

# **PROGRAM**

# Monday, 17 October

8:30	REGISTRATION
10:20	OPENING Institutional welcome by Prof. Angela Zampella (Dean of the Department of Pharmacy, University of Naples Federico II)
10:30	PLENARY LECTURE (40+10min Q/A) Prof. Olivia Merkel
	University of Munich Ludwig-Maximilians
	Drugging the Undruggable with Pulmonary RNA Delivery
11:20	SESSION 1 ORAL COMMUNICATIONS (10+2min Q/A) - CANCER RESEARCH
	<b>Cecilia Pozzi,</b> University of Siena Structural characterization of YAP-TEAD4 protein-protein interaction: an emerging target for cancer treatment
	Anna Di Porzio, University of Naples Federico II Design, synthesis, biophysical and biological characterization of carbonic anhydrase inhibitors- Berberine hybrids as new multi-target anti-cancer agents
	Fabio Di Nardo, University of Torino A lateral flow immunoassay for the detection of urinary prostate specific antigen (uPSA)
	Rosa Bellavita, University of Naples Federico II Self-assembled peptide-based nanofibers at the crossroad of breast cancer challenge: new targeting and treatment opportunities
12:20	SESSION 2 ORAL SLIDE&TALK (5min) - SMART AND ADAPTIVE MATERIALS
	Ahmed Mahmoud, International Iberian Nanotechnology Laboratory (INL) Polydopamine-Inspired Fabrication of SERS Biosensing Platforms
	<b>Benedetta Brugnoli,</b> University of Rome Sapienza Smart polydiacetylenes nanosystems as drug delivery and in vitro and in vivo cell tracking
	<b>Biagio Todaro,</b> Scuola Normale Superiore Synthesis optimization and fluorescence-lifetime imaging microscopy characterization of Pioglitazone-loaded nanoparticles
	Concetta Di Natale, University of Naples Federico II Multifunctional microneedles as novel therapeutic strategies for Triple-negative breast cancer
	Giovanni Falcone, University of Salerno  Design and manufacturing of alginate soft tablets via semi solid extrusion 3D printing
	Elena Lagreca, Italian Institute of Technolgy/University of Naples Federico II  Development of Cell membrane-coated oil in water nano-emulsions as biomimetic nanocarriers
13:00	LUNCH

14:15	SESSION 3 ORAL COMMUNICATIONS (10+2min Q/A) - RECOGNITION (BIO)ELEMENTS
	Andrea Patrizia Falanga, University of Naples Federico II Synthesis, characterization and delivery of peptide nucleic acids targeting Bcl-2 gene promoter: a potential tool for cancer treatment
	Alessandro Bertucci, University of Parma Dynamic nucleic acid nanostructures as molecular and interfacial transducers in biosensor design
	<b>Gemma Conte,</b> University of Naples Federico II  Hybrid lipid/polymer nanoparticles to tackle the cystic fibrosis mucus barrier in siRNA delivery to the lungs
	Silvia Rinaldi, Italian National Council of Research (Firenze)  A dynamic recognition of t1-adenosine sheds new lights on human Argonaute-2 protein target affinity
	Simone Fortunati, University of Parma Electrochemical magnetic genoassay for detection of mutated KRAS oncogene in liquid biopsy contexts
15:20	SESSION 4 ORAL SLIDE&TALK (5min) - CANCER RESEARCH
	Daniele Florio, University of Naples Federico II Small enhancers of amyloid aggregation of mutated Nucleophosmin: novel therapeutics in Acute Myeloid Leukemia
	Alice Della Valle, University of Chieti Gabriele D'annunzio Sulfonamides as aromatase inhibitors
	Binh Thanh Mai, Trinity College of Dublin Multi-functional polymeric nanostructures for biomedical applications
	Ilaria Arduino, University of Bari Aldo Moro Microfluidic preparation of tumor homing biomimetic hybrid liposome
	Francesca Torrini, University of  PD-L1 sensing detection via a poly(catecholamine)-based epitope imprinted biopolymer
	Anna Fontana, University of Siena Identification of azetidin-2-one core for the development of dual hHDAC6/hHDAC8 inhibitors as antiproliferative agents
15:50	COFFEE BREAK
16:20	INVITED TALK (20+5min Q/A) Dr. Thomas Moore IIT Genova Nanomedicines: From formulation development to crossing biological barriers
16:50	SESSION 5 ORAL COMMUNICATIONS (10+2min Q/A) - SKIN-RELATED
	Giuseppe Arrabito, University of Palermo Emilio Segrè Self-cleaning ZnO/ITO/PET Bending Sensors
	Maddalena Sguizzato, University of Ferrara Transdermal delivery of antioxidant-loaded ethosomes: formulation, application and activity on the skin
17:15	SESSION 6 ORAL SLIDE&TALK (5min) - EYES-RELATED
	Teresa Silvestri, University of Naples Federico II

