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# US QIS SUMMER SCHOOL

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Daily Agenda

July 15-26, 2024

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# US QIS SUMMER SCHOOL

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Monday, July 15, 2024

<b>7:30 AM</b>	<b>Buses depart Volunteer Hall for ORNL</b>
<b>8:30 AM</b>	<b>Buses arrive Spallation Neutron Source</b>
<b>9:00 AM</b>	<b>Opening remarks</b> <ul style="list-style-type: none"><li>• <i>Dr. Gina Tourassi, ORNL</i></li><li>• <i>US Rep. Chuck Fleischman, State of Tennessee</i></li><li>• <i>Dr. Ceren Susut, Department of Energy</i></li><li>• <i>Dr. Hal Finkel, Department of Energy</i></li><li>• <i>Dr. Shaun Gleason, ORNL</i></li><li>• <i>Mr. Jim Ingraham, EPB</i></li></ul>
<b>9:30 AM</b>	<b>Keynote presentation</b> <ul style="list-style-type: none"><li>• <i>Prof. John Preskill, California Institute of Technology, "Our Quantum Future"</i></li></ul>
<b>10:45 AM</b>	<b>Break</b>
<b>11:00 AM</b>	<b>Keynote presentation</b> <ul style="list-style-type: none"><li>• <i>Dr. Chetan Nayak, Microsoft, "Topological Quantum Computing with Majorana Zero Modes"</i></li></ul>
<b>12:00 PM</b>	<b>Hosted lunch</b>
<b>1:15 PM</b>	<b>Classes begin</b> <ul style="list-style-type: none"><li>• <i>Chetan Nayak, Theory of topological superconductivity, 8600/C156</i></li><li>• <i>Kathleen Hamilton, Quantum generative models, 8600/C152</i></li><li>• <i>Stephen Jesse, Nano-fabrication, 8600/C250</i></li><li>• <i>An-Ping Li, Surface science, 8600/AG-06 and AG-07</i></li></ul>
<b>3:45 PM</b>	<b>Classes end</b>
<b>4:00 PM</b>	<b>Buses depart SNS for Volunteer Hall</b>
<b>5:00 PM</b>	<b>Buses arrive at Volunteer Hall</b>
<b>5:30 PM</b>	<b>Hosted dinner at Student Union Building, Room 272A</b>
<b>6:30 PM</b>	<b>Evening self-study session at Mossman Hall, Rooms 204, 210, 211, and 212</b>

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# US QIS SUMMER SCHOOL

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Tuesday, July 16, 2024

<b>7:30 AM</b>	<b>Buses depart Volunteer Hall for ORNL Visitor Center</b>
<b>8:30 AM</b>	<b>Buses arrive ORNL Visitor Center</b>
<b>9:00 AM</b>	<b>Keynote presentation</b> <ul style="list-style-type: none"><li>• <i>Dr. Nick Bronn, IBM, "Simulating quantum dynamics using programmable quantum computers"</i></li></ul>
<b>10:45 AM</b>	<b>Break</b>
<b>11:00 AM</b>	<b>Keynote presentation</b> <ul style="list-style-type: none"><li>• <i>Dr. Bibek Pokharel, IBM, "Error mitigation and suppression"</i></li></ul>
<b>12:00 PM</b>	<b>Hosted lunch</b>
<b>1:00 PM</b>	<b>Shuttle departs from ORNL Visitor Center for SNS (Nano-fabrication students only)</b>
<b>1:15 PM</b>	<b>Classes begin</b> <ul style="list-style-type: none"><li>• <i>Chetan Nayak, Theory of topological superconductivity, 5100/140</i></li><li>• <i>Kathleen Hamilton, Quantum generative models, 5200/214</i></li><li>• <i>Stephen Jesse, Nano-fabrication, 8600/C250 (take shuttle bus at 1:00)</i></li><li>• <i>An-Ping Li, Surface science, 5200/219</i></li></ul>
<b>3:30 PM</b>	<b>Shuttle departs from SNS for ORNL Visitor Center (Nano-fabrication students only)</b>
<b>3:45 PM</b>	<b>Classes end</b>
<b>4:00 PM</b>	<b>Buses depart ORNL Visitor Center for Volunteer Hall</b>
<b>5:00 PM</b>	<b>Buses arrive at Volunteer Hall</b>
<b>6:30 PM</b>	<b>Evening self-study session at Mossman Hall, Rooms 204, 210, 211, and 212</b>

