## Schedule at a glance

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<th>Time</th>
<th>Wednesday (13th)</th>
<th>Thursday (14th)</th>
<th>Friday (15th)</th>
<th>Saturday (16th)</th>
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<tr>
<td>9:00</td>
<td>9:00 UDN Welcome</td>
<td>9:00 - 10:00 Session 6</td>
<td>9:00 - 10:00</td>
<td>9:00 - 12:00</td>
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<tr>
<td>10:00</td>
<td>9:15 - 11:15 Session 1</td>
<td>10:00 - 10:30 Bus boarding</td>
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<td>10:00 - 12:00 (10:30 - 10:45 Break)</td>
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<tr>
<td>11:00</td>
<td>11:15 - 12:00 OIST Tour Group 1</td>
<td>11:30 - 12:30 OIST Tour Group 2 &amp; 3</td>
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<td>12:00</td>
<td>Lunch at OIST</td>
<td>12:30 - 13:30 Lunch at OIST</td>
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<td>12:00 - 13:30 Lunch at OIST</td>
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<tr>
<td>13:00</td>
<td>13:00 - 14:45 Session 2</td>
<td>13:30 - 15:30 FSU Lab Tour Group 1</td>
<td>10:30 - 17:00 Excursion</td>
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<td>14:00</td>
<td>14:45 - 15:15 Break</td>
<td>15:30 - 16:30 FSU Lab Tour Group 2</td>
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<td>13:30 - 15:45 Session 8</td>
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<td>15:00</td>
<td>15:15 - 17:30 Session 3</td>
<td>16:00 - 17:00 OIST Tea Time</td>
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<td>15:45 Closing remarks</td>
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<td>16:00</td>
<td>17:30 Move to Seaside House</td>
<td>17:00 - 19:00 Poster Session</td>
<td>17:00 - 19:00 Rest and recuperate</td>
<td>16:00 - 17:00 FSU Lab Tour Group 3</td>
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<td>17:00</td>
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<td>17:00 - 19:00</td>
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<tr>
<td>18:00</td>
<td>18:00 - 20:00 Sunset BBQ at Seaside House</td>
<td>17:00 - 19:00 Rest and recuperate</td>
<td>18:00 - 20:00 Japanese Dinner at OIST</td>
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<td>19:00</td>
<td>19:00 - 21:00 Curry Night Dinner at OIST</td>
<td>19:00 - 21:00</td>
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<td>20:00</td>
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UDN 2016

UDN 2016: Detailed Program

Revision: Jul 07 2016

Day 1: Wednesday, July 13
Shining light on new materials

13th morning (Welcome 09:00-09:15)
Welcome to UDN 2016: H. Petek

13th morning (Session 1 09:15-11:15), Chair: H. Petek
2D Semiconductors under the spotlight Part I (2h00m)
- Quantum Coherent Dynamics and Coupling of Excitons & Trions in Atomically Thin Semiconductors
  o X. (E.) Li; 45min Invited Talk; UT Austin
- Ultrafast electron dynamics in quasi 2D materials probed by femtosecond time-resolved ARPES
  o M. Wolf; 45min Invited Talk; Fritz Haber Institute
- Coherent Optical Manipulation of Valley Excitons in Monolayer Transition Metal Dichalcogenides
  o E. Sie; 30min Contributed Talk; MIT

Lunch (11:15-13:00) & OIST Tour Group 1 (11:15-12:00)

13th afternoon (Session 2 13:00-14:45), Chair: X. (E.) Li
2D Semiconductors under the spotlight Part II (1h45m)
- Electronic Excitations and Dynamics in 2D Semiconductors
  o T. Heinz; 45min Invited Talk; Stanford University
- Dark Excitons in Monolayer Transition Metal Dichalcogenides
  o X. Zhang; 30min Contributed Talk; Columbia University
- Exciton Radiative Lifetime in Transition Metal Dichalcogenides Monolayers
  o C. Robert; 30min Contributed Talk; Université de Toulouse

Coffee Break (14:45-15:15)

13th evening (Session 3 15:15-17:30), Chair: K. Ishioka
Ultrafast Interactions and spectroscopies of Novel Materials (2h15m)
- Ultrafast Interactions of Coherent Phonons with Nonequilibrium L and X Valley Plasmons
  o C. Stanton; 45min Invited Talk; University of Florida
- Ultrafast Dynamics in Quantum Materials
  o A. Taylor; 45min Invited Talk; Los Alamos National Laboratory
- Spectroscopic Studies of Charged Water Interfaces
  o Y. R. Shen; 45min Invited Talk; UC Berkley & Fudan University

Sunset BBQ (18:00-20:00)
Day 2: Thursday, July 14

Shall the ‘twain meet…ultrafast and nanoscale?

