SISN Training on Neutron Technique summer school – 2023 edition

"*Inelastic Scattering*"

School Programme

	Sunday 18/06	Monday 19/06	Tuesday 20/06	Wednesday 21/06	Thursday 22/06	Friday 23/06
8:30 - 9:15	Mathematical methods	Spectrometers on continuous sources	Coherent neutron scattering in solids	Coherent neutron scattering in liquids	Neutron scattering and simulations	Detectors
	Bafile	*Demmel*	*Cunsolo*	*Pilgrim*	*Gonzalez*	*Piscitelli*
9:15-10:00	Mathematical methods	Spectrometers on pulsed sources	Coherent neutron scattering in solids	Coherent neutron scattering in liquids	Neutron scattering and simulations	Detectors
	Bafile	*Demmel*	*Cunsolo*	*Pilgrim*	*Gonzalez*	*Piscitelli*
10:00 - 10:30	BREAK	BREAK	BREAK	BREAK	BREAK	BREAK
	Coffee break	*Coffee break*	*Coffee break*	*Coffee break*	*Coffee break*	*Coffee break*
10:30 - 11:15	Theory of neutron scattering	Incoherent neutron scattering	Quasi-elastic neutron scattering	The fluctuation-dissipation theorem	Dynamics of nano-confined light molecules in different H2O crystals	Investigating Molecular Nanomagnets with Inelastic Neutron Scattering: Magnetism, Spin Dynamics and beyond
	Guarini	*Colognesi*	*Paciaroni*	*Cunsolo*	*Ulivi*	*Garlatti*
11:15 - 12:00	Theory of neutron scattering	Incoherent neutron scattering	Quasi-elastic neutron scattering	The multi-exponential analysis	SISN Greetings	Investigating Molecular Nanomagnets with Inelastic Neutron Scattering: Magnetism, Spin Dynamics and beyond
	Guarini	*Colognesi*	*Paciaroni*	*Bafile*	*Formisano*	*Garlatti*
12:00 - 13:30	BREAK	BREAK	BREAK	BREAK	BREAK	BREAK
	Lunch	*Lunch*	*Lunch*	*Lunch*	*Lunch*	*Lunch*
13:30 - 14:15	Theory of neutron scattering	**Collective Tutorial: Data analysis**	FREE TIME	**Tutorial – 1st Shift**	**Tutorial – 2nd Shift**	**Tutorial – 2nd Shift**
	Guarini	***Guarini***				
14:15 - 15:00	Physics of Neutron Production	**Collective Tutorial: Data analysis**		**Tutorial – 1st Shift**	**Tutorial – 2nd Shift**	**Tutorial – 2nd Shift**
	Pietropaolo	***Guarini***				
15:00 - 15:30	BREAK	BREAK		BREAK	BREAK	BREAK
	Coffee break					
15:30 - 16:15	Physics of sources (reactors)	**Collective Tutorial: Data analysis**		**Tutorial – 1st Shift**	**Tutorial – 2nd Shift**	**Tutorial – 2nd Shift**
	Reiter	Guarini				
16:15 - 17:00	Physics of sources (reactors)	**Tutorial – 1st Shift**		**Tutorial – 1st Shift**	**Tutorial – 2nd Shift**	**Tutorial – 2nd Shift**
	Reiter					
17:00 - 17:45	Physics of sources (spallation)	**Tutorial – 1st Shift**		**Tutorial – 1st Shift**	**Tutorial – 2nd Shift**	**Tutorial – 2nd Shift**
	Quintieri					
17:45 -18:30	Physics of sources (spallation)	FREE TIME	FREE TIME	FREE TIME	FREE TIME	FREE TIME
	Quintieri					
18:30- 19:30	FREE TIME					
19:30	*Dinner*	*Dinner*	*Dinner*	*Dinner*	*Dinner*	*Dinner*

*The arrival to the school location is scheduled within 7:00 pm of Saturday 17th of June. The departure is in the morning of the 24th of June.

Tutorials – 1^{st} Shift	
Coherent Inelastic Scattering and the Bayesian approach	Alessio De Francesco
Analysis of incoherent QENS data to extract information on molecular dynamics of biomolecules I	Judith Peters
Analysis of incoherent QENS data to extract information on molecular dynamics of biomolecules II	Tatsuhito Matsuo
Monte Carlo simulation of neutron delivery from source to sample	Leonardo del Rosso

Tutorials – 2^{nd} Shift	
Diffusion from incoherent and coherent scattering	Franz Demmel
Coherent Inelastic Scattering on Liquids	Ubaldo Bafile
Data reduction and model building for QENS data on protein dynamics	Antonio Calio’
Neutrons and Simulations	Miguel Gonzalez

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