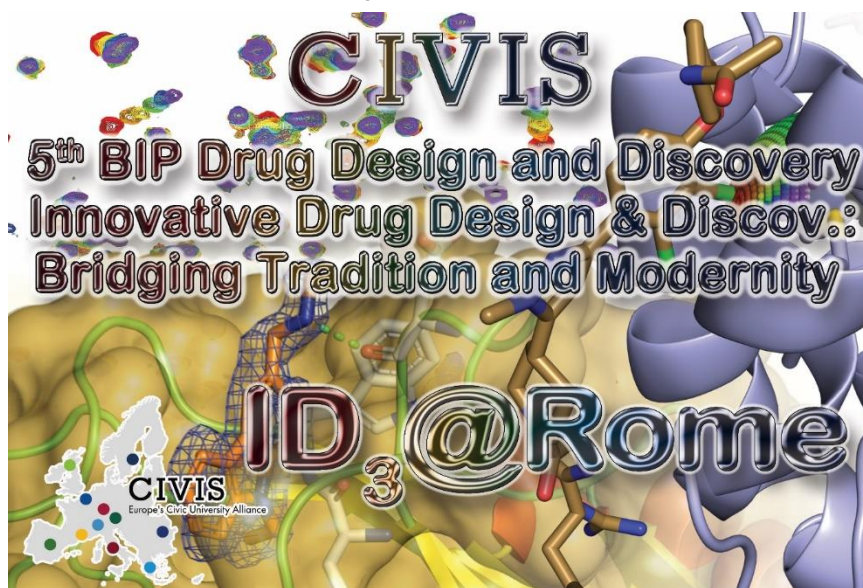


## CIVIS Blended Intensive Program: D<sub>3</sub>HT<sub>5</sub>

### 5<sup>th</sup> BIP Drug Design and Discovery

### Innovative Drug Design & Discovery: Bridging Tradition and Modernity

ID<sub>3</sub>@Rome 2026



The Drug Design and Discovery program includes lectures on the fundamental principles of drug discovery, as well as case studies from previous projects. Throughout the virtual course, professors and mentors will be available for informal discussions. The program will also include keynote lectures from distinguished industry stakeholders. The virtual part is organized into six-hour sessions per week for eight weeks, for a total of 48 hours of lectures, as shown in the following schedule::

### Planned Online Lectures Program (as of 09<sup>th</sup> Sep 2025)

Week	Date	WeekDay(s)	Time Slots (CEST)	Teacher	Topic
<b>Week1</b>	8 April	Wednesday	14:00-17:00	Prof. Frank M. Boeckler	From Charges to $\pi$ -systems: Classical Molecular Interactions – Familiar, yet still Surprising; Non-Classical Molecular Interactions: New Tools, New Rules
<b>Week1</b>	10 April	Friday	14:00-17:00	Prof. Frank M. Boeckler	The Drug Discovery Process & Technologies - Strategies, Issues, Costs, Outlook; Thermodynamics in Drug Discovery (in Hit2Lead / LeadOpt); Molecular Complexity & Fragment-based Drug Discovery Hit-to-Lead optimization, Co-optimizing Ligand Properties, Avoiding late Attrition
<b>Week2</b>	15 april	Wednesday	14:00-15:30	Dr. Miruna Stan	In Vitro Cell Culture Models and Evaluation of Drug Effects
<b>Week2</b>	15 april	Wednesday	15:30-17:00	Prof. Maria Cano-Abad	Neurodegenerative Diseases and Drug Discovery
<b>Week2</b>	17 april	Friday	14:00-15:00	Dr Gratiela Gradisteanu	Immunomodulation and Drug Impact on Cytokine Production and on the M1/M2 Macrophage Phenotype



