Monday, Jul 11, 2022

8:50am Lars Bildsten (KITP)  
Welcome[Video]

9:00am Rudi Podgornik (UCAS)  
Qualitative chirality effects in the Casimir-Lifshitz torque in birefringent multilayer system[Video][CC]

9:45am Jeremy Munday (UC Davis)  
Controlling the Casimir effect with novel materials and geometries[Video][CC]

10:30am  
Morning break

11:00am Bong Jae Lee (KAIST)  
Experiments of near-field thermal radiation and energy conversion[Slides][Video][CC]

11:45am Yi Zheng (Northeastern)  
Cost-effective multifunctional photonic metamaterial for energy applications[Video][CC]

Lunch

2:00pm Zhuomin Zhang (Georgia Tech)  
Polarized thermal emission from metamaterials described by Stokes parameters based on fluctuational electrodynamics[Slides][Video][CC]

2:45pm Haokun Li (Berkeley)  
Phonon Coupling & Mechanical Stable Equilibrium through Quantum Fluctuations[Video][CC]

3:30pm  
Afternoon break

4:00pm Sheng Shen (CMU)  
Nanoplasmonic thermal emission in near- and far-fields[CC]

4:45pm Shanhui Fan (Stanford)  
Aspects of thermal radiation: time-modulated system, and chemical potential for photons[Video][CC]

5:30pm  
SHUTTLE TO BWSCI

Tuesday, Jul 12, 2022

9:00am Franco Nori (RIKEN)  
Dynamical Casimir effect in superconducting circuits[Video][CC]

9:45am Gabriel Dutier (LPL / USPN)  
Cold atoms for Casimir-Polder measurements[Video][CC]

10:30am  
Morning break

11:00am Sol Carretero Palacios (UAM)  
Quantum levitation and optical resonators[Video][CC]

11:45am Victoria Esteso Carrizo (U de Sevilla)  
Effect of the optical response of nanostructured materials on the Casimir-Lifshitz force[Video][CC]

Lunch

2:00pm All Participants  
Poster highlights (1 slide/3 highlight for posters)[Slides][Video][CC]

2:45pm Carsten Henkel (U Potsdam)  
Additional Boundary Condition and Entanglement of Fluctuations[Slides][Video][CC]

3:30pm  
Afternoon break

4:00pm Kim Milton (Oklahoma)  
Quantum and Casimir friction: energetics and forces[Slides][Video][CC]

4:45pm Fernando Lombardo (U. Buenos Aires)  
Traces of Quantum Friction in the Accumulated Geometric Phase[Slides][Video][CC]
Wednesday, Jul 13, 2022

9:00am Irina Pirozhenko (JINR)  
**QED quantum fluctuations in the presence of half-spaces filled with topological insulators** [Slides][Video][CC]

9:45am Maria Belen Farias (Luxembourg)  
**Casimir force between Weyl semimetals in a chiral medium** [Slides][Video][CC]

10:30am  
**Morning break**

11:00am Pramod Reddy (Michigan)  
Radiative Heat Transfer at the Nanoscale [Embargoed]

11:45am Philipe Ben-Abdallah (Inst. D’Optique)  
Near field radiative heat transfer in many-body systems [Slides][Video][CC]

Lunch

2:45pm Ricardo Decca (IUPUI)  
Measurement of the Casimir interaction at large separations and development of new sensors [Video][CC]

3:30pm  
**Afternoon break**

4:00pm Gabriele De Chiara (Queen's Belfast)  
A Bose-Einstein condensate thermal engine [Video][CC]

4:45pm Kanu Sinha (Arizona State)  
Engineering Casimir-Polder Interactions in Nanophotonic Systems [Video][CC]

5:30pm  
**Reception**

Wednesday, Jul 13, 2022

6:00pm  
**Dinner**

8:00pm  
**Shuttle to BWSCI**

Thursday, Jul 14, 2022

9:00am Galina Klimchitskaya (St. Petersburg Polytechnic U)  
**Electromagnetic response of graphene and role of evanescent waves in resolution of the Casimir puzzle** [Slides][Video][CC]

9:45am Umar Mohideen (UC Riverside)  
Zero-point photon scattering in real materials: lessons from precision Casimir force measurements [Video][CC]

10:30am  
**Morning break**

11:00am Paulo Maia Neto (UFRJ)  
Probing the screening of the Casimir interaction with optical tweezers [Slides][Video][CC]

11:45am Jian Sheng Wang (National U of Singapore)  
Non-equilibrium Green's function method for energy, momentum, and angular momentum transfer mediated by photons [Video][CC]

Lunch

2:00pm Francesco Intravaia (Humboldt U)  
Assessing the effects of material-modified electromagnetic fluctuations [Slides][Video][CC]

2:45pm David Bishop (BU)  
Casimir Metrology and the Casimir Energy [Video][CC]

3:30pm  
**Afternoon break**

4:00pm Gang Chen (MIT)  
Absorption at liquid-vapor interface: photomolecular evaporation [Video][CC]
4:45pm Zubin Jacob (Purdue)  

5:30pm CONFERENCE END SHUTTLE TO BWSCI *Also available to SB Airport and SB Airbus, Goleta location. (See Registration Desk BEFORE THURSDAY to sign up.)