum dysregulation

Tutor: Alessandra Santillo

Ilenia De Leo * (37° cycle)

Transcriptomic approach for studying miRNAs roles

Tutor: Nicoletta Potenza

Maria Elena Truppa (39° cycle)

Morphological and functional characterization by preclinical imaging techniques of genetically modified mouse models for D-aspartate oxidase

Tutor: Alessandro Usiello

Hira Khan (39° cycle)

The effect of palmitoleic acid, an exerkin during fasting, in muscle cells

Tutor: Pieter de Lange

Raffaella di Vito (38° cycle)

Untangling the intricate networks shaped by D-Asp in the developing brain

Tutor: Alessandro Usiello

Mariaceleste Pezzullo (39° cycle)

A novel competing endogenous RNA network involving the lncRNA JPX, miR-378a-3p and its mRNA targets in lung adenocarcinoma

Tutor: Aniello Russo

Maria Ventriglia (39° cycle)

Mitochondrial Unfolded Protein Response (UPRmt) is involved in maintaining BAT mitochondria functionality of obese mice treated with 3,5-diiodothyronine (T2)

Tutor: Rosalba Senese

11:20 – 11:35 Break

11:35 – 13:15 Session

Maria Carannante (37° cycle)

Reproductive cytotoxic and genotoxic impact of polystyrene microplastic on *Paracentrotus lividus* spermatozoa

Tutor: Lucia Rocco

Debora Latino (37° cycle)

Investigation of the molecular mechanisms activated in Leydig and Sertoli cells by D-Asp treatment to sustain steroidogenesis and spermatogenesis

Tutor: Maria Maddalena Di Fiore

Nicole Lara Castillo (39° cycle)

Role of Thyroid hormone (T3) in muscle metabolic signaling and differentiation

Tutor: Pieter de Lange

Mariagrazia Di Gennaro (38° cycle)

Unravelling the role of the TGN export machinery for basolateral proteins in Amyloid Precursor Protein (APP) transport and processing

Tutor: Alberto Luini

Ilaria Palmieri (39° cycle)

Combined effect in vitro of TiO₂ nanoparticles and polystyrene microplastics on human spermatozoa

Tutor: Lucia Rocco

Nunzia Magnacca * (37° cycle)

miR-18a-5p reduces lipid accumulation by regulating SREBP1c expression in vitro and in vivo NAFLD models: link with ER stress response

Tutor: Antonia Lanni

Isar Yahyavi (38° cycle)

Serum D-serine Correlates with Age and Treatment in Parkinson's Disease

Tutor: Alessandro Usiello

13:15 – 13:45 Lunch Break

13:45 – 15:40 Session

Chairs: Andrea Riccio, Flavia Cerrato

Ivana Milas * (39° cycle)

Development of stem cell-based models of cohesinopathies in vitro

Tutor: Marina Tarunina

Arif Mahmood * (38° cycle)

De novo variants in a gene encoding a histone underlie a novel Neurodevelopmental Disorder

Tutor: Manuela Morleo

Emilia D'Angelo * (38° cycle)

Omics analyses to molecularly characterise a large cohort of Silver-Russell Syndrome patients

Tutor: Flavia Cerrato

Ezia Spinoso (37° cycle)

Identification of Candidate Markers linked to Autoimmunity in Incontinentia pigmenti

Tutor: Francesca Fusco

Giovanni Vicidomini (39° cycle)

LANCELOT: A Molecular Newborn Screening of Treatable Conditions

Tutor: Vincenzo Nigro

Subham Saha (39° cycle)

Methylation profile of the imprinting control regions and their variability in the normal population

Tutor: Andrea Riccio

Lucia Argenziano (37° cycle)

Exploring the impact of the maternal-effect gene Padi6 on female fertility, embryogenesis, and epigenetic reprogramming in mice

Tutor: Andrea Riccio

Angela Pagano (38° cycle)