<b>Week2</b>	17 april	Friday	15:00-17:00	Prof. Luminita Marutescu	Evaluation Drug-induced Responses in Cultured Cells at Specific Time Points (Cell Cycle Analysis and Apoptosis). Screening of Drug-induced Reactive Oxygen Species Production in Leukocytes Subpopulations in Whole Blood (Ex-vivo)
<b>Week3</b>	22 april	Wednesday	14:00-17:00	Prof. Francois Devred	Microcalorimetry (ITC, DSC) and NanoDSF : Application to Anticancer Drugs Screening and Thermodynamic Characterization
<b>Week3</b>	24 april	Friday	14:00-17:00	Prof. Emmanuel Mikros	Introduction to NMR Spectroscopy and Related Screening Methods
<b>Week4</b>	29 april	Wednesday	14:00-17:00	Prof. Florence Gattacceca	Pharmacokinetics in Drug Discovery and Development: Physiologically- based PK (PBPK) Models
<b>Week4</b>	30 April	Thursday	14:00-17:00	Prof. Sandrine Alibert	Facts and Principles in Drug Discovery and Development: the Molecular Drug Space Selection and Optimization
<b>Week5</b>	6 May	Wednesday	14:00-17:00	Prof. Antonello Mai	Introduction to Epigenetics and Related Drugs
<b>Week5</b>	8 May	Friday	14:00-17:00	Prof. Sergio Valente	Synthesis Strategies to Prepare Epigenetic Small Molecules Modulators
<b>Week6</b>	13 May	Wednesday	14:00-15:30	Dr. Dr. Javier Blanco	Animal models for metabolism diseases
<b>Week6</b>	13 May	Wednesday	15:30-17:00	Dr. Gratiela Gradisteanu	Animal Models (Ethical Considerations, Experimental Design, In vivo Analysis of Drug Effects)
<b>Week6</b>	15 May	Friday	14:00-15:30	Dr. Maria del Carmen Ovejero Benito	New targets and potential drug candidates for refractory epilepsy
<b>Week6</b>	15 May	Friday	15:30-17:00	Dr. Matthias Bauer	Fragment-based Approaches towards PROTAC Development and Free Energy Methods in Industry
<b>Week7</b>	20 May	Wednesday	14:00-17:00	Prof. Allegra Via	Integrating Bioinformatics and Drug Design: Concepts, Tools, and Applications
<b>Week7</b>	22 May	Friday	14:00-17:00	Prof. Rino Ragno	Introduction to Ligand-based Methods: Pharmacophore Modeling, (3D) QSAR
<b>Week8</b>	27 May	Wednesday	14:00-17:00	Prof. Rino Ragno	Introduction to Structure-based Methods in Drug Design: Molecular Docking
<b>Week8</b>	29 May	Friday	14:00-15:30	Prof. Markus Zimmermann	Machine Learning and Artificial Intelligence in Drug Discovery
<b>Week8</b>	29 May	Friday	15:30-17:00	Prof. Evangelos Terpos	Clinical Trials



## Onsite Activities (as of 09<sup>th</sup> Sep 2025)

The venue will be the Drug Design and Technology Department @ Sapienza University Main Campus - Building CU019. Information of selected accommodation will be given during the online part.



Main Campus Entrance



Rectorate



<https://virtualtour.uniroma1.it/> --- <https://maps.app.goo.gl/7ixdFZRy3HTcDYxMA>





## Planned Onsite Morning Activities (as of 09<sup>th</sup> Sep 2025)

(the time slots are of 45 minutes!!)

Time\Day	Monday July 15 <sup>th</sup> 2026	Tuesday July 16 <sup>th</sup> 2026	Wednesday July 17 <sup>th</sup> 2026	Thursday July 18 <sup>th</sup> 2026	Friday July 19 <sup>th</sup> 2026	Saturday June 20 <sup>th</sup> 2026
08:30-09:00	Arrival in Sapienza	Arrival in Sapienza	Arrival in Sapienza	Arrival in Sapienza	Arrival in Sapienza	Arrival in Sapienza
09:00-09:45	R.Ragno & A. Mai: Opening Session	M.O.Zimmermann: Machine Learning Approaches - The Long Path to Artificial Intelligence	F.Gattacceca: Introduction to physiologically-based Modelling	E.Mikros: NMR-based Metabolomics	Student oral/poster presentation - Discussion	Optional Social Program: Foro Romano
09:45-10:30	A.Mai: Introduction to Epigenetic in Drug Design	F. M. Böckler: Methods in CompChem - Choose wisely and apply with care!	F.Gattacceca: Gastroplus ADMET Predictor to Screen Gastro-intestinal absorption and metabolism properties	F.Fiorentino: Native mass spectrometry meets drug discovery: unravelling protein function and modulation	Student oral/poster presentation - Discussion	
10:30-11:15	A.Mai: Epigenetic Drugs	S.Alibert: Translating molecular insight into therapeutic advances: AI-powered redesign of antibiotics against MDR bacteria	F.Gattacceca: Gastroplus ADMET Predictor to Screen Gastro-intestinal absorption and metabolism properties	C.Fraschetti: From Plant to Peak: Decoding Essential Oil Chemistry with GC/MS	Student oral/poster presentation - Discussion	
11:15-12:00	F. M.Böckler: The Versatility of Halogen Bonding	S.Valente: Medicinal Chemistry in Action	C.Lambona & E.Fabbrizi: Development of Epigenetic (and not) Modulators	R.Astolfi & L.Giuliani: Applications of Machine Learning Algorithm	Student oral/poster presentation - Discussion	
12:00-13:30	Lunch Break	Lunch Break	Free Afternoon	Lunch Break	Lunch Break	

Italy	Germany	Romania	France	Greece	Spain
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**Important information:** All students must prepare an oral presentation (10 minutes) and/or a poster presentation on a topic of their choice. (Thesis, PhD project, Interesting Articles).

