

## ***Workshop on Scientific Benefits and Applications of Resonant Spin Echo***

Oak Ridge National Laboratory, Building 8600, C-156  
 February 13-15, 2024

### ***Day 1 — Feb 13***

<b>Time</b>	<b>Event</b>	<b>Speaker</b>	<b>Rep.</b>	<b>Mod.</b>
8:00 – 8:30am	Badging and Registration: SNS Lobby (working breakfast)			
8:30 – 8:40am	Welcome Guests to SNS	Richard Ibberson, ORNL		
8:40 – 8:50am	Workshop Charge	Jon Leiner, ORNL		
8:50 – 9:30am	“Scientific challenges accessible with resonant Larmor labelling”	Christian Pfeleiderer, T.U. Munich / FRM II	Arnab Banerjee	J.L.
9:30- 9:45am	Break			
9:45 – 10:25am	“Transverse NRSE spectrometer of Saclay, monochromatic & TOF mode”	Stéphane Longeville, CEA-Saclay	Jon Nickels	J.L.
10:25- 11:05am	“Comparing the intermediate scattering function to the dynamic structure factor”	Johanna Jochum, Technical University of Munich / FRM II	Arnab Banerjee	J.L.
11:05 –11:20am	Break			
11:20am – 12:00pm	“Revealing local variations in membrane physical properties with NSE”	Jon Nickels, University of Cincinnati	Jon Nickels	J.L.
12:00 – 1:20pm	Working lunch and e-poster presentation	Matthias Frontzek, ORNL Matthew Powell, Clemson		S.K.
1:20 – 2:00pm	“Resonant Echo and how it may fit into the three-source strategy of ORNL”	Jason Gardner, ORNL	Jon Nickels	S.K.
2:00 – 2:40pm	“Phase correction methods in neutron resonance spin echo spectroscopy”	Tatsuro Oda, University of Tokyo	Roger Pynn	S.K.
2:40 – 3:15pm	Resonant Spin Echo Discussion	Organizing Panel	All	
3:15 – 3:30pm	Break			
3:30 – 3:45pm	HBRR Cold Guide Plan	Lowell Crow, ORNL		
3:45 – 5:30pm	HFIR Tour	Lowell Crow and Matthias Frontzek		
5:45 – 6:45pm	Guided Discussion/ Working Dinner Topic: “Science Capabilities of NRSE”	Organizing Panel		

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### ***Day 2 — Feb 14***

<b>Time</b>	<b>Event</b>	<b>Speaker</b>	<b>Rep.</b>	<b>Mod.</b>
8:50 – 9:00am	Introduction to Second Day	Steve Kuhn		
9:00 – 9:40am	“Resonant spin-echo for inelastic and elastic scattering”	Thomas Keller, (remote) Max Planck Institute	Jon Nickels	L.S.
9:40 – 10:00am	Break and <b>Group Photo</b>			
10:00 – 10:40am	“Putting the RF in NRSE”	Chris Franz, (remote) FZ- Jülich	Roger Pynn	L.S.
10:40 – 11:20am	“Scientific applications of resonant spin echo coils in TOF - Dutch/Larmor experience”	Steve Parnell, Delft	Alexei Sokolov	L.S.
11:20 – 11:30am	Break			
11:30am – 12:10pm	“Quantum Spin Gaps and the Eventual Need and Development of NSE”	Arnab Banerjee, Purdue University	Arnab Banerjee	L.S.
12:10 – 1:30pm	Working Lunch and e-poster presentation	Denis Mettus, T. U. Munich		J.L.
1:30 – 2:10pm	“Collective Dynamics in Glassforming Liquids, Polymers and Biological Macromolecules”	Alexei Sokolov, U. Tennessee/ORNL	Alexei Sokolov	J.L.
2:10 – 2:50pm	Resonant Spin Echo Discussion	Organizing panel	All	
2:50 – 3:50 pm	Break			
3:50 – 4:30pm	“Entangled neutron scattering with NRSE techniques”	Sam McKay, Indiana University	Arnab Banerjee	J.L.
4:30 - 5:10pm	“Combined analysis of quasi-elastic scattering in the time and energy domains”	Georg Ehlers, ORNL	Alexei Sokolov	J.L.
5:30 – 6:30pm	Guided Discussion/Working Dinner Topic: “Technical Development of NRSE”	Organizing Panel		

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### ***Day 3 — Feb 15, 2024***

<b>Time</b>	<b>Event</b>	<b>Speaker</b>	<b>Rep.</b>	<b>Mod.</b>
8:50– 9:00am	Introduction to Third Day	Steve Kuhn		
9:00 – 9:40am	“The Neutron Spin Echo spectrometer at SNS and its science applications”	Laura Stingaciu, ORNL	Jon Nickels	S.K.
9:40 – 10:00am	Break			
10:00 – 10:40am	“Engineering Designer Neutrons for Fundamental Physics Experiments”	Niels Geerits, Technical University of Vienna	Roger Pynn	S.K.
10:40 – 11:20am	“Engineering of Superconducting Resonance Neutron Spin Flipper Assisted by Simulations and Prototyping”	Jiazhou Shen, (remote) Paul Scherrer Institut	Roger Pynn	S.K.
11:20 – 11:30am	Break			
11:30am – 12:10pm	“Field-tuned quantum renormalization of spin dynamics in the honeycomb lattice Heisenberg antiferromagnet YbCl <sub>3</sub> ”	Andy Christianson, ORNL	Roger Pynn	L.S.
12:10 – 1:30pm	Working Lunch and e-poster presentation	Huibo Cao, ORNL		L.S.
1:30 – 2:10pm	“Seeing correlated atomic dynamics in real space and time”	Takeshi Egami, University of Tennessee/ORNL	Alexei Sokolov	L.S.
2:10 – 2:50pm	End of workshop summary and discussion	Organizing Panel	All	
2:50 – 3:50pm	Break			
3:50 – 5:00pm	SNS TOUR	Georg Ehlers, Mary Odom		
5:00pm	Adjourn			