

## Program (CET)

Monday, 14 February 2022

12:45 – 13:00	Organizers	Opening
<b>Chair: Matthias Krüger</b>		
13:00 – 13:30	Mauro Antezza	Casimir Torque and Force on Gratings
13:30 – 14:00	Giuseppe Bimonte	Hide It to See It Better: Probing the Influence of Free Charge Carriers on the Thermal Casimir Effect by Iso-Electronic Experiments
14:00 – 14:25	Francesco Intravaia	The Viscosity of Vacuum
14:25 – 14:50	<b>Speaker Tables + BREAK</b>	
<b>Chair: Anna Maciolek</b>		
14:50 – 15:10	<b>Flash Talk Presentations (2 min)</b>	
15:10 – 15:40	<b>Poster Session I + NETWORKING</b>	
<b>Chair: Marjolein Dijkstra</b>		
15:40 – 16:10	Peter Schall	Critical Casimir Forces Control Colloidal Assembly
16:10 – 16:35	Robert Evans	Solvent Mediated Interactions: Is the Critical Casimir Force Special
16:35 – 17:05	Giovanni Volpe	Experimental Study of Critical Fluctuations and Critical Casimir Forces
17:05 – 17:30	<b>Speaker Tables + BREAK</b>	
17:30 – 18:00	Alejandro Rodriguez	Physical Limits on Fluctuation-Induced Phenomena

## Program (CET)

Tuesday, 15 February 2022

**Chair: Daniel Dantchev**

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|---------------|-------------------------------|-----------------------------------------------------------------------------------------------------------|
| 13:00 – 13:30 | Timo Betz                     | <b>Exploiting Onsager Regression in Passive Measurements to Reveal Active Mechanics of Living Systems</b> |
| 13:30 – 14:00 | Sergio Ciliberto              | <b>Measurement of the Casimir Force in Binary and Normal Fluids</b>                                       |
| 14:00 – 14:25 | Daniela J. Kraft              | <b>Diffusion and Conformations of Flexible Colloidal Structures</b>                                       |
| 14:25 – 14:50 | <b>Speaker Tables + BREAK</b> |                                                                                                           |

**Chair: Matthias Krüger**

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|---------------|-----------------------------------------|--|
| 14:50 – 15:10 | <b>Flash Talk Presentations (2 min)</b> |  |
| 15:10 – 15:40 | <b>Poster Session II + NETWORKING</b>   |  |

**Chair: Thorsten Emig**

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|---------------|-------------------------------|-----------------------------------------------------------------------------------------------------------|
| 15:40 – 16:10 | Lilia Woods                   | <b>Standard and Dirac Materials: Band Structure and Dimensionality Effects in Dispersive Interactions</b> |
| 16:10 – 16:35 | Aleksandra Petkovič           | <b>The Casimir-Like Effect in a One-Dimensional Bose Gas</b>                                              |
| 16:35 – 17:05 | Jeremy Munday                 | <b>Controlling the Casimir Effect Through Geometry and Optical Anisotropy</b>                             |
| 17:05 – 17:30 | <b>Speaker Tables + BREAK</b> |                                                                                                           |
| 17:30 – 18:00 | Yun Liu                       | <b>Aggregation and Gelation of Charged Colloidal Particles in Binary Solvents and their Applications</b>  |

## Program (CET)

Wednesday, 16 February 2022

**Chair: Clemens Bechinger**

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|---------------|-------------------------------|--------------------------------------------------------------------------------------------------------|
| 13:00 – 13:30 | Mehran Kardar                 | <b>Ratchet Forces in Active Matter and QED</b>                                                         |
| 13:30 – 14:00 | David Dean                    | <b>Non Monotonic Casimir Forces in Higher Derivative Field Theories</b>                                |
| 14:00 – 14:25 | Masami Kageshima              | <b>Complex Mechanical Response of Near-Critical Binary System Studied with Atomic Force Microscopy</b> |
| 14:25 – 14:50 | <b>Speaker Tables + BREAK</b> |                                                                                                        |

**Chair: Andrea Gambassi**

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|---------------|-----------------------------------------|--|
| 14:50 – 15:10 | <b>Flash Talk Presentations (2 min)</b> |  |
| 15:10 – 15:40 | <b>Poster Session III + NETWORKING</b>  |  |

**Chair: Francesco Ginelli**

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|---------------|--------------------------------|----------------------------------------------------------------------------------------|
| 15:40 – 16:10 | Nicoletta Gnan                 | <b>Critical Fluctuations in Active Systems</b>                                         |
| 16:10 – 16:35 | Markus Gross                   | <b>Dynamics of the Critical Casimir Force and its Fluctuations</b>                     |
| 16:35 – 17:05 | Cynthia J. Olson<br>Reichhardt | <b>Clogging, Dynamics and Reentrant Fluid for Active Matter on Periodic Substrates</b> |
| 17:05 – 17:30 | <b>Speaker Tables + BREAK</b>  |                                                                                        |
| 17:30 – 18:00 | Alexei V. Tkachenko            | <b>Entropic and Informational Forces in Material World</b>                             |

## Program (CET)

Thursday, 17 February 2022

### **Chair: Fred Hucht**

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|---------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12:45 – 13:15 | Franco Nori                   | <b>Quantum Nonlinear Optics without Photons, how to Excite Two or More Atoms Simultaneously with a Single Photon, and Other Unusual Properties of Ultra-Strongly-Coupled QED Systems</b> |
| 13:15 – 13:45 | Felix Höfling                 | <b>Spontaneous Trail Formation in Populations of Auto-Chemotactic Walkers</b>                                                                                                            |
| 13:45 – 14:15 | Jean-Baptiste Fournier        | <b>Multibody and Retardation Effects in Field-Mediated Interactions</b>                                                                                                                  |
| 14:15 – 14:40 | <b>Speaker Tables + BREAK</b> |                                                                                                                                                                                          |

### **Chair: Robert Evans**

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|---------------|-------------------------------|--------------------------------------------------------------------------------------------------------|
| 14:40 – 15:10 | Jean-François Joanny          | <b>Mixtures of Hot and Cold Particles</b>                                                              |
| 15:10 – 15:35 | Alessio Squarcini             | <b>Critical Casimir Interaction between Complex Particles in Two Spatial Dimensions. Exact Results</b> |
| 15:35 – 16:05 | Alberto Parola                | <b>Solvation Forces in Disguise</b>                                                                    |
| 16:05 – 16:30 | <b>Speaker Tables + BREAK</b> |                                                                                                        |

### **Chair: Theodore L. Einstein**

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|---------------|---------------------------|-------------------------------------------------------------------------------------------------------|
| 16:30 – 16:55 | Oleg Vasilyev             | <b>Debye vs. Casimir: Controlling the Structure of Charged Nanoparticles Deposited on a Substrate</b> |
| 16:55 – 17:20 | Clemens Bechinger         | <b>Barrier Crossing in a Viscoelastic Bath</b>                                                        |
| 17:20 – 17:30 | Organizers                | <b>Closing</b>                                                                                        |
| 17:30 – 17:50 | <b>Speaker Tables</b>     |                                                                                                       |
| 17:50         | <b>END OF THE SEMINAR</b> |                                                                                                       |