## Planned Onsite Afternoon Activities (as of 09<sup>th</sup> Sep 2025)

(the time slots are of 45 minutes!!)

Time\Day	Monday July 15 <sup>th</sup> 2026	Tuesday July 16 <sup>th</sup> 2026	Wednesday July 17 <sup>th</sup> 2026	Thursday July 18 <sup>th</sup> 2026	Friday July 19 <sup>th</sup> 2026	Saturday June 20 <sup>th</sup> 2026
13:30-14:15	M.O.Zimmermann: Principles and Applications of Chalcogen Bonding	S.Valente, C.Zwergel, F.Fiorentino, C.Lambona, E.Fabrizzi: Medicinal Chemistry in Action		R.Ragno: Extraction of Natural Compounds	Student oral/poster presentation - Discussion	
14:15-15:00	C.Chifiriuc: Harnessing Nature in Drug Discovery: Natural Compounds as Cidal, Static, and Anti-Virulence Antimicrobials.	S.Valente, C.Zwergel, F.Fiorentino, C.Lambona, E.Fabrizzi: Medicinal Chemistry in Action		R.Ragno, R.Astolfi, L.Giuliani, A.Robello, F.Pirozzi: Practical Extraction of Essential Oil	Student oral/poster presentation - Discussion	
15:00-15:45	L.Marutescu: Methods for the In vitro Assessment of Antimicrobial Activity	S.Valente, C.Zwergel, F.Fiorentino, C.Lambona, E.Fabrizzi: Medicinal Chemistry in Action	Free Afternoon	R.Ragno, R.Astolfi, L.Giuliani, A.Robello, F.Pirozzi: Practical Extraction of Essential Oil	Coffee Break	
15:45-16:15	Coffee Break	Coffee Break		Coffee Break	Feedback BIP & Discussion with Students and Closing Remarks	
16:15-17:00	M.F.Cano Abad: New strategies to develop drugs for neurodegenerative diseases	S.Valente, C.Zwergel, F.Fiorentino, C.Lambona, E.Fabrizzi: Medicinal Chemistry in Action		R.Ragno, R.Astolfi, L.Giuliani, A.Robello, F.Pirozzi: Practical Extraction of Essential Oil	Internal Meeting Discussion	
17:00-20:00	Welcome Party	Free Dinner	Free Dinner	Free Dinner / Speaker's Dinner	Social Dinner	
	Italy	Germany	Romania	France	Greece	Spain

**Important information:** All students must prepare an oral presentation (10 minutes) and/or a poster presentation on a topic of their choice. (Thesis, PhD project, Interesting Articles).



## General Information on Sapienza

Founded in 1303, Sapienza is the oldest university in Rome and the largest in Europe. Its mission is to contribute to the development of a knowledge society through research, excellence, quality education and international cooperation.

Watch the video

- **700** years of history
- **122,000** students (2022-2023 academic year)\*
- **3,576** professors
- **2,320** employees, technicians and librarians
- **1,260** administrative staff in university hospitals

Sapienza at a Glance - Facts and Figures

Social sustainability Report

\*Dynamically updated student data are available on [Sapienza Statistics](#)

## International Positioning

The world most important university rankings **place Sapienza at the national top** for quality of research, education and international dimension; moreover, Sapienza excels and leads as a benchmark in many subject areas.

Further Information

## Education and Student Services

Sapienza currently offers **309 degree programmes (Bachelor's and Master's) - among which over 66 are taught in English - 200 Advanced Professional Courses, over 95 PhDs and 87 specialisation schools.**

The School of Advanced Studies provides a programme of excellence and free tuition for the best students.

