



Training on Neutron Techniques: Inelastic Scattering

S. Giovanni, Valle Aurina, Bolzano, Italy 17 June - 24 June 2023

The **Italian Society of Neutron Spectroscopy SISN** organizes a three-year program of Advanced Schools called **Training on Neutron Techniques (TNT)**.

Scopes and Topics

The physical bases of neutron sources and of neutron scattering techniques for the study of condensed matter will be presented and discussed, with examples and applications in various scientific fields. Specific attention will be paid to recent developments and to those in progress and expected for the current decade.

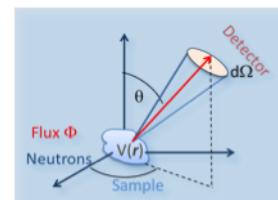
The potentialities of the experimental methods will be discussed for instruments accessible both at reactor-based facilities and at spallation sources, also in view of the European ESS project (the future European Neutron Scattering facility).

- 2022 *Diffraction and Structural Imaging*
- 2023 *Inelastic Scattering*
- 2024 *Small Angle Scattering and Reflectometry*.

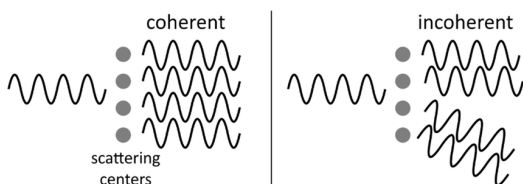
The 2023 edition:

Fundamentals

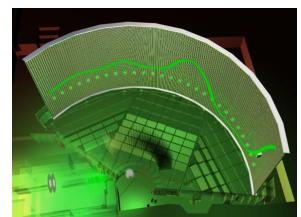
- Neutron Scattering Theory
- Neutron Sources and Instrumentation
- Mathematical methods for Neutron scattering



Inelastic Neutron Scattering (INS)

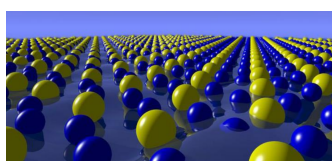


- Coherent Scattering
- Incoherent Scattering
- Quasi-elastic Scattering
- Neutron Scattering and Simulations
- INS Instrumentation on Reactor and Spallation Sources



Applications in:

- Liquids
- Nanomaterials
- Soft Matter
- Solids
- Viscoelastic Materials



Tutorials

- Small groups of students with tutors.

Program coordinator

R. Magli (Università degli Studi, Milano)

Directors of the 2023 School

A. De Francesco (CNR-IOM, Grenoble)

L. del Rosso (CNR-IFAC, Sesto Fiorentino)

A. Paciaroni (Università di Perugia, Perugia)

A. Pietropaolo (Enea, Frascati)

General Information

The School is open to **Graduate** and **PhD students** and to **Post-Docs** working in scientific disciplines as Biology, Chemistry, Earth Sciences, Material Sciences, Physics, Sciences for Cultural Heritage Conservation, and similar.

Official language: English. The School program will start on Sunday morning June 18th and finish on Saturday morning June 24th, 2023. The general lectures, in the morning, will be followed by equally important tutorials mainly in the afternoon, which are meant to be an essential moment for discussion and exchange between tutors and participants. A highly interactive environment is expected with tutors and participants in a continuous interaction. Some free time, each day, will be available. The Tuesday afternoon is left free for leisure. A couple of initiatives will be proposed but of course on a voluntary basis.



The School will be hosted at Hotel Steinpent, S. Giovanni, Valle Aurina (Bz), Italy, and the students will be accommodated in shared rooms. Students are requested to arrive at the Hotel within 7.00 pm on Saturday June 17th.

Registration and Fees

A maximum of 25 students will be accepted. The registration fees of 300€ include full board accommodation at the Hotel Steinpent and handouts of the lectures. Travels costs to and from S. Giovanni are not included. A limited amount of fellowships is available, depending on the available funds.

A pre-registration is required: interested people should complete the Registration form present at <http://www.sisn.it/formazione/tnt-summer-school>, uploading also a short CV.

SISN will evaluate the applications and will communicate on the scheduled time the final acceptance.

The School will be held in-person. The Organizers will keep updated in due time the SISN web site (www.sisn.it) on the evolution of the COVID pandemic situation.

Further information (Program, etc.): please visit the SISN web site (www.sisn.it) or contact the School Directors: defrance@ill.fr and l.delrosso@ifac.cnr.it

Important dates for the 2023 edition:

Pre-registration deadline:	April 20	Preliminary acceptance:	April 27
Fee payment deadline:	May 10	Final acceptance:	May 20

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