17:30	delivery of diosmin: characterization and in-vitro antinflammatory assessment  CLOSING → SOCIAL ACTIVITIES
	Elide Zingale, University of Catania Optimization of a lipid nanoplatform by Response Surface Methodology to improve the ocular
	Rosa Sparaco, University of Naples Federico II Synthesis of new molecular hybrids of antiglaucoma drugs and H2S donors
	Formulation and characterization of Poly(lactic-co-glycolic acid) based microparticles for intravitreal injection

# Tuesday, 18 October

9:15	PLENARY LECTURE (40+10min Q/A) Prof. Luisa Torsi
	University of Bari Aldo Moro
	Offiversity of Barr Aido Moro
	Sensing at the zeptomolar concentration level with large area bioelectronic interfaces
10:05	SESSION 7 ORAL COMMUNICATIONS (10+2min Q/A) - QUALITY CONTROL
	Federica Moccia, University of Naples Federico II Chestnut wood mud as a source of ellagic acid for dermo-cosmetic applications
	<b>Donato Calabria,</b> University of Bologna Alma Mater Studiorum  A 3D-printed electrochemiluminescent enzymatic biosensor based on luminol-H2O2 system for glucose quantification in pharmaceutical products
	Francesca Clemente, University of Florence 2-Octyl trihydroxypiperidine lead compound: synthesis of analogues and screening on neuronal precursors cells for Parkinson disease
10:40	SESSION 8 ORAL SLIDE&TALK (5min) - VIRAL RESEARCH
	Roberta Bivacqua, University of Palermo Search for novel anti SARS-CoV-2 agents targeting Nsp13: computational studies and biological evaluations
	Margherita Izzi, University of Bari Aldo Moro Analytical characterization of nanoantivirals reducing the persistence of SARS-CoV-2 on common- touch surfaces
	Agnese Bondi, University of Ferrara Smart gels containing natural polyphenols against HSV-1 infection: a comparative study
	Simone Cavalera, University of Torino Development of an antigen lateral flow immunoassay for the on-field detection of African Swine Fever virus in lymph nodes and spleen from wild boars
11:00	COFFEE BREAK
11:30	SPONSOR TALK: ALFATEST
11:45	SESSION 9 ORAL COMMUNICATIONS (10+2min Q/A) - MULTI-ANALYSIS/SYNTHESIS
	Andrea Cerrato, University of Rome Sapienza A novel approach based on an aza-Paternò-Büchi reaction for the evaluation of the double bond regio-distribution in untargeted lipidomics