Students with an Italian **high school score of 100** are exempted from enrolment fees and the bonus is extended if they keep up their good grades. Families who have more than one child enrolled at the university also enjoy a special brothers-sisters bonus. **The enrollment is free** for students whose ISEE does not exceed 24,000 euros and there will be reductions for students whose ISEE does not exceed 40,000 euros. University services include **48 libraries** (four with 24-hour reading rooms), **19 museums**, the Ciao and Hello Orientation Offices, a Sort – Orientation and Tutoring Office in each faculty, a Disabled Students Office, the Job Soul Placement Office, and a Public Relations Office. Through the **SapienzaSport Centre**, our University promotes numerous cultural, social and sports activities to experience the campus, with over 100 thousand square metres of facilities to practice all kinds of sports, the orchestras and choirs of **Musica Sapienza**, the **Theatron** project, the web radio RadioSapienza.

**Over 30.000 students come from other Italian cities, nearly 11,000 are international students** and over **3,500 students a year take part in international mobility** programmes. Thanks to a wide network of agreements with universities around the world, Sapienza also provides its students many international opportunities, including double degrees, scholarships abroad, internships in European and non-European countries, and international PhDs.

Further Information

## Research

Scientific research activity at Sapienza covers an extremely broad spectrum of disciplines, reaching **levels of excellence** in many areas, including archaeology, physics and astrophysics, humanities and cultural heritage, the environment, nanotechnologies, cell and gene therapy, design, aerospace, social and economic sciences. Nobel Prize winners and internationally renowned scientists have taught and/or studied at Sapienza.



HELLENIC REPUBLIC  
National and Kapodistrian  
University of Athens  
EST. 1837



UNIVERSITY OF  
BUCHAREST  
VIRTUTE ET SAPIENTIA



Universidad Autónoma  
de Madrid



SAPIENZA  
UNIVERSITÀ DI ROMA

EBERHARD KARLS  
UNIVERSITÄT  
TÜBINGEN



## Further Information

### Outreach Activities

Sapienza is committed to pursuing Outreach activities (*Terza Missione*) through two different paths: technology transfer and innovation on the one hand, and the production of public goods and public engagement on the other, with the aim of generating social, cultural and economic impact on society and the territory. Activities include the enhancement of research results and academic entrepreneurship, the protection of public health and social welfare, as well as public goods of high social and cultural value, cultural initiatives for active citizenship and collaboration with schools.

In addition to the three university missions (research, education and outreach activities), Sapienza is committed to what has been defined as the "fourth mission" of universities, which crosses the three previous ones and aims to contribute to the growth of a more inclusive and aware society.

## More information

### Structures

Sapienza is organized into **11 faculties**, one School for Advanced Studies, one post-degree School of Aerospace Engineering, **57 departments**, as well as numerous research and service centres. The central administration is organized into areas, offices and sectors.

The rectorate is collegiate with a Rector, a Deputy Rector and a group of Assistant Deputy Rectors and delegates with specific competencies, alongside committees and commissions for evaluation, strategic planning, quality and integration of activities, as well as for specific topics.

## Further Information

### Sustainability

Sapienza is committed to achieving the 17 UN Sustainable Development Goals (SDGs) through its educational activities, research, third mission (service to society or outreach) and cross-cutting policies. Sustainability activities are explained on the Sustainable Sapienza portal and in the Sustainability Report published every year.

## Sustainable Sapienza

## Sustainability Report

### Communication

The symbol of Sapienza University is the **Cherub**, which, in association with the name "Sapienza University of Rome" constitutes the registered trademark and logo. Its motto is *Il futuro è passato qui*.

Sapienza annually publishes a **Sustainability Report** which presents the activities and services provided to the community, details and analyses of the university's structure, internal organization, and resources.

## Further Information

## Sustainability Report



## General Information on Roma

(From <https://www.turismoroma.it/en/page/rome-nutshell>)



It is said that a city can also be described through its panorama, colours, perfumes, objects, or even an idea. It is precisely those nuances, intangible and temporary, that sometimes turn into **unforgettable memories**.

Over the centuries, **the magic of Rome** has been masterly told by poets and writers and wonderfully depicted in the works of great artists. Eternal and mysterious, the Capital envelops those who arrive in a pleasant "sickness of Rome" that does not abandon. It is no coincidence that millions of tourists hurry to throw a coin into the Trevi Fountain with the hope of returning to visit it: because in Rome, remembering Goethe's words, everything is as we imagined it, and everything is new.

If you don't know it yet, or if you want to return to immerse yourself in its charm, here, we try to briefly describe **its profile, soul, and colours**.

