

Wednesday June 24th

New York Time **Donostia Time**
EDT (UTC -4) **CEST (UTC +2)**

Welcome

8:00 - 8:05 14:00 - 14:05 Rafael Yuste, *Columbia University and DIPC*
Aitzol Garcia-Etxarri, *DIPC*

Session 1

Moderator: Rafael Yuste

8:05 - 8:45 14:05 - 14:45 Rafael Yuste, *Columbia University and DIPC*
Hacking neural circuits with nanopipettes and nanoparticles

8:45 - 9:30 14:45 - 15:30 Hongkun Park, *Harvard University*
"Brain" on a Chip: CMOS-Nanoelectrode Array for Functional
Mapping of Neuronal Networks

9:30 - 10:15 15:30- 16:15 Ken Shepard, *Columbia University*
"More-than-Moore" CMOS bioelectronics for neuroscience
applications

10:15 - 11:00 16:15- 17:00 **Panel Discussion**
Hosted by Rafael Yuste and Aitzol Garcia-Etxarri

Coffee Break

11:00 - 11:45 17:00 - 17:45

Session 2

Moderator: Rafael Yuste

11:45 - 12:30 17:45 - 18:30 Jacob Robinson, *Rice University*
Engineering the nervous systems with magnetic and optical
nanotechnology

12:30 - 13:15 18:30 - 19:15 Michael Roukes, *Caltech*
Implantable Photonic Nanoprobes for Deep-Brain Functional
Imaging

13:15 - 14:00 19:15 - 20:00 Jose Carmena, *UC Berkeley*
Neuroprosthetic skill learning and control

14:00 - 14:05 20:00 - 20:05 Caroline Montojo, *Kavli Foundation*

14:05 - 15:00 20:05 - 21:00 **Keynote: Louis Brus, *Columbia University***
Size, Dimensionality and Strong Electron Correlation in
Nanoscience

15:00 - 15:45 21:00 - 21:45 **Panel Discussion**
Hosted by Rafael Yuste and Aitzol Garcia-Etxarri

Thursday June 25th

New York Time **Donostia Time**
EDT (UTC -4) **CEST (UTC +2)**

Initial Summary

8:00 - 8:05 14:00 - 14:05 Rafael Yuste, *Columbia University and DIPC*
Aitzol Garcia-Etxarri, *DIPC*

Session 1

Moderator: Aitzol Garcia-Etxarri

8:05 - 8:45 14:05 - 14:45 Fernando Cossio, *UPV/EHU and Ikerbasque Foundation*
Fluorescent Bicolor Sensors for Monitoring of Cation Binding in
Biological Systems

8:45 - 9:30 14:45 - 15:30 Wei Min, *Columbia University*
Vibrational Imaging for Biomedicine: the Next Frontier of Light
Microscopy

9:30 - 10:15 15:30- 16:15 Javier Aizpurua, *CFM-CSIC*
Light and currents in nanogaps

10:15 - 11:00 16:15- 17:00 **Panel Discussion**
Hosted by Rafael Yuste and Aitzol Garcia-Etxarri

Coffee Break

11:00 - 11:45 17:00 - 17:45

Session 2

Moderator: Aitzol Garcia-Etxarri

11:45 - 12:30 17:45 - 18:30 Laura Ballerini, *SISSA*
Engineered nanomaterials for stimulating, replacing and re-directing
axon growth

12:30 - 13:15 18:30 - 19:15 Luis Liz-Marzan, *BioMaGUNE*
Monitoring Amyloid Fiber Formation through Chiral Plasmons
Jennifer Dionne, *Stanford University*

13:15 - 14:00 19:15 - 20:00 Emerging nanophotonic platforms for infectious disease diagnostics
- Re-imagining the conventional microbiology toolkit

14:00 - 15:00 20:00 - 21:00 **Keynote: Naomi Halas, Rice University**
Nanomaterials and Light for Sustainability and Societal Impact

15:00 - 15:45 21:00 - 21:45 **Panel Discussion**
Hosted by Rafael Yuste and Aitzol Garcia-Etxarri

Final summary and wrap up

15:45 - 16:00 21:45 - 22:00 Rafael Yuste, *Columbia University and DIPC*
Aitzol Garcia-Etxarri, *DIPC*