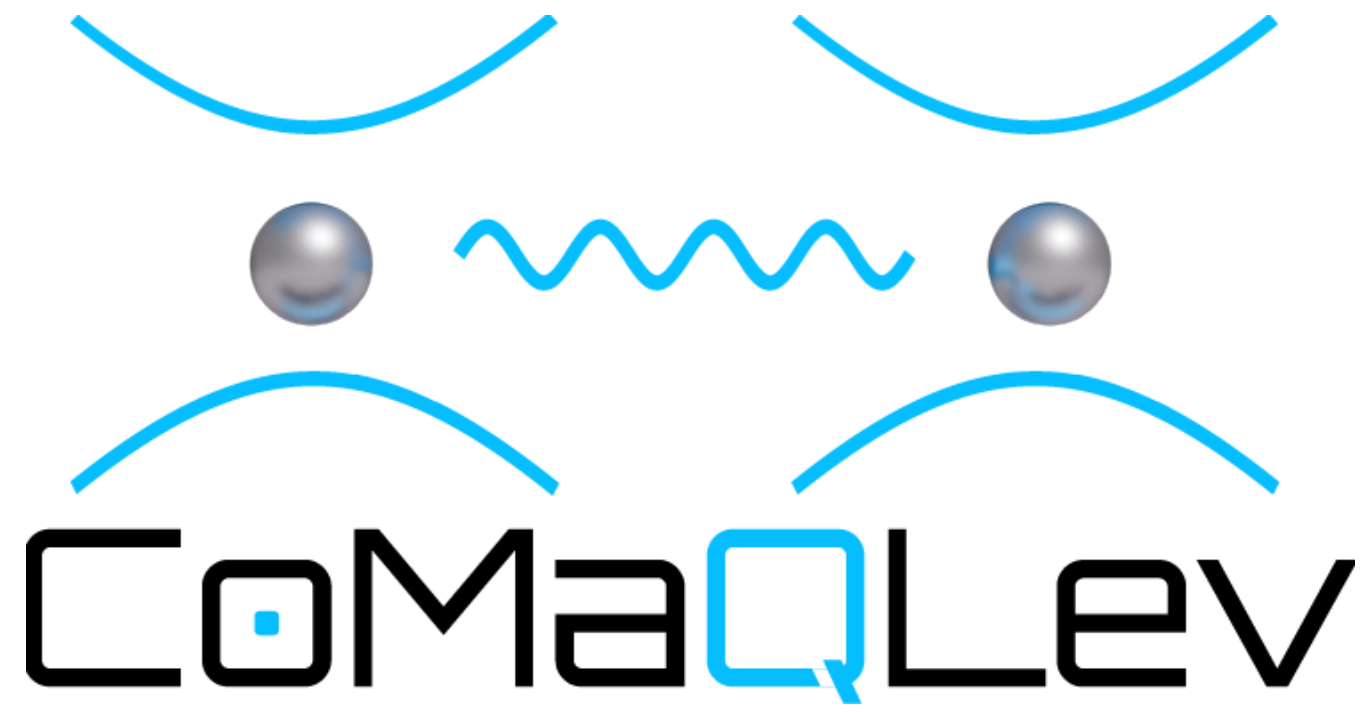


Magnetically Co-Levitated Superconductors in the Quantum Regime