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# US QIS SUMMER SCHOOL

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Wednesday, July 17, 2024

<b>7:30 AM</b>	<b>Buses depart Volunteer Hall for ORNL Visitor Center</b>
<b>8:30 AM</b>	<b>Buses arrive ORNL Visitor Center</b>
<b>9:00 AM</b>	<b>Keynote presentation</b> <ul style="list-style-type: none"><li>• <i>Dr. Eddie Schoute, Los Alamos National Laboratory, "Quantum Error Correction: A Brief Tutorial"</i></li></ul>
<b>10:15 AM</b>	<b>Break</b>
<b>10:45 AM</b>	<b>Keynote presentation</b> <ul style="list-style-type: none"><li>• <i>Dr. Eugene Dumitrescu, Oak Ridge National Laboratory, "Topological quantum computing from a theory and algorithms perspective"</i></li></ul>
<b>12:00 PM</b>	<b>Hosted lunch</b>
<b>1:00 PM</b>	<b>Group photograph</b>
<b>1:15 PM</b>	<b>Poster session begins</b>
<b>3:30 PM</b>	<b>Poster session ends</b>
<b>4:00 PM</b>	<b>Buses depart ORNL Visitor Center for Volunteer Hall</b>
<b>5:00 PM</b>	<b>Buses arrive at Volunteer Hall</b>

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# US QIS SUMMER SCHOOL

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Thursday, July 18, 2024

<b>7:30 AM</b>	<b>Buses depart Volunteer Hall for ORNL Visitor Center</b>
<b>8:30 AM</b>	<b>Buses arrive ORNL Visitor Center</b>
<b>9:00 AM</b>	<b>Keynote presentation</b> <ul style="list-style-type: none"><li>• <i>Dr. Vivien Zapf, Los Alamos National Laboratory, "The Quantum Science Center &amp; quantum landscape"</i></li></ul>
<b>9:40 AM</b>	<b>Keynote presentation</b> <ul style="list-style-type: none"><li>• <i>Dr. Gabor Halasz, Oak Ridge National Laboratory, "Theory of spin liquids I"</i></li></ul>
<b>10:20 AM</b>	<b>Break</b>
<b>10:40 AM</b>	<b>Keynote presentation</b> <ul style="list-style-type: none"><li>• <i>Prof. Alan Tennant, University of Tennessee, Knoxville</i></li></ul>
<b>11:20 AM</b>	<b>Keynote presentation</b> <ul style="list-style-type: none"><li>• <i>Dr. Rob Moore, Oak Ridge National Laboratory</i></li></ul>
<b>12:00 PM</b>	<b>Hosted lunch</b>
<b>1:00 PM</b>	<b>Shuttle departs from Visitor Center for SNS (Neutron scattering students only)</b>
<b>1:15 PM</b>	<b>Classes begin</b> <ul style="list-style-type: none"><li>• <i>Gabor Halasz, Theory of spin liquids, 5100/140</i></li><li>• <i>Kathleen Hamilton, Quantum generative models, 5200/214</i></li><li>• <i>Alan Tennant, Neutron scattering, 8600/C250 (take shuttle bus at 1:00)</i></li><li>• <i>Eugene Dumitrescu, Topological quantum computing, 5200/219</i></li></ul>
<b>3:15 PM</b>	<b>Shuttle departs from SNS for Visitor Center (Neutron scattering students only)</b>
<b>3:45 PM</b>	<b>Classes end</b>
<b>4:00 PM</b>	<b>Buses depart ORNL Visitor Center for Volunteer Hall</b>
<b>5:00 PM</b>	<b>Buses arrive at Volunteer Hall</b>
<b>6:30 PM</b>	<b>Evening self-study session at Mossman Hall, Rooms 204, 210, 211, and 212</b>

