
Week 1, July 3 – 7, 2023

Sunday, July 2nd

6:30 – 8:30pm **Registration mixer with refreshments**
WeatherTech Café in the C4C
Beer and Wine Will Be Served

Monday, July 3th

8:30 – 9:00 **Organizers**
Welcome and School Introduction

9:00 – 10:30 **David Huse**
Thermalization and many-body localization

10:30 – 11:00 Coffee break – questions / interaction with speaker

11:00 – 12:30 **Anushya Chandran**
Driven quantum dynamics

12:30 – 13:45 Lunch

14:00 – 15:30 **Sagar Vijay**
Random Quantum Circuits

15:30 – 16:30 **Participant Introductions**

Tuesday, July 4th

9:00 – 10:30 **David Huse**
Thermalization and many-body localization

10:30 – 11:00 Coffee Break

11:00 – 12:30 **Anushya Chandran**
Driven quantum dynamics

12:30 – 13:45 Lunch

14:00 – 15:30 **Frank Pollmann**
Numerical methods & quantum many-body dynamics

2023 Boulder School for Condensed Matter and Materials Physics
Non-Equilibrium Quantum Dynamics July 3 – July 28, 2023
Detailed Schedule All lectures are in Duane Physics Room G130

Wednesday, July 5th

9:00 – 10:30	Sagar Vijay <i>Random quantum circuits</i>
10:30 – 11:00	Coffee Break
11:00 – 12:30	Frank Pollmann <i>Numerical methods & quantum many-body dynamics</i>
12:30 – 13:45	Lunch
14:00 – 15:30	David Huse <i>Thermalization and many-body localization</i>

Thursday, July 6th

9:00 – 10:30	David Huse <i>Thermalization and many-body localization</i>
10:30 – 11:00	Coffee Break
11:00 – 12:30	Frank Pollmann <i>Hilbert-space fragmentation and constrained quantum dynamics</i>
12:30 – 13:45	Lunch
14:00 – 15:30	Anushya Chandran <i>Driven quantum dynamics</i>
18:30 – 18:55	Poster Blurbs I <i>Duane G130</i>
19:00 – 22:00	Poster Session I <i>11th Floor Commons Room</i>

Friday, July 7th

9:00 – 10:30	Sagar Vijay <i>Random Quantum Circuits</i>
10:30 – 11:00	Coffee Break
12:30 – 13:45	Lunch
14:00 – 15:30	Andy Lucas <i>Lieb-Robinson bounds</i>
15:30 – 17:00	What have we learned? Q/A and Panel Discussions
19:00 – 21:30	Catered dinner <i>11th Floor Commons Room, Gamow Tower</i>

Week 2, July 10 – 14, 2023

Monday, July 10th

9:00 – 10:30	Romain Vasseur <i>Measurement-driven entanglement phase transitions</i>
10:30 – 11:00	Coffee Break
11:00 – 12:30	Marko Znidaric <i>Transport in quantum spin chains</i>
12:30 – 13:45	Lunch
14:00 – 15:30	Tarun Grover <i>Mixed-state quantum many-body entanglement</i>

Tuesday, July 11th

9:00 – 10:30	Romain Vasseur <i>Measurement-driven entanglement phase transitions</i>
10:30 – 11:00	Coffee Break
11:00 – 12:30	Marko Znidaric <i>Transport in quantum spin chains</i>
12:30 – 13:45	Lunch
14:00 – 15:30	Tarun Grover <i>Mixed-state quantum many-body entanglement</i>
18:00-20:30	Dessert on Flagstaff Mountain Busses leave south of C4C at 6pm

Wednesday, July 12th

9:00 – 10:30	Romain Vasseur <i>Measurement-driven entanglement phase transitions</i>
10:30 – 11:00	Coffee Break
11:00 – 12:30	Ehud Altman <i>Measurements & decoherence in quantum many-body systems</i>
12:30 – 13:45	Lunch
14:00 – 15:30	Sarang Gopalakrishnan <i>"Learnability" phase transitions in quantum dynamics</i>

2023 Boulder School for Condensed Matter and Materials Physics
Non-Equilibrium Quantum Dynamics July 3 – July 28, 2023
Detailed Schedule All lectures are in Duane Physics Room G130

Thursday, July 13th

9:00 – 10:30	Tarun Grover <i>Mixed-state quantum many-body entanglement</i>
10:30 – 11:00	Coffee Break
11:00 – 12:30	Ehud Altman <i>Measurements & decoherence in quantum many-body systems</i>
12:30 – 13:45	Lunch
14:00 – 15:30	Sarang Gopalakrishnan <i>"Learnability" phase transitions in quantum dynamics</i>
15:30 – 15:55	Poster Blurbs II <i>Duane G130</i>
19:00 – 22:00	Poster Session II <i>11th Floor Commons Room, Gamow Tower</i>