### **The seven hills and the birth of Rome (753 BC)**

Legend has it that the birth of Rome is due to Romulus and Remus, the twin sons of Rhea Silvia and the god Mars, abandoned and nursed by a She-wolf and finally adopted by the shepherd Faustolo and Acca Larentia, his wife. Once they grew up, the twins decided to found a city: to determine who should govern, they entrusted themselves to the will of the gods through the flight of augural birds. From the Aventine Hill, Remus saw six vultures, while Romulus, from the Palatine, sighted twelve, becoming the first King of Rome in 753 BC.

From the Palatine Hill, the city would extend over the seven hills we all know: **Palatine, Aventine, Campidoglio, Quirinale, Viminale, Esquilino and Celio**.

### **The blond Tiber**

This is how the river god was called in the poems of ancient Rome, a god to whom respect and love were owed. But the Tiber was above all a real road over water with large ports developed since Roman times, definitively demolished in the second half of the 19th century with the construction of the docks to free the city from continuous floods. Today, direct contact with the river has been lost. However, love, respect, and the awareness of its fundamental role in the birth and development of the city remain. Not to mention the views of incredible beauty from the many historic bridges, such as Ponte Sisto, Ponte Sant'Angelo, or Ponte Fabricio, it gives us.

### **The cultural and historical heritage of Rome**





The imposing monuments, the hundreds of churches, and the spectacular fountains of Rome outline its incredible profile and make it the city with **the highest concentration of historical, archaeological, and architectural heritage in the world, with over 16% of the world's cultural heritage** and the 70% of the Italian ones.

Its historic center, delimited by the perimeter of the Aurelian Walls, is an overlapping of almost three millennia testimonies. In 1980, with the Basilica of San Paolo outside the Walls and the extraterritorial properties of the Holy See inside the city, it was included in the list of **UNESCO World Heritage Sites**.

Heart of Catholic Christianity, Rome is **the only city in the world to host a foreign state**, the enclave of the Vatican City: for this reason, it is often referred to as the "Capital of two States."

### **The 5 most visited monuments in Rome**

They are unmissable and, absolutely, you cannot miss them during your first visit to the Eternal City.

#### **The Colosseum**

#### **The Pantheon**

#### **The Roman Forum and the Palatine Hill**

#### **The Trevi Fountain**

#### **Navona Square**

But do not forget all the others! Browse through the pages of Turismoroma to create **your tailor-made trip**.

### **The natural areas of Rome**

Rome is **one of the greenest cities in Europe**, a treasure trove of art dotted with parks and gardens, rich in lush vegetation and embellished with archaeological remains, sculptures, ponds, fountains, and splendid villas. Delightful green spaces, making Rome a city for all seasons: from magnificent blooms in spring to romantic foliage in autumn, from regenerating walks in winter to pleasant relaxation in summer.

In addition to the historic residences of the most prominent noble families such as **Villa Borghese**, **Villa Doria Pamphilj**, **Villa Ada Savoia**, and **Villa Torlonia**, Rome holds actual green lungs of historical, archaeological, and natural interest, such as the immense **Appia Antica Regional Park**. It also has ancient and suggestive panoramic points over the city, such as the **Orange Garden**, the **Pincio**, and the **Janiculum Hill**.

### **The coat of arms and the symbols of Rome**

The municipal coat of arms, officially adopted in 1884, is a shield with a purple background, crossed by a Greek cross and the acronym S.P.Q.R. - Senatus PopulusQue Romanus (the Senate and the People of Rome) in golden characters, dominated by a gold crown with eight florets, five of which are visible.

In the collective imagination, however, Rome is also universally recognized and remembered thanks to the **numerous symbols** that identify it. Among them, the most famous are:

- the **Capitoline She-wolf**, the bronze statue depicting the legendary She-wolf who nursed the twins Romulus and Remus;
- the **imperial eagle**, the military effigy and symbol of the city during antiquity, and the **lion**, an animal image of supremacy and an emblem in medieval times;
- the **Colosseum**, the largest amphitheater in the Roman world, recognized in 2007 as one of the seven wonders of the modern world, the only one in Europe;
- the **Trevi Fountain**, the most monumental and famous fountain in the world;
- the **"Cupolone,"** the dome of St. Peter's Basilica in the Vatican, an emblem of the Christian world that dominates the whole city.

### **Rome is also a protagonist in the ways of sayings**

There are a good number of proverbs and idioms concerning or mentioning Rome. Here are the most famous:

***When you go to Rome, do as you will see:*** the expression is commonly used when following the status quo seems the best idea.

***Rome was not built in a day:*** this proverb means that something needs time and patience to be accomplished or that, in any case, high results are achieved with commitment and meticulousness.