16:00	SESSION 12 ORAL SLIDE&TALK (5min) - CANCER RESEARCH
44.00	Angela Bonaccorso, University of Catania  Design of different nanoplatforms intended for nose-to-brain delivery of fluorescent-, small- or biological molecules
	Gemma Palazzolo, IIT Genova Magnesium-tailored alginate as a novel biopolymer for brain regenerative medicine
	Annalisa Scroccarello, University of Teramo Affordable colorimetric devices integrating plasmonic nanostructures. Smartphone-based disinfection treatments monitoring as a case study
	Vincenzo Taresco, University of Nottingham Functional/bio-renewable initiators for the ring-opening polymerisation (rop) of biodegradable lactide based polyesters
15:05	SESSION 11 ORAL COMMUNICATIONS (10+2min Q/A) - FUNCTIONAL NANOPLATFORMS
14:40	INVITED TALK (20+5min Q/A) Dr. Gabriella Pinto University of Naples Federico II Development of an LC-MRM/MS method to monitor SARS-COV-2 proteins from nasopharyngeal swabs and serum proteins in virus-affected subjects
13:20	LUNCH
	Sima Singh, University of Naples Federico II Microwave-assisted MXene-Co <sub>3</sub> O <sub>4</sub> nanocomposite-based architectures as promising sensing materials toward hydrogen peroxide and its biosensing applications in cancer
	Daniela Mennickent, University of Concepciòn Prediction of gestational diabetes mellitus with near-infrared-based chemometrics models
	Andrea Cappucciati, University of Pavia The growing interest for CBD: the case of liquid for e-cigarettes
	Rita Puglisi, Kings College London A novel RNA-binding mechanism mediated by disordered regions in LARP4a and LARP4b
	<b>Rocco Cancelliere</b> , University of Rome Tor Vergata  Powerful electron-transfer screen-printed platforms as bio-sensing tools for uric acid determination
	Sara Pesavento, University of Verona A low-cost and portable device for cyanide detection in cadaveric blood with a smartphone camera
	<b>Silvia Dortez,</b> University of Alcalà Serum iron accurate determination by microfluidic paper-based analytical device with smartphone readout
12:40	SESSION 10 ORAL SLIDE&TALK (5min) - RELEVANT SPECIES
	Veronica Ghini, University of Florence  NMR profiling in COVID-19 disease course
	<b>Federica Sodano,</b> University of Naples Federico II  Microwave- and ultrasound-assisted synthesis of DM1 and DM2: application and optimization, in silico studies, and evaluation of their anti-absence activity in vitro and in vivo
	<b>Nicolò Riboni,</b> University of Parma Metabolome of 16th century dental calculus: the case of Alessandro Farnese, duke of Parma, and his wife duchess Maria D'Aviz

# Simona Marzano, University of Naples Federico II

Balancing affinity, selectivity and cytotoxicity

of Hydrazone-based G-Quadruplex ligands for activation of interferon B gene in cancer cells

#### Romualdo Troisi, University of Naples Federico II

Structural features of thrombin binding aptamers: oligonucleotides with great potential in therapeutic and diagnostic applications

#### Fortuna Ponte, University of Calabria

The contribution of computations to the elucidation of the mechanism of action of Pt(IV) prodrugs: successes, failures, and future perspective

#### Davide Ialongo, University of Rome Sapienza

New pyrimidine derivatives as potential disruptors of the aurka/n-myc interaction

#### Giuliana Siragusa, University of Verona

Epiproteomics of progressively de-differentiated pancreatic cancer stem cells based on super-SILAC mass spectrometry

#### Cristina Parisi, University of Catania

A Doxorubicin-NO Releaser Molecular Hybrid Activatable by Green Light to Overcome Resistance in Breast Cancer Cells

# 16:30 POSTER SESSION 1

#### POSITION 0

Andrea Capucciati, University of Pavia

Light and Electricity: strategies for the oxidation of C-H bonds.

# **POSITION 1**

Daniela Benigno, University of Naples Federico II

G-Quadruplex aptamer T30175 and Its Derivatives: Exploring New Potential Anticancer Activities.

#### **POSITION 2**

#### Matteo Mari, University of Modena and Reggio Emilia

Pyrimidinic curcumin derivatives for colorectal cancer diagnosis: synthesis, characterization, and cold labelling.

# **POSITION 3**

# Marco Mendolicchio, Scuola Superiore Meridionale

Vibrational spectroscopy in curvilinear coordinates: application to biological systems and their building blocks.

# **POSITION 4**

#### Rossella Svigelj, University of Udine

An Electrochemical Aptasensor Based on Gold Nanoparticles for Gluten Detection.

#### **POSITION 5**

# Anna Giorgio, University of Padova

Selective av83 [99mTc][Tc(N)PNP]-tagged RGDechi peptides: metabolites identification.

#### **POSITION 6**

#### Carolina Canè, University of Naples Federico II

Antimicrobial peptide Temporin-L induces vesicle formation and reduces the virulence in S. aureus.

