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### Research interests:

- Semiconductor and hybrid metal-semiconductor nanostructures, in particular nanowires; Carbon-based nanomaterials; Fabrication, characterization.
- Electronic and thermal transport in nanostructures, also in quantum regimes; Nanoscale Thermoelectrics; Single electron devices.
- Transport, optical spectroscopy and light scattering experiments, also at low temperature, also in magnetic field.

### Selected Publications:

- ❖ J. Lieb, et al. *Advanced Functional Materials*, **accepted** (2018). Ionic liquid gating of InAs nanowire based field effect transistors
- ❖ F. Medeghini, et al. *Nano Lett.* **18**, 5159–5166 (2018). Controlling the Quality Factor of a Single Acoustic Nanoresonator by Tuning its Morphology
- ❖ F. Floris, et al. *Nanomaterials* **7**,400 (2017). Self-assembled InAs nanowires as optical reflectors
- F. Rossella, et al. *Nano Letters*, **16**, 5521–5527 (2016). GHz electroluminescence modulation in nanoscale subwavelength emitters
- F. Rossella, et al., *Nature Nanotechnology* **9**, 997–1001 (2014). Nanoscale spin rectifier controlled by the Stark effect
- F. Rossella, et al. *Advanced Materials* **24**, 2453–2458 (2012). Metal-filled Carbon Nanotubes as a Novel Class of Photothermal Nanomaterials