

## Les Houches Summer School:

# Quantum Dynamics and Spectroscopy of Functional Molecular Materials and Biological Photosystems

27 August - 1 September 2023

### Monday 28 August 2023

08:50-09:00 Welcome & introduction

*Chair: Jérémie Léonard*

09:00-10:30 **Giulio Cerullo** (Politecnico di Milano, Italy)

Ultrashort pulse generation, manipulation and characterization (L1)

10:30-11:00 Break

11:00-12:30 **David Picconi** (University of Groningen, The Netherlands)

Photoinduced molecular quantum dynamics: Theory and computational methods (L2)

12:30-15:00 Lunch break & free time

*Chair: David Picconi*

15:00-16:30 **Tobias Kramer** (Johannes Kepler University Linz, Austria)

Exciton dynamics probed with time-dependent spectroscopy (L3)

16:30-17:00 Break

17:00-19:00 **Dominik Brey & James Green** (Goethe University Frankfurt, Germany)

Python Intro

19:30-21:00 Dinner

*Chair: Tobias Kramer*

21:00-22:30 **Single Slide Presentations (SSP 1)**

*Each SSP presentation comprises 3 minutes presentation time + 2 minutes of questions.*

1. Akhil Bhartiya (Johannes Kepler University Linz, Austria)
2. Maximilian Philip Binzer (Technical University of Munich, Germany)
3. Marta Cantina (University of Lorraine, France)
4. Kwang Hyun Cho (Korean Advanced Institute of Science and Technology, Korea)
5. Aleksa Djorovic (University of Geneva, Switzerland)
6. Mario Frassi (University of Pisa, Italy)
7. Amira Mounya Gharbi (Strasbourg University, France)
8. Hugo Greulich (Goethe University Frankfurt, Germany)
9. Leandro De Andrade Rohn (Goethe University Frankfurt, Germany)
10. Luisa Xiomara Hallado Abaunza (Institut Catala d'Investigacio Quimica, Tarragona, Spain)
11. Michael Hofer (Johannes Kepler University Linz, Germany)
12. Nakul Jain (Linköping University, Sweden)
13. Benedikte Knorr Jensen (Technical University of Denmark, Denmark)
14. Erika Keil (Technical University of Munich, Germany)

## Tuesday 29 August 2023

*Chair: Thomas Renger*

- 09:00-10:30 **Giulio Cerullo** (Politecnico di Milano, Italy)  
Ultrashort pulse generation, manipulation and characterization (L4)
- 10:30-11:00 Break
- 11:00-12:30 **Pavel Malý** (Charles University Prague, Czech Republic)  
Coherently- and fluorescence-detected ultrafast spectroscopy (L5)
- 12:30-15:00 Lunch break & free time
- 15:00-16:30 **Dominik Brey & James Green** (Goethe University Frankfurt, Germany)  
Computational exercises (C1)
- 16:30-17:00 Break
- 17:00-19:00 **Dominik Brey & James Green** (Goethe University Frankfurt, Germany)  
Computational exercises (C1)
- 19:30-21:00 Dinner

*Chair: Jérémie Léonard*

- 21:00-22:30 **Single Slide Presentations (SSP 2)**
15. Guillaume Le Breton (University of Zürich, Switzerland)
  16. Anqi Li (University of California San Diego, USA)
  17. Sidhartha Nayak (Max Planck Institute for the Physics of Complex Systems, Dresden, Germany)
  18. Florian Otterpohl (University of Hamburg, Germany)
  19. Samuel Perrett (Imperial College London, UK)
  20. Michael Riedl (Johannes Kepler University Linz, Austria)
  21. Peter Schuerger (University of Würzburg, Germany)
  22. Ilia Sokolovskii (University of Jyväskylä, Finland)
  23. Josene Toldo (Aix-Marseille University Marseille, France)
  24. Anil Kumar Vishwkarma (Institute of Science, Banaras Hindu University, Varanasi, India)
  25. Johannes Wega (University of Geneva, Switzerland)
  26. Julia Wenzel (Goethe University Frankfurt, Germany)
  27. Joe Wragg (ICFO, Barcelona, Spain)
  28. Huotian Zhang (Linköping University, Sweden)

## Wednesday 30 August 2023

*Chair: Pavel Malý*

- 09:00-10:30 **Tobias Kramer** (Johannes Kepler University Linz, Austria)  
Exciton dynamics probed with time-dependent spectroscopy (L6)
- 10:30-11:00 Break
- 11:00-12:30 **Thomas Renger** (Johannes Kepler University Linz, Austria)  
Light-harvesting in photosynthesis: From structure to function (L7)
- 12:30-19:00 Lunch break & free afternoon (dinner at 19:30 as usual)

## Thursday 31 August 2023

*Chair: Irene Burghardt*

- 09:00-10:30 **Pavel Malý** (Charles University Prague, Czech Republic)  
Coherently- and fluorescence-detected ultrafast spectroscopy (L5)
- 10:30-11:00 Break
- 11:00-12:30 **David Picconi** (University of Groningen, The Netherlands)  
Photoinduced molecular quantum dynamics: Theory and computational methods (L9)
- 12:30-15:00 Lunch break & free time
- 15:00-16:30 **James Green & Dominik Brey** (Goethe University Frankfurt, Germany)  
Computational exercises (C2)
- 16:30-17:00 Break
- 17:00-19:00 **James Green & Dominik Brey** (Goethe University Frankfurt, Germany)  
Computational exercises (C2)
- 19:30-21:00 Summer School Dinner

## Friday 1 September 2023

*Chair: Thomas Renger*

- 09:00-10:30 **Irene Burghardt** (Goethe University Frankfurt, Germany)  
Organic photovoltaics: Excitons at work (L10)
- 10:30-11:00 Break
- 11:00-12:30 **Discussion, Conclusions, Evaluation**
- 12:30-14:00 Lunch break & departure



- Organizers:** **Jessica Anna** (University of Pennsylvania, USA)  
**Irene Burghardt** (Goethe University Frankfurt, Germany)  
**Jeff Cina** (University of Oregon, USA)  
**Jérémie Léonard** (University of Strasbourg, France)  
**Thomas Renger** (University of Linz, Austria)  
**Young Min Rhee** (KAIST, South Korea)