14th morning (Session 4 09:00-11:30), Chair A. Leitenstorfer
Here’s a tip - bring light to the nanoscale (2h30m)

- Bringing THz Lightwave Electronics to the Atomic Length Scale
  - R. Huber; 45min Invited Talk; University of Regensburg

- Real-Space Control of the Electron Transfer in a Tunnel Junction with Single-Cycle THz Electric Field
  - K. Yoshioka; 30min Contributed Talk; Yokohama National University

- Femtosecond Near-Field Imaging with Plasmonic Nanofocussed Four-Wave Mixing
  - R. Ulbricht; 30min Contributed Talk; University of Colorado, Boulder

- Coherent Nonlinear Optical Spectroscopy in the Single Molecule Limit
  - E. Potma; 45min Invited Talk; UC Irvine

FSU Lab Tour Group 1 (11:30-12:30) & OIST Tour Group 2+3 (11:30-12:30)

Lunch (12:30-13:30)

14th afternoon (Session 5 13:30-15:30), Chair R. Huber
Or use smart, fast electrons to explore the atomic scale (2h00m)

- Attosecond Charge Transport in Atoms and Condensed Matter
  - U. Keller; 45min Invited Talk; ETH Zurich

- Femtosecond Point Projection Microscopy: Imaging Ultrafast Carrier Dynamics on the Nanoscale
  - M. Mueller; 30min Contributed Talk; Fritz Haber Institute

- Optical Spectroscopy of Individual Nano-materials with Defined Atomic Structure
  - K. Liu; 45min Invited Talk; Peking University

FSU Lab Tour Group 2 (15:30-16:30)

OIST Tea Time (16:00-17:00)

14th evening: Poster Session (17:00-19:00)
OIST Restaurant Level B; see page 6 for presenter list

Curry Night at the OIST Restaurant (19:00-21:00)
15th morning (Session 6 09:00-10:00), Chair: C. Stanton
* Session in C209, Center Building
The inner workings of OIST and the Femtosecond Spectroscopy Unit (1h00m)
- Into the rabbit hole – tracking electrons through energy, momentum, space and time
  o K. M. Dani; OIST

All Aboard (the Bus) (10:00-10:30)

15th afternoon (Excursion 10:30-17:00)
This is how we do it –physics in a tropical paradise (6h30m)
- Excursion: Talking physics while eating, swimming, and snorkeling at Ikei-jima
  o We hope all participants will attend.
  o Travel guests are welcome.
  o There’s a small fee to cover some expenses.
  o Confirmation/Reservation for attendance needed by Wednesday noon.
  o Please see the last page of this booklet or the UDN website (https://groups.oist.jp/fsu/udn-2016) for further details about the excursion.

Rest and Recuperate (17:00-19:00)

Dinner at the Rizzan (19:00-21:00)
Day 4: Saturday, July 16

Towards new quantum and coherent light...

16th morning (Session 7 09:00-12:00), Chair: R. Shen
Quantum leaps in Quantum light (2h45m +15m break in between)

- Time Domain Quantum Electrodynamics
  o A. Leitenstorfer; 45min Invited Talk; University of Konstanz
- THz Cavity Quantum Electrodynamics
  o J. Kono; 45min Invited Talk; Rice University

Short Break (10:30-10:45)

16th afternoon (Session 8 13:30-15:45), Chair: J. Kono
Manipulating light states with nanostructures (2h15m)

- Coherent Photonics with Quantum Dots
  o U. Woggon; 45min Invited Talk; Technische Universität Berlin
- Circular Polarization Effects in Artificial Nanostructure
  o K. Konishi; 45min Invited Talk; The University of Tokyo
- Quantum Computing - The New Hardware and Applications
  o Y. Yamamoto; 45min Invited Talk; Cabinet Office, Govt. of Japan & Stanford University

16th evening (Conclusion 15:45-16:00)
Closing Remarks: J. Kono

FSU Lab Tour Group 3 (16:00-17:00)

Japanese Dinner at Chura Hall, Seaside House (18:00-20:00)
Poster Session

- Ultrafast Coherence Manipulation in the Single Molecule Limit
  - K.T. Crampton; UC Irvine

- Ultrafast Auger-Mediated Hole Trapping and Coherent Phonon Dynamics in CdSe/CdS Core/Shell Colloidal Semiconductor Nanoplatelets
  - S. Dong; NTU Singapore

- Ultrafast Properties of Atomically Thin Black Phosphorus
  - T. Harada; OIST

- Ultrafast Dynamics of van der Waals Heterostructured Laminates
  - M.B.M. Krishna; OIST

- Unraveling the Photophysics of Perovskites by Use of Terahertz Spectroscopy
  - C. La-o-vorakiat; King Mongkut's University of Technology Thonburi

- Towards the Imaging of Memory Formation in C. Elegans using a Wide-Field Temporally Focussed Two-Photon Microscope
  - V. Lisicovas; OIST

- Patch Antenna Microcavity Terahertz Quantum Cascade Sources
  - J. Madéo; OIST

- Protecting the Properties of Monolayer MoS2 on Silicon Based Substrates with an Atomically Thin Buffer
  - M.K.L. Man; OIST

- Transient Exciton Tweezing in Semiconductor Quantum Wells
  - E.W. Martin; University of Michigan

- Transient Band Gap Enhancement in the Photoexcited Excitonic Insulator Phase in Quasi-1D Ta2NiSe5
  - S. Mor; Fritz Haber Institute

- Ultrafast Spin Density Wave Transition in Chromium Governed by Thermalised Electron Gas
  - C.W. Nicholson; Fritz Haber Institute

- Ultrafast Charge Transfer in MoS2 - Organic van der Waals Heterojunctions Using Plasmonic Metasurfaces
  - C.E. Petoukhoff; OIST

- Momentum Space Dynamics of Excited Electrons at Hybrid Interfaces
  - B. Stadtmüller; University of Kaiserslautern

- Ultrafast Conductivity of Conserved Dirac Fermions with Markedly Reduced Surface Scattering Revealed via THz pump and THz probe spectroscopy
  - J. Wang; Iowa State University

- Flipping the Flow of Charge with Light in a PN Junction
  - E. L. Wong; OIST