



*"Almost all aspects of life are engineered at the molecular level, and without understanding molecules we can only have a sketchy understanding of life itself"* Francis Crick (1988)

This School aims to provide a research-led overview of the current state-of-the-art in self-assembly phenomena, applied supramolecular chemistry, and bio-nanomaterials. Taking inspiration from Nature, the attendees will be guided through all aspects of chemistry underpinning the formation of hierarchical structures and complex functionalities.

During an intense training week the attendees will learn how to design and develop functional materials through the combination and assembly of organic, inorganic, coordination, biological molecules, and higher-level building units.

The field of supramolecular systems and bio-nanomaterials is both timely and highly interdisciplinary and this School wishes to foster a collaborative, multidisciplinary, and dynamic "playground" for presenting and discussing the most recent research results in field of supramolecular chemistry and self-assembled materials.

**Welcome to the 1<sup>st</sup> School  
of Supramolecular and Bio-Nanomaterials**



## Lectures

Athanasia Athanassiou (Italy)  
Francesca Baldelli Bombelli (Italy)  
Fabio Biscarini (Italy)  
Guido Clever (Germany)  
Ivan Huc (Germany)  
Nathalie Katsonis (The Netherlands)  
Nonappa (Finland)  
Ronald T. Raines (USA)  
Francesco Stellacci (Switzerland)  
Helma Wennemers (Switzerland)  
Michael Zaworotko (Ireland)  
Francesco Zerbetto (Italy)



## Local Organizing Committee

Pierangelo Metrangolo (Politecnico di Milano)  
Claudia Pigliacelli (Politecnico di Milano)  
Francesca Baldelli Bombelli (Politecnico di Milano)  
Gabiella Cavallo (Politecnico di Milano)  
Valentina Dichiarante (Politecnico di Milano)  
Giancarlo Terraneo (Politecnico di Milano)  
Cristina Chirizzi (Politecnico di Milano)

### Scientific Secretariat

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### Organizing Secretariat

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**1<sup>st</sup> School  
of Supramolecular and  
Bio-Nanomaterials**

**13 – 17 June 2022**

**Politecnico di Milano  
Lake Como School of Advanced Studies**

**Villa del Grumello  
Como – Italy**

## Main Activities

The School is designed for **PhD students, Post-Docs, and young scientists** with various fields of interest, who aim at mastering the phenomena associated with molecular recognition and self-assembly, and the design and preparation of functional molecules and materials for a wide-range of high-end applications.

The School Program will be organized in Lectures followed by a dedicated Question Time coordinated by the Chair of the Session.

Poster presentations will be scheduled.

Project group and team building activities will be proposed.

**Research Project Idea:** Develop a research project idea in the field of supramolecular and bio-nanomaterials.

Group is composed by 5 attendees + 1 tutor for guiding the group activity. The organizing committee will identify a topic/problem and the group will develop a project/solution based on a school template.

- **Best Research Project Idea Award**
- **Best Poster Award**

		13/06 MONDAY	14/06 TUESDAY	15/06 WEDNESDAY	16/06 THURSDAY	17/06 FRIDAY
9:00 AM	10:30 AM		Lecture 2	Lecture 5	Lecture 8	Lecture 11
10:30 AM	11:00 AM		Coffee Break	Coffee Break	Coffee Break	Coffee Break
11:00 AM	12:30 PM		Lecture 3	Lecture 6	Lecture 9	Lecture 12
12:30 PM	1:00 PM		Lunch	Lunch	Lunch	Prizes and Closing Ceremony Safe Journey Back
1:00 PM	2:00 PM					
2:00 PM	3:30 PM	Registration	Lecture 4	Lecture 7	Lecture 10	
3:30 PM	4:30 PM	Introduction	Group Project Activities	Group Project Activities	Group Project Activities	
4:30 PM	5:00 PM			Group Project Activities	Poster Session	Project Presentations by Groups
5:00 PM	6:30 PM	Lecture 1				
6:30 PM	6:45 PM	Group Project Announcement				
7:30 PM	9:30 PM	Welcome Party	Free Dinner	Free Dinner	Social Dinner	



## Scientific Themes

- Fundamentals of High Performance Computing in chemistry and biology
- Principles of supramolecular chemistry
- Nanomaterials and nanoparticles design
- Porous framework materials and their applications in storage, delivery, and separation
- Self-assembled and supramolecular systems in medicine and nanomedicine
- Smart and biomimetic materials
- Design, synthesis, and characterization of artificial folded molecular architectures
- Peptides and proteins
- Active and responsive molecular systems
- Sensors and transistors

## Application

Applications open on March 1, 2022. Deadline for application, April 30, 2022.

The School is reserved to a maximum of 30 attendees – selection will be made based on qualifications.

**The School fee is 300 € (VAT 22% included)** and includes all lectures, course materials, Wi-Fi connection, welcome party, lunches, coffee breaks, and the social dinner.

**The School provides significant but limited funds for the support of students and younger participants.**

The support for selected applicants will include: free accommodation at the students' dormitory in the Villa del Grumello for the whole duration of the school.

For detailed information please visit the school website:

<https://sbn.lakecomoschool.org>

## Location

The School is housed at **Villa del Grumello**, which is set in a stunning park overlooking the first basin of the Como lake .

It is framed by century-old trees and enchants its visitors with its delicate atmosphere and its harmonious setting.

Driving force of the development of the Larian area, the Villa is a reference point for culture, science, and the business community. Returned to its original prestige, it meets the diverse requirements of its new role as a leading centre for the City of Como. A venue of international significance, the Villa is the ideal location to host conventions, conferences, courses, meetings, fashion shows, and art events.



**POLITECNICO  
MILANO 1863**



**FONDAZIONE  
ALESSANDRO  
VOLTA**  
CULTURA  
EDUCAZIONE  
CIVITAS



MINISTERO DELL' ISTRUZIONE, DELL'UNIVERSITÀ E DELLA RICERCA



**LAKE COMO SCHOOL  
OF ADVANCED STUDIES**