

Bioimaging, Theranostics and Advanced Pharmaceutical Technologies: what combination for precision medicine?

September 2nd - 4th 2025
Palermo

2nd SITELF National PhD summer school
(XXIV ADRITELF National PhD school)

2nd September 2025

General program

- **13:45 – 15:15** Registration and welcome
- **15:15** Opening speech: Prof. P. Minghetti and G. Cavallaro
- **15:30 - 17:00** First day - Session one
- **17:00 - 17:20 Coffee break**
- **17:20 – 18:30** PhD Student talk session

Session one - E.F.Craparo, N. Denora

DESIGN AND PRODUCTION OF BIOMATERIALS
FOR THERANOSTICS APPROACHES

- **15:30 – 16:15**

Speaker: Prof. Thomas Etrych (Institute of Macromolecular Chemistry, Czech Academy of Science, Prague)- **“Hydrophilic polymer-based biomaterials as a tool in in vitro diagnostics, therapeutics and theranostics”**

- **16:15 - 17:00**

Speaker: Prof. Cinzia Scialabba (University of Palermo) - **“Exploring Theranostics: Innovative Nanomedicine Application in Precision Medicine”**

Welcome social event

3rd September 2025

General program

- **09:00-11:00** Second day - Session one
- **Coffee Break: 11:00 – 11:15**
- **11:15 - 12:45** Second day – Session two
- **Lunch Break: 13:00-14:30**
- **14:30 - 17:00** PhD Student talk session
- **17:00 - 17:30 Coffee break**
- **17:30 – 18:30** Poster Session

Session one - G. Cavallaro, C. Fiorica

NANOBASED DRUG DELIVERY SYSTEMS IN PRECISION
MEDICINE AND THERANOSTICS

- **09:00 - 09:45**

Speaker: Prof. Giuseppe Battaglia (Institute for Bioengineering of Catalogna, Spain)- **“Next generation nanomedicines: from drug delivery to supramolecular drugs”**

- **09:45 – 10:30**

Speaker: Prof. Nicola Tirelli (Italian Institute of Technology, Genova) - **“Transcriptomic profiling – a powerful tool for the stratification of tumours but also for really targeted therapies”**

- **10:30 - 11.00**

Elsevier speakers: Dr. Marta Da Pian, SAM for Life Science, and Sebastiano Rossitto, Customer Manager Success - **“AI in the lab and Beyond: Real-World application in Research”**

Session two - N. Mauro, P. Minghetti

PHOTO-RESPONSIVE SYSTEMS FOR
THERANOSTICS

- **11:15 - 12:00**

Speaker: Prof. Salvo Sortino (University of Catania) - **“Photoactivatable Drug Delivery Systems”**

- **12:00 - 12:45**

Speaker: Prof. Elisabetta Ranucci (University of Milano) **“Luminescent Poly(amidoamine) Iridium Complex as a New Singlet-Oxygen Sensitizer for Photodynamic Therapy”**

4th September 2025

General program

- **09:00-10:30** Third day – Session one
- **Coffee Break: 10:30 – 11:00**
- **11:00-12:45** Third day – Session two
- **Lunch Break: 13:00-14:30**
- **14:30 - 17:30** PhD Student talk session
- **Coffee Break: 16:00 - 16:20**
- **17:30 – 18:30** Poster Session

Session one - M. Licciardi, C. Scialabba

IMAGING TOOLS IN PRECISION MEDICINE: FROM
MOLECULAR INSIGHT TO THERAPEUTIC INNOVATION

- **09:00 - 09:45**

Speaker: Prof. Valeria Vetri (University of Palermo) - **“From light to insight: investigating molecular fate with quantitative fluorescence microscopy””**

- **09:45 – 10:30**

Speaker: Dr. Mauro Sassi (Novartis) **“Radioligand Therapy and Analytics: unlocking the future of medical innovation”**

Session two - R. Aquino, R. Bettini

MAGNETIC RESONANCE BASED SYSTEMS FOR
THERANOSTICS

- **11:00 – 11:45**

Speaker: Prof. Silvio Aime (Istituto di Bioimaging di Torino) - **“Advances in Magnetic Resonance Probes and Procedures for Medical Imaging”**