Multitomic analysis of maternal Padi6-deficient blastocysts

Tutor: Flavia Cerrato / Andrea Riccio

Concetta Montanino (37° cycle)

Non-coding RNAs as versatile regulators in Neurodegenerative Diseases (NDDs). A focus on MS (Multiple Sclerosis)

Tutor: Bruna De Felice

15:40 – 15:55 Break

15:55 – 17:30 Session

Nagendra Sai Kumar Achanta (37° cycle)

Regulatory mechanism and functional impact of Post-Translational Modifications on Human Paraoxonase2

Tutor: Giuseppe Manco

Pasquale Di Letto (38° cycle)

Long read sequencing for elusive pathogenic variants

Tutor: Vincenzo Nigro

Maria Zawadzka (39° cycle)

Gaining insight into the role of long noncoding RNA in inherited retinal disorders

Tutor: Sandro Banfi

Sarah Iffat Rahman (38° cycle)

Optimizing Long-Read Sequencing Pipeline for Rare Disease Diagnostics

Tutor: Vincenzo Nigro

Brunella Mongiardi (38° cycle)

Identification of sex-specific therapeutic strategies in aging and dementia

Tutor: Elvira De Leonibus

Cristina Somma (38° cycle)

Pharmacological stimulation of autophagy to rescue proteinopathy and cognitive decline in lysosomal storage disorders

Tutor: Elvira de Leonibus

Sabrina Gargiulo (39° cycle)

Investigating the role of the phosphatase SHP-1 in regulating cellular senescence

Tutor: Alessia Varone

* These students participate in remote

Day 3 Friday, 27 September 2024

Cancer Biology, Drug design, Immunology and Microbiology

9:30– 11:45 Session

Chairs: Ivana D'Angelo, Sandro Cosconati

Wenjie Yang * (38° cycle)

The innate memory molecular mechanism of monocytes and macrophages

Tutor: Diana Boraschi

Tinghao Liu * (38° cycle)

The innate immune memory of mast cells

Tutor: Diana Boraschi

Wenli Shi * (38° cycle)

Anti-tumor mechanism of natural mushroom polypeptide Gymnopeptide A

Tutor: Hongchang Li

Suyin GE * (39° cycle)

Assessing systemic and mucosal immunity and predicting modulation of responses in the elderly and diseased population against future infections

Tutor: Diana Boraschi

THE PHUC NGUYEN * (37° cycle)

Human cell-based assays and advances in endotoxin analysis

Tutor: Paola Italiani

Muhammad Waqas (38° cycle)

AI-Driven Tool for Predicting Thermostability-Enhancing Mutations in GPCRs through Integrated Machine Learning Models

Tutor: Sandro Cosconati

Pouria Savadi Someeh (37° cycle)

Unraveling the role of poly (vinyl alcohol) in developing mucus- and biofilm-penetrating PLGA nanoparticles for pulmonary delivery of antimicrobial peptides

Tutor: Ivana d'Angelo

Andrea Casale (39° cycle)

Inhalable nanoparticles delivering peptidomimetic/antibiotic combinations for local treatment of CF lung infections

Tutor: Ivana d'Angelo

Michele Roggia (39° cycle)

From algorithms to molecules: the identification of riboswitch-targeting compounds

Tutor: Sandro Cosconati

Mohammad Shaukat Ali (39° cycle)

Targeting pharmacologically relevant anti-cancer agents by employing AI based methods PyRMD and PyRMD2Dock

Tutor: Sandro Cosconati

Marco Barretta (38° cycle)

Nanomaterials-based strategies for the treatment of hepatocellular and colorectal cancer

Tutor: Assunta Borzacchiello

11:45– 12:00 Break

12:00 – 13:30 Session

Chairs: Salvatore Di Maro, Lidia Muscariello

Roberto Cutolo (39° cycle)

Development of amphiphilic dendrimers for targeting CXCR4/ $\alpha v \beta 6$ / $\alpha v \beta 8$ overexpressing cancers