Friday, July 14th

9:00 – 10:30	Ehud Altman <i>Measurements & decoherence in quantum many-body systems</i>
10:30 – 11:00	Coffee Break
11:00 – 12:30	Sarang Gopalakrishnan <i>"Learnability" phase transitions in quantum dynamics</i>
12:30 – 13:45	Lunch
14:00 – 15:30	Marko Znidaric <i>Transport in quantum spin chains</i>
15:30 – 17:00	What have we learned? Q/A and Panel Discussions

Week 3, July 17 – 21, 2023

Monday, July 17th

9:00 – 10:30	Victor Albert <i>Introduction to quantum error-correction</i>
10:30 – 11:00	Coffee Break
11:00 – 12:30	Liang Jiang <i>Bosonic quantum codes and applications</i>
12:30 – 13:45	Lunch
14:00 – 15:30	Victor Albert <i>Introduction to quantum error-correction</i>
19:00 – 20:00	Public Lecture: Giulia Semeghini <i>Duane Physics G1B20</i>

Tuesday, July 18th

9:00 – 10:30	Aleksander Kubica <i>From topological to quantum LDPC codes</i>
10:30 – 11:00	Coffee Break
11:00 – 12:30	Liang Jiang <i>Bosonic quantum codes and applications</i>
12:30 – 13:45	Lunch
14:00 – 15:30	Giulia Semeghini <i>Quantum simulation with Rydberg atoms</i>

Wednesday, July 19th

9:00 – 10:30	Victor Albert <i>Introduction to quantum error-correction</i>
10:30 – 11:00	Coffee Break
11:00 – 12:30	Liang Jiang <i>Bosonic Quantum Codes and Applications</i>
12:30 – 13:45	Lunch
14:00 – 15:30	Giulia Semeghini <i>Quantum simulation with Rydberg atoms</i>

2023 Boulder School for Condensed Matter and Materials Physics
Non-Equilibrium Quantum Dynamics July 3 – July 28, 2023
Detailed Schedule All lectures are in Duane Physics Room G130

Thursday, July 20th

9:00 – 10:30	Aleksander Kubica <i>From topological to quantum LDPC codes</i>
10:30 – 11:00	Coffee Break
11:00 – 12:30	Victor Albert <i>Introduction to quantum error-correction</i>
12:30 – 13:45	Lunch
14:00 – 15:30	Giulia Semeghini <i>Quantum simulation with Rydberg atoms</i>
15:30 – 15:55	Poster Blurbs III <i>Duane G130</i>
19:00 – 22:00	Poster Session III <i>11th Floor Commons Room</i>

Friday, July 21st

9:00 – 10:30	Aleksander Kubica <i>From topological to quantum LDPC codes</i>
10:30 – 11:00	Coffee Break
11:00 – 12:30	Vedika Khemani <i>Seminar: Eigenstate order and time crystals</i>
12:30 – 13:45	Lunch
14:00 – 15:30	Vedika Khemani <i>Seminar: Measurement-induced entanglement and teleportation on a noisy quantum processor</i>
15:30 – 16:00	What have we learned? Q/A and Panel Discussions

Week 4, July 24 - July 28, 2023

Monday, July 24th

9:00 – 10:30	Steven Girvin <i>Superconducting qubits and quantum simulation</i>
10:30 – 11:00	Coffee Break
11:00 – 12:30	Zlatko Mineev <i>Quantum error mitigation</i>
12:30 – 13:45	Lunch
14:00 – 15:30	Crystal Noel <i>Trapped-Ion quantum computers</i>

Tuesday, July 25th

9:00 – 10:30	Steven Girvin <i>Superconducting qubits and quantum simulation</i>
10:30 – 11:00	Coffee Break
11:00 – 12:30	Zlatko Mineev <i>Quantum error mitigation</i>
12:30 – 13:45	Lunch
14:00 – 15:30	Crystal Noel <i>Trapped-Ion quantum computers</i>

Wednesday, July 26th

9:00 – 10:30	Immanuel Bloch <i>Ultracold atom quantum simulators</i>
10:30 – 11:00	Coffee Break
11:00 – 12:30	Steven Girvin <i>Superconducting qubits and quantum simulation</i>
12:30 – 13:45	Lunch
14:00 – 15:30	Zlatko Mineev <i>Quantum error-mitigation</i>

2023 Boulder School for Condensed Matter and Materials Physics
Non-Equilibrium Quantum Dynamics July 3 – July 28, 2023
Detailed Schedule All lectures are in Duane Physics Room G130

Thursday, July 27th

9:00 – 10:30	Immanuel Bloch <i>Ultracold atom quantum simulators</i>
10:30 – 11:00	Coffee Break
11:00 – 12:30	Steven Girvin <i>Superconducting qubits and quantum simulation</i>
12:30 – 13:45	Lunch
14:00 – 15:30	Crystal Noel <i>Trapped-Ion quantum computers</i>

Friday, July 28th

9:00 – 10:30	Immanuel Bloch <i>Ultracold atom quantum simulators</i>
10:30 – 11:00	Coffee Break
11:00 – 12:30	What have we learned? Discussions, Goodbyes: Q/A and Panel
Discussions	