## Graduate School Event

# Thesis Defense: Quantum Remote Sensing and Non-Equilibrium Phase Transitions in the Microwave Regime


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Fink Group

Host: Julian Fischer



This thesis explores advancements in quantum remote sensing and non-equilibrium phase transitions. I will discuss photon blockade breakdown as a dissipative phase transition in a cavity-qubit system, establishing a thermodynamic limit in a driven-dissipative regime. Additionally, I will present the experimental realization of a phase-conjugate receiver for quantum illumination using a Josephson parametric converter, demonstrating its potential for enhanced target detection in noisy environments. These findings advance quantum-enhanced sensing and metrology, providing deeper insights into non-equilibrium quantum dynamics and practical quantum technologies.


**Tuesday, April 1, 2025 11:30am - 12:30pm**
Sunstone Bldg / Ground floor / Big Seminar Room B / 63 seats (I23.EG.102) and Zoom

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This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station. Please find a schedule of the ISTA Shuttle on our webpage: https://ista.ac.at/en/campus/how-to-get-here/ The ISTA Shuttle bus is marked ISTA Shuttle (#142) and has the Institute Logo printed on the side.