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# US QIS SUMMER SCHOOL

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Friday, July 19, 2024

<b>7:30 AM</b>	<b>Buses depart Volunteer Hall for ORNL Visitor Center</b>
<b>8:30 AM</b>	<b>Buses arrive ORNL Visitor Center</b>
<b>9:00 AM</b>	<b>Keynote presentation</b> <ul style="list-style-type: none"><li>• <i>Dr. Carleton Coffrin, Los Alamos National Laboratory</i></li></ul>
<b>10:15 AM</b>	<b>Break</b>
<b>10:45 AM</b>	<b>Keynote presentation</b> <ul style="list-style-type: none"><li>• <i>Prof. Jun Ye, Joint Institute for Laboratory Astrophysics</i></li></ul>
<b>12:00 PM</b>	<b>Hosted lunch</b>
<b>1:00 PM</b>	<b>Shuttle departs from Visitor Center for SNS (Neutron scattering students only)</b>
<b>1:15 PM</b>	<b>Classes begin</b> <ul style="list-style-type: none"><li>• <i>Gabor Halasz, Theory of spin liquids, 5100/140</i></li><li>• <i>Kathleen Hamilton, Quantum generative models, 5200/214</i></li><li>• <i>Alan Tennant, Neutron scattering, 8600/C250 (take shuttle bus at 1:00)</i></li><li>• <i>Eugene Dumitrescu, Topological quantum computing, 5200/219</i></li></ul>
<b>3:30 PM</b>	<b>Shuttle departs from SNS for Visitor Center (Neutron scattering students only)</b>
<b>3:45 PM</b>	<b>Classes end</b>
<b>4:00 PM</b>	<b>Buses depart SNS for Volunteer Hall</b>
<b>5:00 PM</b>	<b>Buses arrive at Volunteer Hall</b>

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# US QIS SUMMER SCHOOL

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Saturday, July 20, 2024

**No hosted activities**

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# US QIS SUMMER SCHOOL

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Sunday, July 21, 2024

**No hosted activities**



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# US QIS SUMMER SCHOOL

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Monday, July 22, 2024

<b>7:30 AM</b>	<b>Buses depart Volunteer Hall for SNS</b>
<b>8:30 AM</b>	<b>Buses arrive SNS</b>
<b>9:00 AM</b>	<b>Keynote presentation</b> <ul style="list-style-type: none"><li>• <i>Drs. Gustavo Cancelo and Sara Sussman, Fermi National Accelerator Laboratory</i></li></ul>
<b>10:15 AM</b>	<b>Break</b>
<b>10:45 AM</b>	<b>Keynote presentation</b> <ul style="list-style-type: none"><li>• <i>Prof. Pri Narang, University of California, Los Angeles, "Quantum matter through the lens of quantum information"</i></li></ul>
<b>12:00 PM</b>	<b>Hosted lunch</b>
<b>1:15 PM</b>	<b>Classes begin</b> <ul style="list-style-type: none"><li>• <i>An-Ping Li, Surface science, 8610/183</i></li><li>• <i>Sara Sussman, QICK, 8600/C156</i></li><li>• <i>Stephen Jesse, Nano-fabrication, 8600/C250</i></li><li>• <i>Ang Li, Quantum software tools, 8600/C152</i></li><li>• <i>Eugene Dumitrescu, Topological quantum computing, 8630/A202</i></li></ul>
<b>3:45 PM</b>	<b>Classes end</b>
<b>4:00 PM</b>	<b>Buses depart SNS for Volunteer Hall</b>
<b>5:00 PM</b>	<b>Buses arrive at Volunteer Hall</b>
<b>6:30 PM</b>	<b>Evening self-study session at Mossman Hall, Rooms 204, 210, 211, and 212</b>

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# US QIS SUMMER SCHOOL

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Tuesday, July 23, 2024

<b>7:30 AM</b>	<b>Buses depart Volunteer Hall for SNS</b>
<b>8:30 AM</b>	<b>Buses arrive SNS</b>
<b>9:00 AM</b>	<b>Keynote presentation</b> <ul style="list-style-type: none"><li>• <i>Prof. Enectali Figueroa-Feliciano, Northwestern University</i></li></ul>
<b>10:15 AM</b>	<b>Facility Tours</b>
<b>12:00 PM</b>	<b>Hosted lunch</b>
<b>1:15 PM</b>	<b>Classes begin</b> <ul style="list-style-type: none"><li>• <i>An-Ping Li, Surface science, 8610/183</i></li><li>• <i>Sara Sussman, QICK, 8600/C156</i></li><li>• <i>Stephen Jesse, Nano-fabrication, 8600/C250</i></li><li>• <i>Ang Li, Quantum software tools, 8600/C152</i></li><li>• <i>Eugene Dumitrescu, Topological quantum computing, 8630/A202</i></li></ul>
<b>3:45 PM</b>	<b>Classes end</b>
<b>4:00 PM</b>	<b>Buses depart SNS for Volunteer Hall</b>
<b>5:00 PM</b>	<b>Buses arrive at Volunteer Hall</b>
<b>6:30 PM</b>	<b>Evening self-study session at Mossman Hall, Rooms 204, 210, 211, and 212</b>