#### **POSITION 7**

# Laura Pérez Gutiérrez, University of Perugia/University of Granada

Optimization of Pressure-Assisted Microsyringe (PAM) 3D printing process for the development of sustainable bioadhesive patches.

# **POSITION 8**

## Carmela Maria Montone, University of Rome Sapienza

A rapid and innovative enrichment approach for the metaproteomic characterization of dissolved organic matter in groundwater.

#### POSITION 9

# Cameron Devine, University of Nottingham

A modular theranostic system for vascular disease.

#### **POSITION 10**

# David Cohen, University of Nottingham

Real Time Histology: Using Magnetic Resonance Imaging to Visualise Macrophage Polarisation State

#### **POSITION 11**

#### Chiara Nosengo, University of Ferrara

Enrichment of a critical impurity in a therapeutic peptide.

#### **POSITION 12**

## Antonia Scognamiglio, University of Naples Federico II

Design and synthesis of NCX3 modulators for the treatment of neurological disorders.

#### **POSITION 13**

# Giorgia Andreozzi, University of Naples Federico II

Synthesis and evaluation of serotoninergic ligands with antiproliferative activity.

#### **POSITION 14**

## Michele Schlich, University of Cagliari

Pharmaceutical Development and In Vivo Study of Intravenous Vesicular Epinephrine - the REVIVE project.

## **POSITION 15**

#### Elisa Lazzarini, University of Bologna Alma Mater Studiorum

A portable colorimetric chemosensor for the quantification of antioxidant power in food samples exploiting the in situ AuNPs synthesis.

#### **POSITION 16**

## Andrea Pace, University of Bologna Alma Mater Studiorum

A Guanosine-Derived Supramolecular Hydrogel with DNAzyme-like peroxidase activity as a novel platform for hydrogen peroxide detection.

# **POSITION 17**

## Isabella Romeo, University of Catanzaro Magna Grecia

Targeting SARS-CoV-2 Nsp13 helicase and assessment of druggability pockets: identification of two potent inhibitors by a multi-site computational approach.

#### **POSITION 18**

# Marica Erminia Schiano, University of Naples Federico II

Quantitative Determination of BPA and its Congeners in Food Matrices by Liquid Chromatography Coupled to Tandem Mass Spectrometry.

## **POSITION 19**

# Aristoniki loannou, European University of Cyprus

The toxicological impact of Covid-19 on the Hospital Acquired Infections: A bibliographical review.

# **POSITION 20**

# Francesca Alessandra Ambrosio, University of Catanzaro Magna Grecia Virtual Screening studies for the discovery of new proteasome inhibitors.

## **POSITION 21**

Vincenza Armenise, University of Bari Aldo Moro

	Atmospheric pressure cold plasma to activate liquids and hydrogels for the biomedical field.
	POSITION 22 Federica Curcio, University of Calabria Preparation and study of solid lipid nanoparticles based on curcumin and resveratrol containing linolenic acid.
	POSITION 23 Giorgia Maurizii, University of Urbino Carlo Bò 3D printed EVA-based patches manufactured by direct powder extrusion for personalized transdermal therapies.
17:30	CLOSING → SOCIAL DINNER

# Wednesday, 19 October

9:15	PLENARY LECTURE (40+10min) Prof. Maria Laura Bolognesi
	1 Tot, Maria Edura Botognesi
	University of Bologna Alma Mater Studiorum
	Multi-target-directed ligands for neurodegeneration: expanding the toolbox
10:05	SESSION 13 ORAL COMMUNICATIONS (10+2min Q/A) - NANOPARTICLES & NANOSTRUCTURES
	Nina Bono, Polytechnic University of Milan Improving nanoparticles uptake through mechanical cell priming
	Peter Harvey, University of Nottingham  Contrast agents for molecular MRI
	Valeria La Pietra, University of Naples Federico II Mdm2/4 heterodimer inhibitors and 5-FU as novel nanparticle-mediated combination for cancer figthing
10:45	SESSION 14 ORAL SLIDE&TALK (5min) - LIGHT-RELATED
	<b>Vittorio Ferrara,</b> University of Palermo Emilio Segrè Design of Chitosan Hydrogel loaded with Visible Light Sensitive N-doped TiO₂ for Biomolecules Degradation
	Federica Blua, University of Torino  Design and synthesis of SWIR emitters for optical imaging
	Rosita Cappai, University of Sassari Chelating agents for the treatment of iron overload
	Mariacristina Failla, University of Torino New tools against multidrug resistance: a novel peroxynitrite-photodonor activable with Red Light
11:10	COFFEE BREAK
11:40	SESSION 15
	ORAL COMMUNICATIONS (10+2min Q/A) - VIRAL RESEARCH
	Luisa D'Anna, University of Palermo