- **11:45 – 12:30**

Speaker: Dr. Cesare Gagliardo (University of Palermo) - **“Magnetic Resonance Imaging: From Precision Diagnosis to Targeted Treatment”**

Social dinner and award ceremony

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2nd September 2025

PhD Student talk session - Detail

Session one - G. Biscari, S.E. Drago

- G. Frigerio (Unimi)

“Subcutaneous biorelevant media to screen the in vitro release of naltrexone from plga microspheres”

- D. Ianev (Unipv)

“Innovative biomaterials-based microneedles for the treatment of pathological scars”

- M. Pollini (Unipv)

“Injectable thermoresponsive hydrogels for cardiac regeneration”

- A. Nallathambi (Unipv)

“Fabrication of off-the-shelf biodegradable small-caliber vascular graft with improved microbiological and regenerative features”

- A. Ungolo (Unipv)

“Hydrogels based on mussels inspired chitosan derivatives for wound healing”

- A. Guidone (Unisa)

“Hybrid pcl-based 3d printed bone scaffolds: advancing controlled drug delivery and nanoscale integration”

3rd September 2025

PhD Student talk session - Detail

Session one - F.S. Palumbo, S. Scirè

- D. Fondaj (Uniba)

“Microfluidic-assisted production and advanced characterization of rna-loaded lipid nanoparticles”

- I. Chiarugi (Unifi)

“Smart nanovector for gene therapy: design and optimization of lipid and cyclodextrin-based vectors for sirna delivery”

- A. Giglio (Iusspavia)

“Spermine-functionalized sirna polyplexes for efficient gene silencing in fibrosis-associated diseases”

- S. Bonsignore (Unipa)

“Comparative insights into nanostructured formulations based on polyaspartamide-zein copolymer: potential platforms for sirna delivery by inhalation”

- L. Vizzoni (Unisi)

“Cyclodextrin-based protection of inhalable plasminogen preserves activity in oxygen-rich aerosolization”

- S. Brusco (Unina)

“Ph-responsive lipid@plga nanoparticles for enhanced pulmonary delivery of inhaled sirnas”

- A. Modena (Uniupo)

“Impact of microenvironment on lyo-secretome from mesenchymal stromal cells: comprehensive characterization and in vitro biological activity”

Session two - P. Varvarà

- B. Bigi (Uniroma)

“Essential oil nanoemulsions: co-surfactant and rheological modifiers as key enhancers of stability and antimicrobial activity”

- G. Diana (Uniupo)

“Vitamin d3 microparticles: the critical interdependence between formulation and process study in spray drying”

- M. Ivone (Uniba)

“From small to large molecules: encapsulation by prilling/vibration for tailored therapies”

4th September 2025

PhD Student talk session - Detail

Session one - M. Cabibbo, G. Tosi

- E. C. Toto (Unich)

“Smart formulation of SLNs: integrating microfluidics with experimental design tools”

- V. Falcone (Unipg)

“Development of ursodeoxycholic acid-loaded solid lipid nanoparticles (slns) and nanostructured lipid carriers (nlcs) for topical delivery”

- S. Fiani (Unifi)

“Farnesol-loaded chitosan micelles as a novel therapeutic approach for infected skin ulcers”

- M. Di Gangi (Unipi)

“Development and characterization of decorated liposomes for ocular delivery of triamcinolone”

- G. Zucca (Unipv)

“Development of mucopenetrating curcumin-loaded micelles embedded in a hydrogel for local treatment of vaginal candidiasis”

- S. Marsani (Unipv)

“Thermal treatment effect on primary packaging impact on sln adsorbtion”

- M. D. Langelotto (Uniss)

“From waste to therapy: a sustainable platform combining optimized plant-derived nanovesicles and a natural gel-derived patch”

Session two - R. Cillari, F. Terracina

- C. Mazzacano (Unina)

“Restoring immune surveillance in colorectal cancer through sirna delivery via inulinated nanoparticles”

- P. D’Anna (Unina)

“Plga nanoparticles functionalized with a tailor-made hyaluronan for the delivery of sirna to cancer cells”

- F. Corsaro (Unipa)

“Inhalable formulations based on the nani into micro (nim) strategy loaded with sorafenib to treat lung cancer”

- L. Galassi (Unibo)

“Iron oxide nanoparticles as nanocarriers’ moieties for theranostics purposes”