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# US QIS SUMMER SCHOOL

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Wednesday, July 24, 2024

<b>7:30 AM</b>	<b>Buses depart Volunteer Hall for ORNL Visitor Center</b>
<b>8:30 AM</b>	<b>Buses arrive ORNL Visitor Center</b>
<b>9:00 AM</b>	<b>Keynote presentation</b> <ul style="list-style-type: none"><li>• <i>Dr. Travis Humble, Oak Ridge National Laboratory, "Integrating quantum computing into high-performance computing systems"</i></li></ul>
<b>10:15 AM</b>	<b>Break</b>
<b>10:45 AM</b>	<b>Keynote presentation</b> <ul style="list-style-type: none"><li>• <i>Dr. Claire Marvinnay, Oak Ridge National Laboratory</i></li></ul>
<b>12:00 PM</b>	<b>Hosted lunch</b>
<b>1:00 PM</b>	<b>Shuttle bus departs to SNS (Neutron scattering students only)</b>
<b>1:15 PM</b>	<b>Classes begin</b> <ul style="list-style-type: none"><li>• <i>Sagar Vijay, Theory of measurement-induced phenomena, 5200/140</i></li><li>• <i>Ang Li, Quantum software tools, 5200/219</i></li><li>• <i>Sara Sussman, QICK, 5200/214</i></li><li>• <i>Alan Tennant, Neutron scattering, 8600/C250 (take shuttle bus at 1:00 PM)</i></li></ul>
<b>3:15 PM</b>	<b>Shuttle bus departs to ORNL Visitor Center</b>
<b>3:45 PM</b>	<b>Classes end</b>
<b>4:00 PM</b>	<b>Buses depart SNS for Volunteer Hall</b>
<b>5:00 PM</b>	<b>Buses arrive at Volunteer Hall</b>
<b>6:30 PM</b>	<b>Evening self-study session at Mossman Hall, Rooms 204, 210, 211, and 212</b>

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# US QIS SUMMER SCHOOL

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Thursday, July 25, 2024

<b>7:30 AM</b>	<b>Buses depart Volunteer Hall for ORNL Visitor Center</b>
<b>8:30 AM</b>	<b>Buses arrive ORNL Visitor Center</b>
<b>9:00 AM</b>	<b>Keynote presentation</b> <ul style="list-style-type: none"><li>• <i>Dr. Katarzyna Krzyzanowska, Los Alamos National Laboratory</i></li></ul>
<b>10:15 AM</b>	<b>Break</b>
<b>10:45 AM</b>	<b>Keynote presentation</b> <ul style="list-style-type: none"><li>• <i>Anne Sherwood, DOE – Internship Opportunities</i></li></ul>
<b>12:00 PM</b>	<b>Hosted lunch</b>
<b>1:00 PM</b>	<b>Shuttle bus departs to SNS (Neutron scattering students only)</b>
<b>1:15 PM</b>	<b>Classes begin</b> <ul style="list-style-type: none"><li>• <i>Sagar Vijay, Theory of measurement-induced phenomena, 5200/140</i></li><li>• <i>Ang Li, Quantum software tools, 5200/219</i></li><li>• <i>Sara Sussman, QICK, 5200/214</i></li><li>• <i>Alan Tennant, Neutron scattering, 8600/C250 (take shuttle bus at 1:00 PM)</i></li></ul>
<b>3:15 PM</b>	<b>Shuttle bus departs to ORNL Visitor Center</b>
<b>3:45 PM</b>	<b>Classes end</b>
<b>4:00 PM</b>	<b>Buses depart SNS for Volunteer Hall</b>
<b>5:00 PM</b>	<b>Buses arrive at Volunteer Hall</b>
<b>6:30 PM</b>	<b>Online summary exam</b>

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# US QIS SUMMER SCHOOL

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Friday, July 26, 2024

<b>7:30 AM</b>	<b>Buses depart Volunteer Hall for ORNL Visitor Center</b>
<b>8:30 AM</b>	<b>Buses arrive ORNL Visitor Center</b>
<b>9:00 AM</b>	<b>Keynote presentation</b> <ul style="list-style-type: none"><li>• <i>Dr. Bert de Jong, Lawrence Berkeley National Laboratory</i></li></ul>
<b>10:15 AM</b>	<b>Closing Ceremony</b>
<b>11:30 PM</b>	<b>Buses depart ORNL Visitor Center for Tyson McGhee airport</b>
<b>12:30 PM</b>	<b>Buses arrive at Tyson McGhee airport</b>