The session will focus on recent developments in the field of opto- and nano electro-mechanics. With a common aim of measuring and actuating mechanical systems at the nanometer scale, the use of optical, microwave, and quantum transport techniques now allows a wealth of new phenomena to be controlled and investigated. This spans manipulation and detection at the quantum limit, cooling to the motional ground-state, instabilities and self-oscillatory trajectories, coupling of mechanical devices to atoms and single-photon emitters, ultra-sensitive detection of mass, forces or magnetic interactions. On top of invited presentations, contributions are solicited to report on progress in both theory and experiments. This session will be a living opportunity to bring together young and established actors of this growing community.