

**MagLab User Summer School**  
**2025 Agenda**  
Tallahassee, FL  
May 12-16, 2025

**Monday, May 12, 2025**

0745	<i>Arrive at MagLab</i>
0815	Introductions – Tim Murphy
0830	Introduction to the DC & Pulsed Field Facilities – Tim Murphy
0845	Noise Suppression at the Magnet Lab – Jan Jaroszynski
0945	<i>Break</i>
1000	Measuring Resistivity and Hall Resistance in DC Magnetic Fields – Alexey Suslov
1100	Sample Prep Techniques – Kaya Wei
1200	<i>Lunch</i>
1300	<b>Lab Practicals</b> Group 1 SCM2: Cryogenic Measurements in DC Magnets – Ali Bangura & Andrew Woods Group 2 C Wing: Sample Prep Techniques – Kaya Wei & Shermane Benjamin Group 3 Cell 8: Find the Ground Loop Exercise – Jan Jaroszynski Group 4 Cell 12: Regular and Digital Lock-in – Alexey Suslov & Matt Kowitt (Stanford Research Systems)
1450	<i>Break</i>
1500	<b>Lab Practicals</b> Group 2 SCM2: Cryogenic Measurements in DC Magnets – Ali Bangura & Andrew Woods Group 3 C Wing: Sample Prep Techniques - Kaya Wei & Shermane Benjamin Group 4 Cell 8: Find the Ground Loop Exercise - Jan Jaroszynski Group 1 Cell 12: Regular and Digital Lock-in – Alexey Suslov & Matt Kowitt (Stanford Research Systems)
1650	Group Picture
1730	<i>Dinner</i> Eric Palm - MagLab Overview

**Tuesday, May 13, 2025**

0745	<i>Arrive at MagLab</i>
0815	Cryogenics - Tim Murphy
0930	<i>Break</i>
0945	Principles and Operation of the Lockin Amplifier – Matt Kowitt (Stanford Research Systems)
1100	DC Facility Tour – Ali Bangura & Julia Smith
1200	<i>Lunch</i>
1300	<b>Lab Practicals</b> Group 3 SCM2: Cryogenic Measurements in DC Magnets – Ali Bangura & Andrew Woods Group 4 C Wing: Sample Prep Techniques - Kaya Wei & Shermane Benjamin Group 1 Cell 8: Find the Ground Loop Exercise – Jan Jaroszynski Group 2 Cell 12: Regular and Digital Lock-in – Alexey Suslov & Matt Kowitt (Stanford Research Systems)
1450	<i>Break</i>
1500	<b>Lab Practicals</b> Group 4 SCM2: Cryogenic Measurements in DC Magnets – Ali Bangura & Andrew Woods Group 1 C Wing: Sample Prep Techniques - Kaya Wei & Shermane Benjamin Group 2 Cell 8: Find the Ground Loop Exercise - Jan Jaroszynski Group 3 Cell 12: Regular and Digital Lock-in – Alexey Suslov & Matt Kowitt (Stanford Research Systems)
1650	<i>Break</i>
1730	<i>Dinner</i> Superconductivity - Lance Cooley - Zoom

**Wednesday, May 14, 2025**

0745	<i>Arrive at MagLab</i>
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0815	Heat Capacity Measurements – Ali Bangura
0915	Thermometry – <i>Lakeshore Cryotronics</i> (Zoom)
1000	<i>Break</i>
1015	Condensed Matter NMR Measurements – Rong Cong
1115	NMR, ICR, EMR Tour
1200	<i>Lunch</i>
1300	Stand Out in Science with Communications Tools – Kristin Roberts, Caroline McNiel, & Edan Schultz
1400	<i>Dinner - On your own</i>

## Thursday, May 15, 2025

0745	<i>Arrive at MagLab</i>
0815	Optical Spectroscopy of Condensed Matter – Mike Ozerov
0900	Magneto-Optics - Stephen McGill
0945	<i>Break</i>
1000	Introduction to the PPMS – Randy Dumas (Quantum Design)
1100	Measuring Fermi Surfaces in Extreme Magnetic Fields – Laurel Winter (Zoom)
1200	<i>Lunch</i>
1300	<b>Lab Practicals</b> Group 1 Cell 8: Optical Spectroscopy - Steve McGill & Mike Ozerov Group 2 Cell 6: Resistive Magnet Measurements - Eun Sang Choi & Troy Brumm Group 3 C120: PPMS Techniques – Randy Dumas (Quantum Design) & Danilo Ratkovski Group 4 Intermission
1450	<i>Break</i>
1500	<b>Lab Practicals</b> Group 2 Cell 8: Optical Spectroscopy - Steve McGill & Mike Ozerov Group 3 Cell 6: Resistive Magnet Measurements - Eun Sang Choi & Troy Brumm Group 4 C120: PPMS Techniques – Randy Dumas (Quantum Design) & Danilo Ratkovski Group 1 Intermission
1700	<i>Dinner</i>

## Friday, May 16, 2025

0745	<i>Arrive at MagLab</i>
0815	Designing Your Experiment – Dmitry Semenov
0900	Ultra-Low Temperature Experiments: High B/T Theory/Experiment – Mark Meisel
0945	<i>Break</i>
1000	Tricks on Resistance Measurements using Lock-in Amplifiers – <i>Lakeshore Cryotronics - Zoom</i>
1045	How to Use a National User Facility – Tim Murphy
1115	Panel Discussion with Instructors
1200	<i>Lunch</i>
1300	<b>Lab Practicals</b> Group 3 Cell 8: Optical Spectroscopy – Steve McGill & Mike Ozerov Group 4 Cell 6: Resistive Magnet Measurements – Eun Sang Choi & Troy Brumm Group 1 C120: PPMS Techniques – Randy Dumas (Quantum Design) & Danilo Ratkovski Group 2 Intermission
1450	<i>Break</i>
1500	<b>Lab Practicals</b> Group 4 Cell 8: Optical Spectroscopy - Steve McGill & Mike Ozerov Group 1 Cell 6: Resistive Magnet Measurements – Eun Sang Choi & Troy Brumm Group 2 C120: PPMS Techniques – Randy Dumas (Quantum Design) & Danilo Ratkovski Group 3 Intermission
1650	<i>Break – feedback</i>
1700	<i>Dinner</i>

## Saturday, May 17, 2025 – Return Home