***All roads lead to Rome:*** the proverb comes from the efficient road system of ancient Rome, on which much of the current Italian road system is based. Many roads started from Rome and, if taken in the opposite direction, "led to Rome."



***In Rome, God is not triune, but money:*** according to a play on words, in Rome, more than adoring the Holy Trinity, the god of money is revered.

### **The main celebrations in the city**

**21 April, Birth of Rome.** It is the date on which, according to tradition, Romulus founded the city (753 BC). This recurrence is celebrated with costumed representations, cultural events, and recreational events.

**1 May, the workers' day:** a large free concert is organized in the square of Porta San Giovanni in Laterano, in which prominent Italian and international artists participate.

**2 June, the Republic Day.** The traditional military parade takes place along Via dei Fori Imperiali, which ends in Piazza Venezia, at the Altare della Patria.

**29 June, Feast of Saints Peter and Paul.** On this date, Rome commemorates apostles Peter and Paul, patrons of the city.

**16 July, Festa de Noantri.** The recurrence is celebrated in the Trastevere district on the first Saturday after 16 July, on the anniversary of the Madonna del Carmelo.

### **Some itineraries you cannot miss**

#### **Rome in 48 hours**

#### **Roman holidays: Rome in 5 days**

#### **The great beauty**

Take advantage of the thousand aspects of Rome and learn more about all the suggested itineraries based on the themes or the time available.

#### **Why does the number 7 occur?**

Take advantage of the thousand features of Rome and learn more about all the suggested themed or timed itineraries. Number seven is a historically **symbolic** number for Rome. It represents the seven hills, the seven kings, the septemvirs, the seven magistrates or priests in charge of specific functions, the seven courts of the vigiles, the seven principal churches of the city, and the seven alphabet letters of the Roman numerals.

Around this evocative issue, we have created stories, curiosities, and itineraries on new and original sides of the city, its monuments, and its history.

#### **The seven most curious fountains in Rome**

#### **Seven XS masterpieces**

#### **Seven different point of views to read Rome: the historical libraries**

#### **Seven Roman guild churches**

#### **Seven romantic things to do in Rome**

#### **Seven Nativity artworks: a gaze at the sacred heart of Rome**

#### **Seven traditional dishes for a real Roman lunch**

#### **The art of nicknaming in seven examples**

#### **Seven streets named after seven crafts and trades**

#### **Seven optical tricks in art: Rome and the magnificent deception in painting and architecture**

#### **The urban zoo: seven streets named after animals**

#### **Seven times a woman: a female gaze upon Rome**

#### **Following in Dante's footsteps: seven places to visit in Rome**

#### **Seven sayings to discover Rome and the Roman dialect**

#### **All useful information**

Here, you find the helpful information to visit Rome easily, experiencing everything the city offers to the fullest: from tourist-cultural cards to tourist information services, from access methods to places of culture and outdoors to how to get around by public transport and in safety.

#### **Roma Pass**

#### **Tourist InfoPoints**

#### **Contact center**

#### **Rome for everybody**

#### **Newsletter**



**Wi-Fi in Rome**

**P.Stop**

**Map of Rome**

Rome awaits you!







### International Organizer Committee

Emmanuel Mikros (1<sup>st</sup> edition organizer - 2022 -Greece)  
Carmen Chifiriuc (2<sup>nd</sup> edition organizer - 2023 - Romania)  
Luminița Măruțescu (2<sup>nd</sup> edition organizer - 2023 - Romania)  
Frank M. Böckler (3<sup>rd</sup> edition organizer - 2024 - Germany)  
Markus O. Zimmermann (3<sup>rd</sup> edition organizer - 2024 - Germany)  
Maria F. Cano Abad (4<sup>th</sup> edition organizer - 2025 - Spain)  
Rino Ragno (5<sup>th</sup> edition organizer - 2026 - Spain)  
Antonello Mai (5<sup>th</sup> edition organizer - 2026 - Spain)  
Sandrine Alibert (6<sup>th</sup> edition proponent - 2027 – France)  
Florence Gattacceca (6<sup>th</sup> edition proponent - 2027 – France)

### Local Organizer Committee

Rino Ragno  
Antonello Mai  
Sergio Valente  
Francesco Fiorentino  
Clemens Zwergel  
  
Roberta Astolfi  
Lidia Giuliani  
Alessandra Robello  
Francesco Pirozzi

Chiara Lambona  
Emanuele Fabrizi  
PhD AM altri?