Salphen-like metal complexes and their interaction with viral and human G-quadruplex DNA and RNAs  $\,$ 

#### Alessandro Porchetta, University of Rome Tor Vergata

Rational design of hairpin DNA reporters for enhanced CRISPR-based detection of viruses and bacteria

# Sveva Pelliccia, University of Naples Federico II

 $\alpha$ -Ketoamides as SARS-CoV-2 Main Protease Inhibitors

# 12:15 **SESSION 16**

# ORAL SLIDE&TALK (5min) - ECO-FRIENDLY

# Sara Viggiano, University of Naples Federico II

Eco-friendly and mussel-inspired hydrogels and glues from soy proteins and natural polyphenols for wound treatment applications

#### Martina Lenzuni, IIT Genova

Static and dynamic analysis of plant-based coatings for drug-eluting stents

#### Desiree Bozza, University of Ferrara

Promising green alternatives to replace acetonitrile in preparative liquid chromatography for the purification of a bioactive peptide

#### Federico Fanti, University of Teramo

Determination of modulation of oxysterols Profile in Zebrafish Embryos e xposed to xenobiotics by means LC-MS/MS

# 12:35 POSTER SESSION 2

## **POSITION 24**

#### Federica Falbo, University of Calabria

Multi-fingerprint Similarity Search algorithm-assisted Discovery of Morin and Chrysin derivatives as new CaV1.2 channel inhibitors.

#### **POSITION 25**

### Debora Carozza, University of Modena and Reggio Emilia

Large pore mesoporous silica (LPMS) suitable for therapy application in the drug delivery of unconventional large molecules.

#### **POSITION 26**

# Silvia De Caro, University of Pavia

Biological oxidations and nitrations promoted by heme-AB16 complex.

# **POSITION 27**

# Diletta Bergamo, University of Parma

Design and synthesis of new peptidomimetic membranolytic compounds and preliminary evaluation of their antimicrobial activity.

#### **POSITION 28**

#### Chiara Spaggiari, University of Parma

Metabolite profiling and bioactivities of leaves, stems and flowers of Rumex usambarensis (Dammer) Dammer, a traditional African medicinal plant.

#### **POSITION 29**

#### Salvatore Rizzo, University of Catania

Total food grade approach for the preparation of colon-targeted microcarriers for nutraceutical delivery

# **POSITION 30**

### Angela Corvino, University of Naples Federico II

Development of multi-target hydrogen sulfide releasing hybrids as novel anti-asthma agents.

#### **POSITION 31**

Alessia Romeo, University of Catania

Optimization of a novel mucoadhesive hybrid platform for topical melatonin delivery to the posterior eye segment: in vitro studies on a diabetic retinopathy model.

#### **POSITION 32**

#### Chiara Gnocchi, Istituto Italiano di Tecnologia

Zein-based spray-dried microparticles for wound healing applications.

#### **POSITION 33**

#### Fabiola Eugelio, University of Teramo

Microextraction of Endocannabinoids and related compounds in biological matrices and analysis by means LC-MS/MS.

# **POSITION 34**

## Sara Rossi, University of Siena

Design and synthesis of Mpro inhibitors focused on exploration of appropriate heterocyclic systems for the S3/S4 sub-sites.

#### **POSITION 35**

## Gabriele Ciasca, University Cattolica Sacro Cuore

FTIR analysis of circulating extracellular vesicles for cancer liquid biopsy.

#### **POSITION 36**

# Camilla Russo, University of Naples Federico II

Photomicellar catalyzed synthesis of amides from isocyanides: optimization, scope, and NMR studies of photocatalyst/surfactant interactions.

