



Quantum Engineering of Levitated Systems

24th – 30th April 2022

Benasque, Spain

Registration: benasque.org/2022qels by 15th March 2022

We are pleased to announce the third edition of the “*Quantum Engineering of Levitated Systems*” workshop. Building on the successes of the previous editions, the workshop focuses on recent developments in the field of quantum systems based on levitation by optical, electric and magnetic techniques with a strong emphasis on mesoscopic systems. Since levitated objects are freely suspended, common mechanical dissipation mechanisms that limit many typical micro- and nano-mechanical devices are strongly suppressed. The ultra-low dissipation enables new types of sensors and allows to explore the creation of macroscopic quantum states, which could probe the classical-to-quantum boundary and form the basis of novel engineered quantum systems.

This exciting new field sits at the interface of traditional quantum optics and nano-photonics and has attracted a strong interest in recent years. Through this workshop we strive to bring together the community to strengthen existing connections between ongoing research efforts, foster the development of new ideas, and broaden the scope of research directions and applications by inviting researchers with varied backgrounds

The *Centro de Ciencias de Benasque Pedro Pascual* provides an interactive atmosphere, which strengthens existing connections between ongoing research efforts, and fosters the development of new ideas and the exploration of novel directions by offering a relaxed schedule with ample time for discussions amongst the participants. Additional opportunities for discussion will be provided during selected invited talks and a couple of contributed talks. Early Career Researchers (postdocs), and PhD students are encouraged to participate and to apply for an oral or poster contribution (abstract submission link on the webpage).

Confirmed list of workshop invited speakers:

Asimina Arvanitaki (Perimeter Institute, Canada)
Peter Barker (University College of London, UK)
Aash Clerk (University of Chicago, USA)
Gabriel Hétet (École Normale Supérieure, France)
Oriol Romero-Isart (University of Innsbruck, Austria)
Nikolai Kiesel (University of Vienna, Austria)
Francesco Marin (University of Florence, Italy)

James Millen (University College of London, UK)
David Moore (Yale University, USA)
Martin Plenio (University of Ulm, Germany)
Hendrik Ulbricht (University of Southampton, UK)
Witlef Wieczorek (Chalmers University, Sweden)
Minowa Yosuke (Osaka University, Japan)

Organisers:

Jan Gieseler (IAV GmbH), Mathieu Juan (Uni. Sherbrooke), Nadine Meyer (ETHZ) and Jason Twamley (OIST)