Tutor: Salvatore Di Maro

Iolanda Camerino * (38° cycle)

Unlike cisplatin, temozolomide inhibits migration and vasculogenic mimicry of glioblastoma cells

Tutor: Generoso Luca Colucci D'Amato

Fareeha Amjad (39° cycle)

Targeting of the CHCHD4 import pathway for Neuroprotection

Tutor: Nunzianna Doti

Beatrice Cavalluzzo (37° cycle)

Novel Immunological targets for Hepatocellular Carcinoma based on molecular mimicry

Tutor: Luigi Buonaguro

Davida Mirra * (38° cycle)

You are what you breathe: the impact of cigarette smoke and nanoplastics on airways disease

Tutor: Bruno D'Agostino

Vincenzo Mazzarella (38° cycle)

CXCR4 and FAP-1 as promising molecular targets for early-stage cancer diagnosis and treatment

Tutor: Salvatore Di Maro

Giuseppe Ciccone (38° cycle)

Selection of a novel RNA aptamer selectively targeting NSCLC-derived CAFs

Tutor: Silvia Catuogno

13:30 – 14:00 Lunch Break

14:00– 15:25 Session

Ida De Chiara (37° cycle)

Lactococcus lactis cell-free supernatant inhibits GBM cell line proliferation and maintains blood-brain barrier integrity

Tutor: Lidia Muscariello

Carmela Casale (37° cycle)

GADD45 β interferes with the dual RIPK3-driven activation of RHIM-dependent NF- κ B signaling and necroptosis

Tutor: Alessandra Pescatore

Gaetano Caputo (39° cycle)

Design and characterization of cyclodextrin complexed drugs and natural compounds against bovine coronavirus

Tutor: Carla Isernia

Milena Della Gala (38° cycle)

Investigating the Mycobacterium smegmatis TetR₃₇₆₅ regulon

Tutor: Lidia Muscariello

Saba Sadiq (37° cycle)

Riboflavin production by a mutant Limosilactobacillus fermentum in vegetable beverages

Tutor: Donatella Cimini

Sohaib Bin Shabbir (39° cycle)

Optimization of Microbial Melanin Production from Streptomyces strains Tutor: Donatella Cimini

Innovative omics technologies in biomolecular sciences

15:25 – 17:00 Session

Chairs: Monica Scognamiglio, Brigida D'Abrosca

Domenico Romano (38° cycle)

Specialized metabolites from natural sources as lead compounds to fight against emerging diseases

Tutor: Antonio Fiorentino

Carlo Raucci (39° cycle)

Characterization and biological evaluation of Trichoderma spp. Metabolites

Tutor: Brigida D'Abrosca

Federica Farinella (39° cycle)

Machine Learning and Network Analysis for Biomarker Discovery in Neurodegenerative Diseases

Tutor: Bruna De Felice

Chidoh Kootole (37° cycle)

NMR-based metabolomics and anti-leukemic activity of plants used in traditional medicine in Botswana

Tutor: Monica Scognamiglio

Alessandro Giaquinto (39° cycle)

Secretomic signatures in diagnostic stewardship for sepsis

Tutor: Angela Chambery

Enza Canonico (39° cycle)

Unravelling the TR3-56 cell proteome by Tandem Mass Tag-Based High-Resolution LC-MS/MS

Tutor: Angela Chambery

Erika Truppo (39° cycle)

Bioactive small molecules from plants as ligands of DNA secondary structures

Tutor: Antonio Fiorentino

Angela Sorice (39° cycle)

NMR-based metabolomics to discover bioactive cycloartane glycosides from Astragalus species

Tutor: Monica Scognamiglio

Mercy Ebuloluwa, Ayinde (38° cycle)

Antibacterial Activities of Selected Nigerian Plants Against Clinically Important Human Pathogens

Tutor: Brigida D'Abrosca

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