

Friday, Nov 28, 2025 

14:00 h 

RUN Auditorium 



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Stochastic and coherent dynamics of spins and electrons at the atomic scale

Many fascinating phenomena at the atomic scale, such as energy transfer between quantum systems or collective behavior of electrons in correlated materials, remain hidden to static measurements. The combination of ultrafast spectroscopy with scanning probe microscopy presents a unique opportunity to study the dynamics of matter locally at its intrinsic length and time scales. This lecture introduces recent advances using all-electronic microwave spectroscopy to capture quantum dynamics of magnetic atoms and small quantum magnets, as well as light-coupled THz pump-probe techniques with femtosecond resolution that reveal phonon propagation and collective excitations in charge-density wave materials.