Fluctuation-Induced Phenomena in Complex Systems

May 7-10, 2018

Sunday 6 May

16:30 Arrival of the participants and checking at the Physikzentrum Bad Honnef.

19:00 Dinner and get-together.

Monday 7 May

08:30 *Welcome and coffee*

08:45 F. Intravaia, D. Dalvit and K. Busch:		*Opening remarks and presentation of the seminar*
09:00 Ricardo Decca	Title:	*Measurement of the Casimir interaction from 0.2 to 8 microns: what we know and what we don't*
10:00 Ho Bun Chan	Title:	*Measurement of the Casimir force between two rectangular gratings*

11:00 *Coffee break*

11:30 Philip Kristensen	Title:	*Repulsive Casimir-Polder forces with a non-local material response*
12:00 Daniel Bloch	Title:	*When atom and surface fluctuations couple : Casimir-Polder interaction for atoms resonantly coupled to thermally populated surface polaritons*
12:30		**Conference photo (in the front of the lecture hall)**

12:40 *Lunch (followed by coffee and/or tea)*

14:00 Philipp Schneeweiß	Title:	*Ground state cooling of atoms 300 nm away from a hot surface*
14:30 András Vukics	Title:	*The theory & experimental realization of photon-blockade breakthrough as a first-order dissipative quantum phase transition*
15:00 Karin Jacobs	Title:	*Adhesion, adsorption, wetting and friction are influenced by van der Waals forces: old theory - new experiments*

16:00 *Coffee break*

16:30 Lilia Woods	Title:	*Casimir Physics Surprises in the Graphene Family*
17:30 Rudolf Podgornik	Title:	*Hydrodynamic fluctuation stresses mediated across a randomly driven fluid film*
18:30 Yehuda Band	Title:	*Dynamics of a Magnetic Needle in a Magnetic field: Landau–Lifshitz-Gilbert Dissipation and Fluctuations*
19:00 Stefan Jorda	Title:	*About the Wilhelm and Else Heraeus Foundation*

19:30 Dinner

Tuesday 8 May

8:30 Ferdinand Schmidt-Kaler Title: *Quantum states of trapped ions sensing fluctuation-induced phenomena*

9:30 Thomas Schweigler Title: *High order correlations and what we can learn about the solution for many body problems from experiment*

10:30 Tim Herpich Title: *Collective power: Minimal model for thermodynamics of nonequilibrium phase transitions*

11:00 *Coffee break*

11:30 Raul Esquivel-Sirvent Title: *Thermal band-gaps and Fano resonances in the Near-Field Radiative Heat Transfer*

12:00 Carsten Henkel Title: *Non-equilibrium Rytov electrodynamics with electrons and phonons*

12:30 *Lunch (followed by coffee and/or tea)*

14:00 Aleksandr Volokitin Title: *Fluctuation-electromagnetic phenomena under dynamic and thermal nonequilibrium conditions*

15:00 F. Javier García de Abajo Title: *Ultrafast Processes Triggered by Plasmon Fluctuations*

16:00 *Coffee break*

16:30 Poster Flashes

17:00 Poster Session

19:30 Dinner

Wednesday 9 May

09:00 Peter Hänggi Title: *The ring of Brownian motion: The good, the bad and some simply silly*

10:00 Clemens Bechinger Title: *Swarming, Orientation and Quorum Sensing of Synthetic Microswimmers*

11:00 *Coffee break*

11:30 Boris Müller Title: *Oscillating modes of driven colloids in overdamped systems*

12:00 Alessio Squarcini Title: *Critical Casimir interaction between generalized colloidal Janus particles in two spatial dimensions*

12:30 *Lunch (followed by coffee and/or tea)*

14:00 Francisco Diego Mazzitelli Title: *Dynamical Casimir effect: superconducting cavities and moving mirrors*

14:30 Itay Griniasty Title: *Classical analogue of the Unruh effect*

15:00 Bei-Lok Hu Title: *Nonequilibrium Atom-Field-Medium Interaction: A unified theoretical framework for fluctuation forces, quantum friction, and quantum optomechanics*

16:00 ***Coffee break***

16:30 Ron Folman	Title:	*Fluctuations on the atom chip*
17:30 Giovanna Morigi	Title:	*Collective dynamics of atomic ensembles due to long-range optomechanical forces*
18:30 Philipp Haslinger	Title:	*Atom interferometry probes inertial properties of blackbody radiation*

19:00 Heraeus-Dinner

Thursday 10 May

09:00 Shanhui Fan	Title:	*Near-field energy and momentum transfer between bodies with non-reciprocal materials or out of local equilbrium*
10:00 Arno Rauschenbeutel	Title:	*Chiral Quantum Optics*

11:00 ***Coffee break***

11:30 Ryan Behunin	Title:	*Fundamental noise in Brillouin lasers*
12:00 Roberto Passante	Title:	*Detection of the Unruh effect through radiation-mediated interactions between accelerating atoms*

12:30 ***Lunch (followed by coffee and/or tea)***

14:00 ***Departure***