

# — 2024 —

# QNS Colloquium

## *Quantum sources of gravity: the next frontier of macroscopic quantum physics*

No experiment today provides evidence that gravity requires a quantum description. The growing ability to achieve quantum optical control over massive solid-state objects may change that situation -- by enabling experiments that directly probe the phenomenology of quantum states of gravitational source masses. This can lead to experimental outcomes that are inconsistent with the predictions of a purely classical field theory of gravity. Such 'Quantum Cavendish' experiments will rely on delocalized motional quantum states of sufficiently massive objects and gravity experiments on the micrometer scale. I review the current status in the lab and the challenges to be overcome for future experiments.



**Markus Aspelmeyer**

University of Vienna



**Tues. May 7th | 17:00 - 18:00**

**B1 Jupiter Seminar Room / ZOOM**

Research Cooperation Building, Ewha Womans University  
(B1 주피터 세미나룸 이화여자대학교 연구협력관)

Registration required:

[qns.science/kr/콜로키움/](https://qns.science/kr/콜로키움/)

