Sunday, June 4

3:00 pm Check-in

6:00 pm Reception *(Lobby)*

7:00 pm Dinner

8:00 pm **Welcome and Opening Remarks** *(Lobby)*

8:10 pm **Science Speed Dating!**

9:10 pm Refreshments available at Bob's Pub

NOTE:
Meals are in the **Dining Room**
Talks are in the **Seminar Room**
Posters are in the **Lobby**

Monday, June 5

7:30 am Breakfast *(service ends at 8:45 am)*

9:00 am **Session 1**
Chair: Na Ji

9:00 am **Paul Beard**, University College London
Biomedical photoacoustic imaging: From light to sound…and back

9:25 am **Ji-Xin Cheng**, Purdue University
Seeing deeper through photoacoustic imaging in the second optical window

9:50 am **Sylvain Gigan**, Université Pierre et Marie Curie
Transmission matrix approach to light control and imaging in complex media

10:15 am **Selected Talk: Carolyn Bayer**, Tulane University
Contrast agents for spectral photoacoustic imaging of placental transport in vivo

10:30 pm Break

11:00 am **Session 2**
Chair: David Boas

11:00 am **Ori Katz**, Hebrew University of Jerusalem
Imaging with scattered light

11:25 am **Junjie Yao**, Duke University
Breaking the limits in photoacoustic imaging

11:50 am **Rafael Piestun**, University of Colorado at Boulder
Enhancing the feedback loop for focusing and imaging through complex media

12:15 pm Lunch *(service ends at 1:00 pm)*

2:00 pm **Session 3:**
Chair: Joseph Culver

2:00 pm **Mathias Fink**, ESPCI Paris
Reflection matrix approaches for imaging through scattering media: From ultrasound to optics

2:25 pm **Changhuei Yang**, California Institute of Technology
Non-invasive deep tissue optogenetic activation with time-reversed ultrasound-encoded (TRUE) optical focusing

2:50 pm **Mickaël Tanter**, The Langevin Institute
Breaking of the fundamental time and space resolution limits in biomedical ultrasound: Implications in neuroscience and cancer diagnosis

3:15 pm **Selected Talk: Antoine Bergel**, The Langevin Institute
Functional ultrasound reveals robust coupling between fast gamma and blood flow in rats

3:30 pm Break

4:00 pm **Session 4:**
Chair: Chris Xu

4:00 pm **Wonshik Choi**, IBS Center for Molecular Spectroscopy and Dynamics
Simultaneous suppression of scattering and aberration for ultra-high resolution imaging deep within scattering media

4:25 pm **Jerome Mertz**, Boston University
Brain imaging in thick tissue

4:50 pm **Allard Mosk**, Utrecht University
Imaging through open channels in complex media

5:15 pm Short Break

5:25 pm **Poster Blitz!** *(3 minutes / 3 slides each)*

Oliver Bruns, Massachusetts Institute of Technology
Parag Chitnis, George Mason Univeristy
Yannick Goulam Houssen, Institut National de la Santé et de la Recherche Médicale
Yan Liu, Washington University in St. Louis
Dario Maschi, Washington University in St. Louis
David McClatchy III, Dartmouth College
Zhihai Qiu, The Hong Kong Polytechnic University
Katheryne Wilson, Stanford University

6:00 pm Poster Reception

7:30 pm Dinner

8:30 pm Refreshments available at Bob's Pub

Tuesday, June 6

7:30 am Breakfast *(service ends at 8:45 am)*

9:00 am **Session 5:**
Chair: Jerome Mertz

9:00 am **Chris Xu**, Cornell Univeristy
In vivo 3-photon imaging of mouse brain activity

9:25 am **David Boas**, Boston University
Microscopic measurements and modeling of cerebral oxygen delivery – Microscopic validation of calibrated fMRI

9:50 am **Benjamin Judkewitz**, Charité Berlin & Humboldt University
Scattering compensation by focus scanning holographic aberration probing (F-SHARP)

10:15 am Break

10:45 am **Session 6:**
Chair: Ori Katz

10:45 am **Stephen Boppart**, University of Illinois at Urbana-Champaign
Optical parametric amplification of weak signals for imaging of scattering biological tissue

11:10 am **Hui Cao**, Yale University
Enhancing light transmission in strongly scattering media

11:35 pm **Aristide Dogariu**, University of Central Florida
Stochastic approaches for optical sensing

12:00 pm **Selected Talk: Shay Ohayon**, Massachusetts Institute of Technology
Towards functional connectivity in non-human primates

12:15 pm Lunch *(service ends at 1:00 pm)*

1:15 pm Tour *(optional - meet at reception)*

2:15 pm **Session 7:**
Chair: Martin Schnermann

2:15 pm **Vivek Srinivasan**, University of California, Davis
Deep brain imaging with ballistic light

2:40 pm **Na Ji**, Janelia Research Campus/HHMI
TBD

3:05 pm **Laura Waller**, University of California, Berkeley
Computational 3D microscopy in scattering

3:30 pm **Selected Talk: Regina Eckert**, University of California, Berkeley
Comparison of scattering forward models for 3D coherent imaging

3:45 pm Break

4:15 pm **Session 8:**
Chair: Hui Cao

4:15 pm **Joseph Culver**, Washington University School of Medicine in St. Louis
Optical imaging of functional connectivity in mouse and man

4:40 pm **Brian Pogue**, Dartmouth College
Cherenkov light sheet molecular imaging in vivo: The highest spatial and molecular sensitivity possible in deep tissue imaging

5:05 pm **Adam Wax**, Duke University
Deep spectroscopic imaging for skin injury characterization

5:30 pm **Selected Talk: Kristina Irsch**, Johns Hopkins & UPMC-Sorbonne
Towards in-vivo characterization and deep imaging of the cornea and beyond

5:45 pm Poster Reception

7:15 pm Dinner

8:15 pm Refreshments available at Bob's Pub

Wednesday, June 7

7:30 am Breakfast *(service ends at 8:45 am)*

9:00 am **Session 9:**
Chair: Laura Waller

9:00 am **Jefferson Chan**, University of Illinois, Urbana-Champaign
Reactivity-based small-molcule probes for in vivo photoacoustic imaging

9:25 am **Luke Lavis**, Janelia Research Campus/HHMI
Designing brighter dyes for advanced fluorescence microscopy

9:50 am **Martin Schnermann**, National Cancer Institute/NIH
Chemically remodeling the cyanine scaffold for new applications in drug delivery and imaging

10:15 am Break

10:45 am **Session 10:**
Chair: Luke Lavis

10:45 am **Mikhail Shapiro**, California Institute of Technology
Acoustic biomolecules for noninvasive imaging of cellular function

11:10 am **Vladislav Verkhusha**, Albert Einstein College of Medicine
Engineering of bacterial phytochromes for in vivo imaging

11:35 am **Selected Talk: Shuo Chen**, RIKEN Brain Science Institute
Near-infrared optogenetics enabled by upconversion nanoparticles

11:50 am Closing Remarks

12:15 pm Lunch and/or Departure

12:45 pm First shuttle to Dulles
1:45 pm Second shuttle to Dulles
2:45 pm Last shuttle to Dulles