ICAM Week of Science

Monday, 13th January 2025

8:30 Opening *30'*

9:00 Oleg Lavrentovich, *Kent State University*
Title: Polarization patterns of ferroelectric nematic liquid crystals

10:00 Cécile Sykes, *CNRS, Laboratoire de Physique de l'Ecole Normale Supérieure, Paris*
Title: Cytoskeletal physics: phase diagrams, phase portraits and trajectories

11:00 Coffee break *40'*

11:40 **Round Table 1** *60'*
What can Physics do for sustainability?

12:40 Lunch *80'*

14:00 Cristina Marchetti, *University of California Santa Barbara*
Title: Traveling patterns in nonreciprocal active matter

15:00 Justin Burton, *Emory University*
Title: Learning force laws in many body systems

15:40 Coffee break *40'*

16:20 Sami Al-Izzi, *UNSW, Sydney*
Title: Physics of HIV Nuclear Entry: Geometry, Wetting and Capillary Forces

17:00 Geoff Willmott, *The University of Auckland*
Title: Soft colloidal assemblies: Multiscale understanding of Janus and patchy particles

17:40 End of day 1

Tuesday, 14th January 2025

9:00 **ICAM SSC Meeting**

10:00 Coffee break *20'*

10:20 **ICAM SSC Meeting**

11:20 Coffee break *40'*

12:00 Jenny Malmstrom, *The University of Auckland*
Title: Designing soft materials to control functional properties

12:40 Lunch *80'*

14:00 Na Ji, *University of California Berkeley*
Title: Imaging the brain at high spatiotemporal resolution

15:00 Doug Brumley, *The University of Melbourne*
Title: The role of chemotaxis in bacterial interactions

15:40 Coffee break and Group photo *40'*

16:20 Sriram Ganeshan, *City College of New York CUNY*
Title: Ocean waves and quantum hall effect

17:00 Jianping Hu, *IOP Beijing*
Title: Loop current order in correlated electron systems

17:40 End of scientific part of day 2

19:00 Social Dinner

Wednesday, 15th January 2025

9:00 Allan MacDonald*, University of Texas Austin*
Title: Moiré Materials

10:00 Pablo Jarillo Herrero, *MIT*
Title: The Magic of Moiré Quantum Matter

11:00 Coffee break *40'*

11:40 Xing-Jiang Zhou, *Chinese Academy of Sciences*
Title: Laser ARPES on Pairing Symmetry and High-Tc Origin in High Temperature Superconductors

12:40 Lunch *80'*

14:00 Excursion

17:00 Public event to celebrate the International Year of Quantum Science and Technology
Speaker: Gordon Baym, *University of Illinois Urbana-Champaign*
Round table

19:00 End of day 3

Thursday, 16th January 2025

9:00 Ali Yazdani, *Princeton University*
Title: Visualizing strongly interacting quantum phases of matter

10:00 **Round Table 2** *60'*
How is AI likely to affect physics research in the next decade?

11:00 Coffee break *40'*

11:40 ZX Shen, *Stanford University*
Title: High-Temperature Superconductivity in Cuprates – Strides Made and Challenges Remain

12:40 Lunch *60'*

14:00 Suchitra Sebastian, *University of Cambridge*
Title: Unconventional Insulators

15:00 Ehud Altman, *University of California Berkley*
Title: Measurement induced phenomena in many-body quantum systems

15:40 Coffee break *40'*

16:20 Michael Fuhrer, *Monash University*
Title: Topological Materials for Low-Voltage Transistors

17:00 Alejandro Fainstein, *Centro Atómico Bariloche and Instituto Balseiro*
Title: Phonon lasing from a Bose-Einstein condensate of interacting polaritons

17:40 End of day 4

Friday, 17th January 2025

9:00 Tony Carrington, *University of Bristol*
Title: Charge Order in Cuprate Superconductors

9:40 Chung-Hou Chung, *National Chiao-Tung University*
Title: A mechanism for quantum-critical Planckian metal phase in high-temperature cuprate superconductors

10:20 Laura Greene, *Florida State University*
Title: Planar Tunneling into Kondo Lattices: Insulators and Superconductors (and a little policy)

11:00 Coffee break *40'*

11:40 Vidya Madhavan, *University of Illinois Urbana-Champaign*
Title: Dynamic manipulation of charge density waves

12:40 Lunch *60'*

13:40 Rosario Fazio, *International Centre for Theoretical Physics, Trieste*
Title: Quantum time crystals for sensing and clocks

14:20 Akito Sakai, *University of Tokuo*
Title: Multipole order, superconductivity and non-Fermi liquid in the quadrupole Kondo lattice $PrTr_2Al_20$ (Tr = Ti, V)

15:00 Phillip Brydon, *University of Otago*
Title: Multiphase superconductivity and antiferromagnetism in $CeRh_2As_2$

15:40 Coffee break *40'*

16:20 Joachim Brand, *Massey University*
Title: ODLRO description of odd-frequency superfluidity

17:00 Etienne Latagne Hurtibise, *Caltech*
Title: Rhombohedral graphene: spin canting, collective modes and superconductivity

17:40 End of day 5