

Schedule for the program: "Dynamical Foundations of Many-body Quantum Chaos", Institut Pascal 13 March - 14 April 2023

| WEEK 1 - Lectures | Monday, March 13 | Tuesday, March 14 | Wednesday, March 15 | Thursday, March 16 | Friday, March 17 |
|-----------------------------|--|---|---|---|---|
| 10.00-11.00 | Klaus Richter <i>Semiclassical Foundations of Many-Body Quantum Chaos</i> | Julian Sonner <i>Chaos and ergodicity in quantum gravity</i> | Andrey Kolovsky <i>Many-body quantum chaos for cold atoms in optical lattices</i> | Julian Sonner <i>Chaos and ergodicity in quantum gravity</i> | Valentina Ros <i>Eigenstate Thermalization Hypothesis, and its violations</i> |
| 11.30-12.30 | Andrey Kolovsky <i>Many-body quantum chaos for cold atoms in optical lattices</i> | Rosario Fazio <i>Quantum information tools for many-body systems</i> | Laura Foini <i>Eigenstate Thermalization Hypothesis, and its violations</i> | Klaus Richter <i>Semiclassical Foundations of Many-Body Quantum Chaos</i> | Julian Sonner <i>Chaos and ergodicity in quantum gravity</i> |
| 13.00-14.20 | Buffet Lunch | Lunch | Lunch | Lunch | Lunch |
| 14.30-15.30 | Laura Foini <i>Eigenstate Thermalization Hypothesis and its violations</i> | Klaus Richter <i>Semiclassical Foundations of Many-Body Quantum Chaos</i> | Rosario Fazio <i>Quantum information tools for many-body systems</i> | Andrey Kolovsky <i>Many-body quantum chaos for cold atoms in optical lattices</i> | Rosario Fazio <i>Quantum information tools for many-body systems</i> |
| 16.00-17.00 | | | | Valentina Ros <i>Eigenstate Thermalization Hypothesis, and its violations</i> | |
| 17.00-19.00 | | | Happy hour + poster session | | |
| | | | | Social dinner | |
| WEEK 2 | Monday, March 20 | Tuesday, March 21 | Wednesday, March 22 | Thursday, March 23 | Friday, March 24 |
| 11.00-11.20 | Izrailev Felix Onset of chaos and thermalization in finite many-body systems of interacting particles. | | Wisniacki Diego Krylov meets Loschmidt and more... | Garcia Garcia Antonio Miguel Wormholes, PT symmetry, SYK model, periodic orbits | Sierant Piotr Controlling entanglement at absorbing state phase transitions in random circuits |
| 11.30-11.50 | Cvitanovic Predrag | Müller Markus | Bäcker Arnd | Papic Zlatko | Kolovsky Andrey |
| 12.00-12.20 | Eugene Bogomolny Dirac particles and dark matter | Santos Lea | Delacretaz Luca | Ozorio de Almeida Alfredo | Dooley Shane |
| 13.00- | Buffet Lunch | Lunch | Lunch | Lunch | Lunch |
| 16.00-17.00 | Aidelsburger Monika | | Happy Hour | | |
| | | | | Social Dinner | |
| WEEK 3 | Monday, March 27 | Tuesday, March 28 | Wednesday, March 29 | Thursday, March 30 | Friday, March 31 |
| 11.00-11.20 | | Lando Gabriel | Sanchez-Palencia Laurent | | |
| 11.30-11.50 | Silva Alessandro | Abanin Dmitry | Yunger Halpern Nicole Beyond the first law: Peculiarly quantum conservation laws in thermodynamics. | Zakrzewski Jakub | Zyczkowski Karol Matrix logistic map: fractal distribution of eigenvalues and transfer of chaos |
| 12.00-12.20 | Buchleitner Andreas | Vidmar Lev | Scardicchio Antonello | Wimberger Sandro | Serbyn Maksym |
| 13.00- | Buffet Lunch | Lunch | Lunch | Lunch | Lunch |
| 16.00-17.00 | | | Happy Hour | | |
| | | | | Social Dinner | |
| WEEK 4 | Monday, April 3 | Tuesday, April 4 | Wednesday, April 5 | Thursday, April 6 | Friday, April 7 |
| 11.00-11.20 | | | Leonardo Mazza Asymptotic Many-Body Quantum Scars | | Alex Kamenev Quantum annealing and many-body localization |
| 11.30-11.50 | Lakshminarayan Arul | Surace Federica Maria Weak perturbations of integrable models | Urbina-Gonzalez Juan-Diego | Srednicki Mark | Guéry-Odelin David |
| 12.00-12.20 | Garratt Sam | Schlagheck Peter | Claeys Pieter Dual-unitary and biunitary circuit dynamics | Jalabert Rodolfo | |
| 13.00- | Buffet Lunch | Lunch | Lunch | Lunch | Lunch |
| 16.00-17.00 | | | Happy Hour | | |
| | | | | Social Dinner | |
| WEEK 5 | Monday, April 10 | Tuesday, April 11 | Wednesday, April 12 | Thursday, April 13 | Friday, April 14 |
| 11.00-11.20 | Easter monday | | Kuchan Jorge | | |
| 11.30-11.50 | | Cao Xiangyu | Giraud Olivier | Valentina Ros | Wrap-up |
| 12.00-12.20 | | Laura Foini | Tomsovic Steven | Pappalardi Silvia | |
| 13.00- | | Lunch | Lunch | Lunch | Lunch |
| 16.00-17.00 | | | | Happy Hour | |
| | | | | Social Dinner | |
| Colors = 5 thematic fields: | 1. Semi-classical theory of chaotic many-body systems | 2. Quantum chaos with cold atoms | 3. Thermalization and its violations in isolated systems | 4. Gravity and quantum chaos | 5. Quantum information in chaotic systems |