**Analysis of nanomaterial properties using *in situ* transmission electron microscopy techniques**

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In this talk I will demonstrate the unique usefulness of diverse state-of-the-art *in situ* transmission electron microscopy techniques for a detailed property analysis of many advanced inorganic nanomaterials, *e.g.* nanotubes, graphene-like nanosheets, nanowires, nanoparticles, nanocomposites and heterostructures. The Young’s moduli, tensile strength and strains to fracture, electrical conductance, thermal flow gradients, photocurrents, photovoltages and spatially-resolved cathodoluminescence of prospective nanomaterials are now may unambiguously be determined under the highest atomic, energy and temporal resolutions inside the electron microscope, while employing piezo-driven electrical probes, mechanical sensors, nanomanipulators and optical fibers adjusted within the microscope column.

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