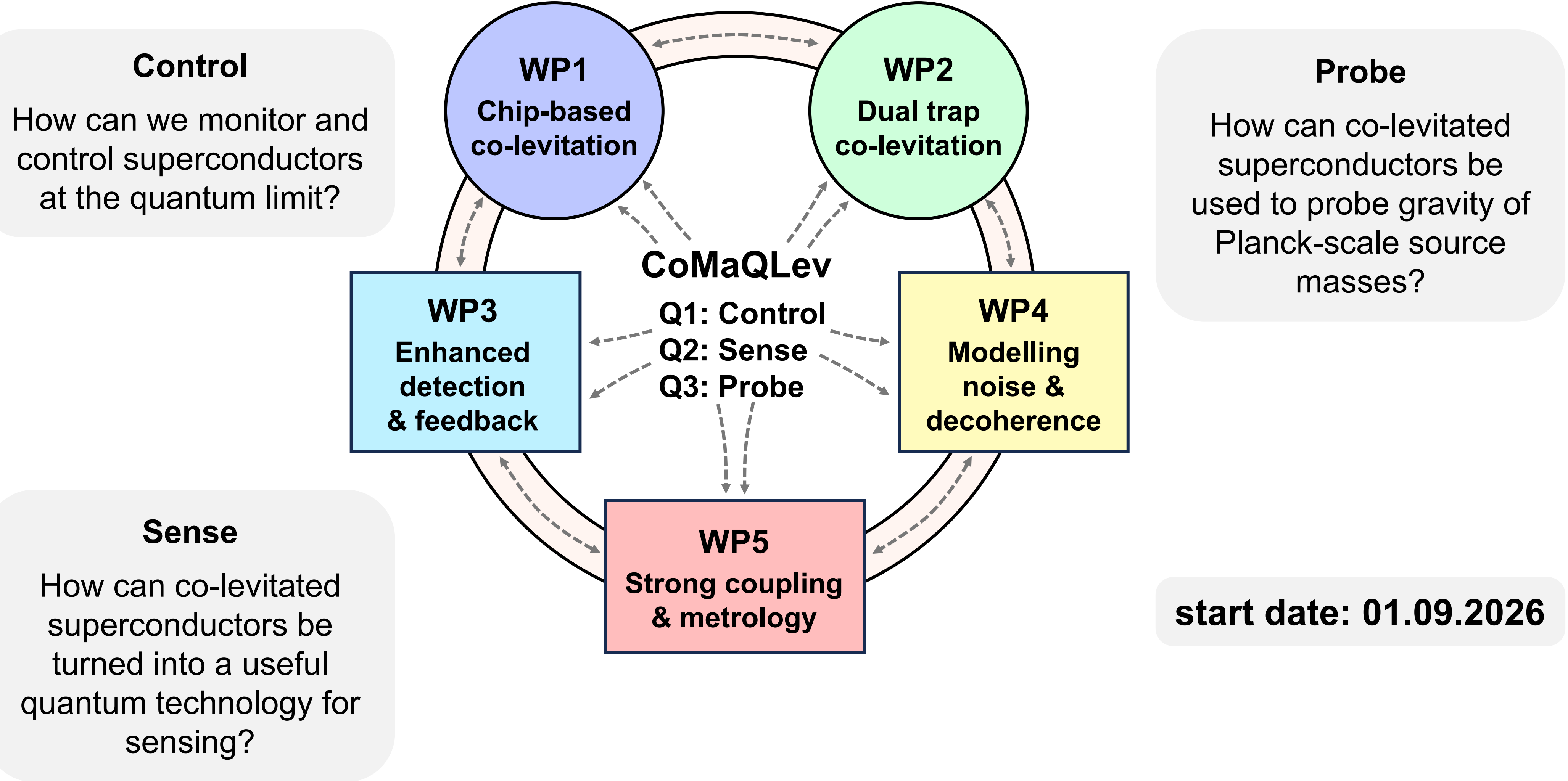
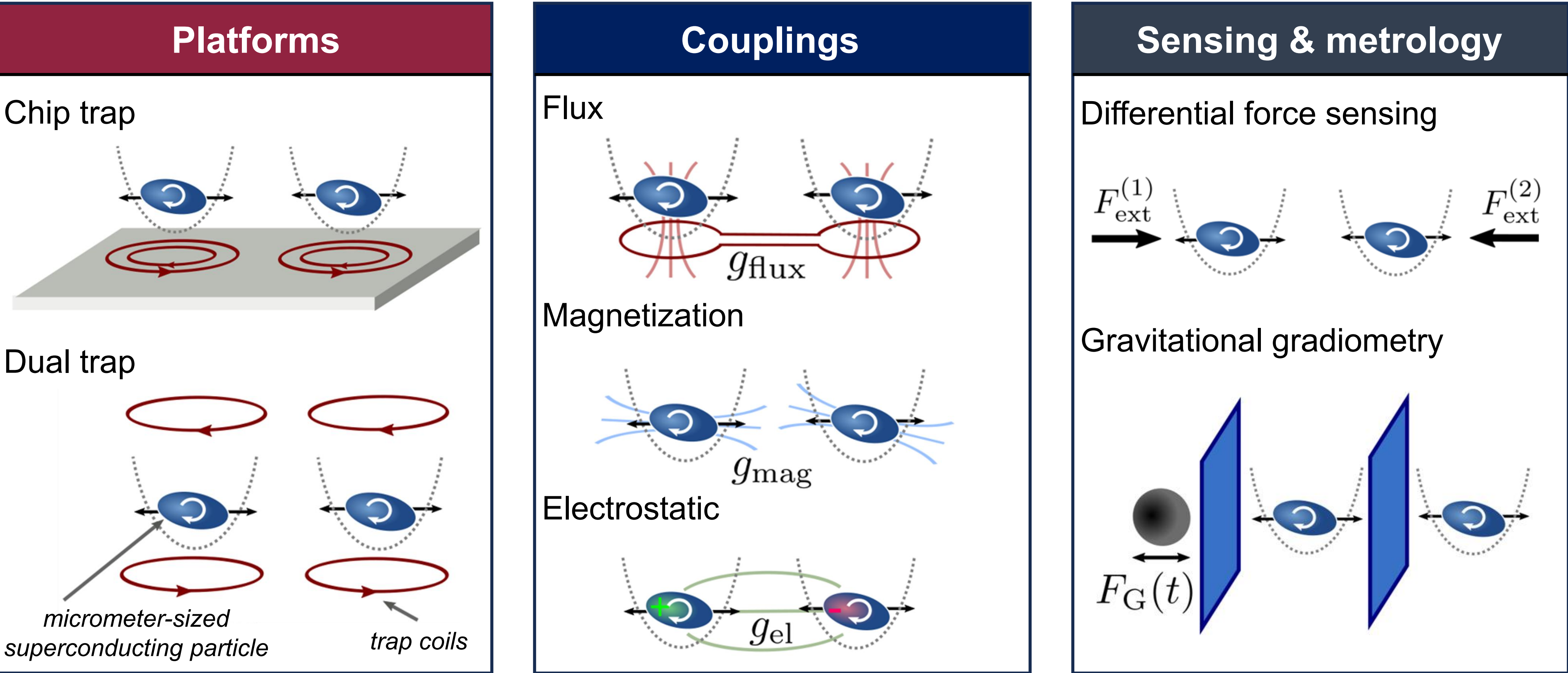
Benjamin A. Stickler, Markus Aspelmeyer, Martin B. Plenio, Witlef Wieczorek, Magdalena Zych