# **POSITION 37**

#### Raffaele Graziano, University of Naples Federico II

Ultraviolet resonance Raman spectroscopy to investigate cytosine epigenetic modifications and conformational changes in G-quadruplex DNA.

## POSITION 38

#### Federica Daria, University of Naples Federico II

Targeting DNA G-quadruplex in KRAS oncogene promoter: physicochemical and biological studies.

#### **POSITION 39**

#### Charlotte E. Gidman, University of Nottingham

Expanding the Horizons of Imaging: Real Time Tracking of Drugs in the Brain.

# **POSITION 40**

# Giuseppe Longobardi, University of Naples Federico II

Polymeric nanoparticles delivering a combination of 5-FU and MDM2/4 inhibitors to fight colon cancer.

#### **POSITION 41**

## Antonella Vitiello, University of Naples

Zein/ HP-beta-CD nanoparticles as a novel platform to enhance Cannabidiol delivery.

#### **POSITION 42**

#### Loyan Salah, University of Nottingham

Molecular Imaging of Inflammation.

# **POSITION 43**

# Debora Santonocito, University of Catania

Evaluation of Innovative Technologies as Manufacturing Methods for Solid Lipid Nanoparticles Powders.

#### **POSITION 44**

Francesco Falciani, University of Bologna Alma Mater Studiorum

	Development of a Method based on Multi Potential Steps and Scanning Electrochemical
	Microscopy for evaluating Single Living Cells Oxygen Consumptions
	POSITION 45 Francesca Musumeci, University of Genova Design and synthesis of a new series of pyrazolo[3,4-d]pyrimidines active as SGK1 inhibitors in ovarian cancer cell models.
	POSITION 46 Pouria Savadi, University of Campania Luigi Vanvitelli Surface Engineering of PLGA Nanoparticles with Poly (vinyl alcohol) to Overcome the Airway Mucus barrier.
13:35	LUNCH
14:45	INVITED TALK (20+5min Q/A) Dr. Antonella Ciancetta University of Ferrara MIDAS: a combined enhanced sampling molecular dynamics and fragment-based approach to locate allosteric binding sites in G protein-coupled receptors
15:10	SESSION 17 ORAL COMMUNICATIONS (10+2min Q/A) - INHIBITION-CENTERED
	<b>Veronica Di Sarno</b> , University of Salerno Identification of new <i>B-Carboline-based TRPM8</i> antagonists: in Vitro and in Vivo pharmacological characterization
	Antonella Ilenia Alfano, University of Naples Federico II Intertwining continuous flow, organocatalysis and sustainable chemistry for the synthesis of medicinally relevant (spiro)indolines
	Chiara De Luca, University of Ferrara Enrichment of critical peptide impurities through modern preparative liquid chromatographic process
	<b>Giusy Tassone,</b> University of Siena Structural characterization of human Heat shock protein 90 N-terminal domain in complex with a potent 1,2,3-triazole based inhibitor
	Simona Musella, University of Salerno In silico assisted study and in vitro characterization of dual 5-LOX/sHE inhibitors with in vivo anti-inflammatory properties
16:15	SESSION 18 ORAL SLIDE&TALK (5min) -Hearth & Brain
	Valeria Nele, University of Naples Federico II Self-assembling nanoparticles to tackle neurodegeneration
	Silvia Conti, IIT Genova Intracellular and extracellular recording of cardiomyocyte action potentials using organic electrochemical transistors
	Alessio Lenzi, University of Pisa MS-based assay for the determination of natriuretic peptides in saliva and plasma samples
	Chiara Bacchella, University of Pavia The b iochemistry of m etal-p rotein c omplexes in n eurodegenerative d iseases
	Giada Botti, University of Ferrara New homodimeric prodrugs of ferulic acid: formulative studies to obtain solid lipid microparticulate systems
	Matilde Murari, University of Verona

	Zebrafish larvae as a model to study the metabolism of new psychoactive substances: a comparison with mice by using High Resolution Mass Spectrometry
16:45	AWARDS
17:15	CLOSING CEREMONY

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