Short summary

Micrometer-sized superconductors can be levitated by magnetic traps in ultra-high vacuum, where their motion can be monitored and controlled via magnetic fields while external noise is kept to a minimum. Levitated superconducting microparticles thus offer a promising platform for sensing of forces, torques, and accelerations at and beyond the standard quantum limit, with great potential for future quantum technologies and foundational tests of quantum mechanics.

Aims of CoMaQLev



Consortium

Benjamin A. Stickler (UULM)
Quantum theory of levitated systems

Markus Aspelmeyer (UniVIE)
Experiment levitated superconductors

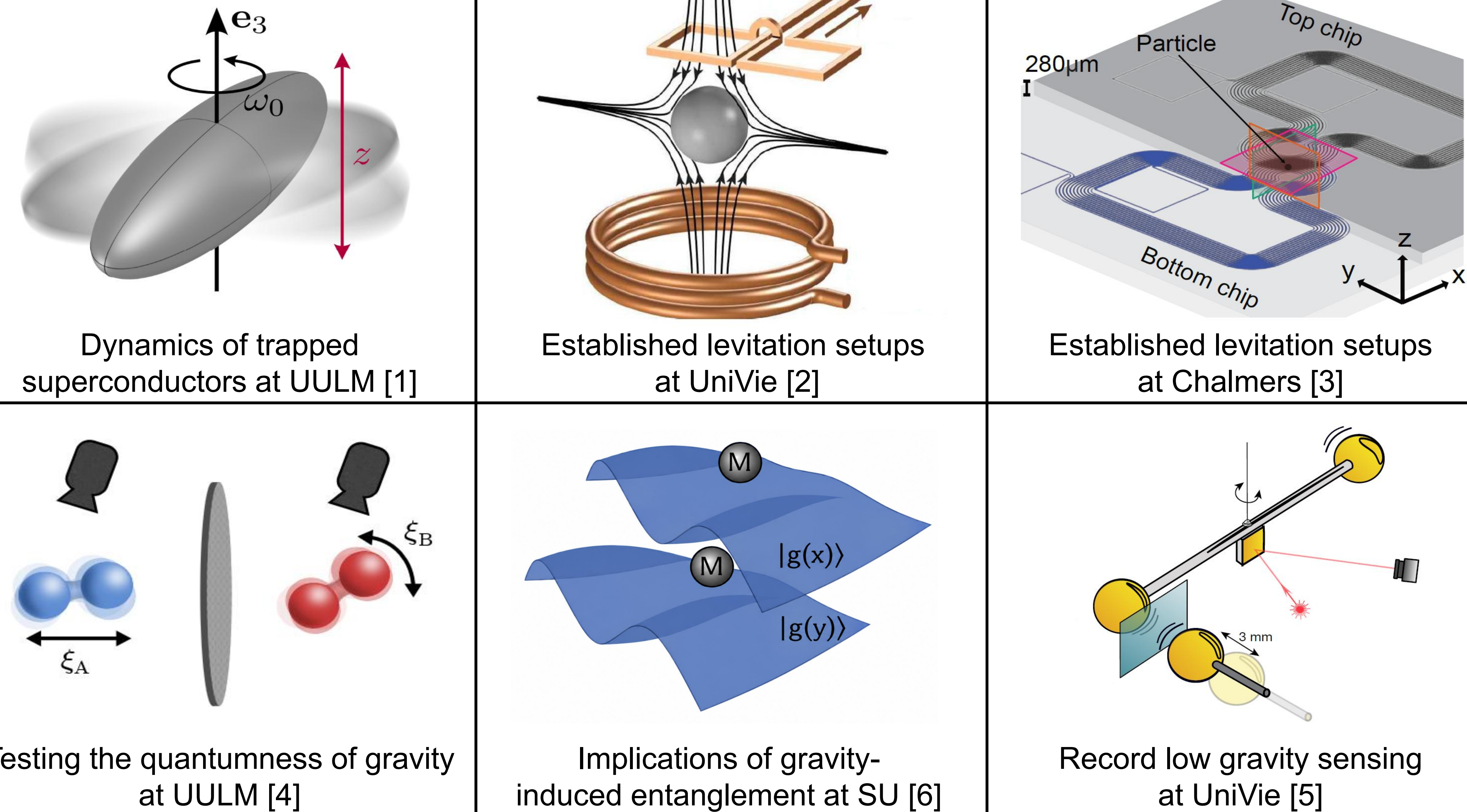
Martin B. Plenio (UULM)
Theory quantum foundations

Witlef Wieczorek (Chalmers)
Experiment levitated superconductors

Magdalena Zych (SU)
Theory quantum & gravity



Preliminary work



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