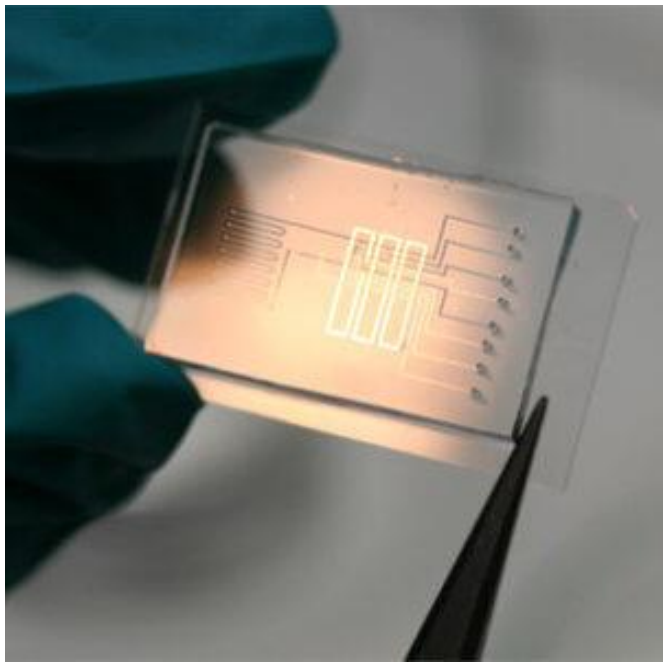
Nanofabrication and Nanocharacterization techniques

Angelo Di Bernardo



Course logistics

- Total credits: 5
- Beginning in week starting on April 20th
- 2 hours per week (day will be fixed with students)
- One assignment to hand in every three weeks
- Final exam: oral examination (25 min)
- For more info please email angelo.dibernardo@uni-konstanz.de
- Can e.g. be combined with course given by Dr Erbe and Prof. Scheer as **Wahlpflichtfach**

First planning meeting with students: April 15th, 10.00 AM (Office Z 1013)

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Course outline

- Basics
  Diffraction, electronic excitations in solids, quantum tunneling
- Nanofabrication techniques (top-down approach)
  UV-lithography, e-beam lithography, focus ion beam lithography, nano imprint
- Nanofabrication techniques (bottom-up approach)
  Self-assembly, single-molecule manipulation
- Nanocharacterisation techniques (topography and structure)
  Atomic force microscopy, X-ray diffraction, electron microscopy
- Nanocharacterisation techniques (spectroscopy)
  Raman spectroscopy, X-ray magnetic circular dichroism, muon spectroscopy, Angle-resolved photoemission spectroscopy, scanning tunneling microscopy

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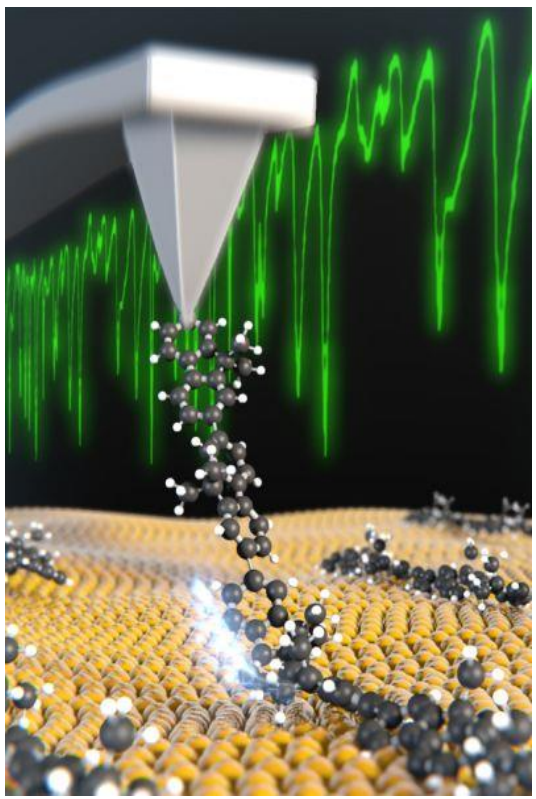

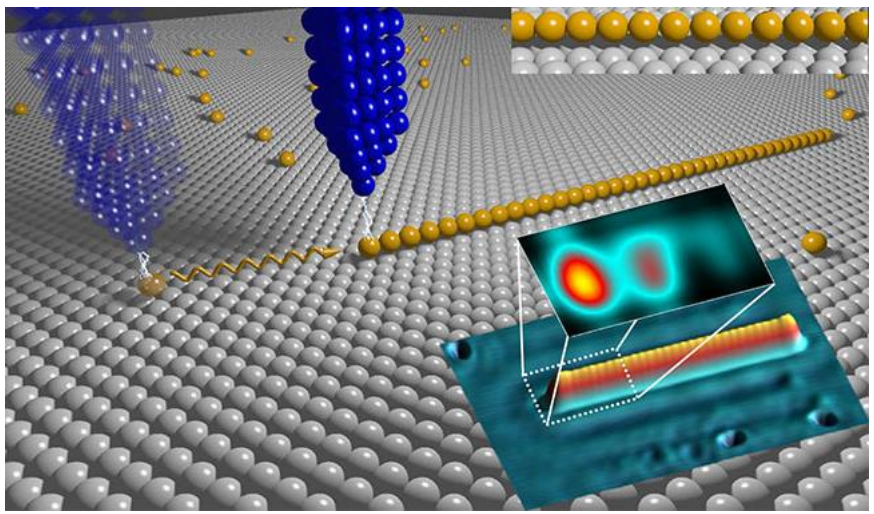

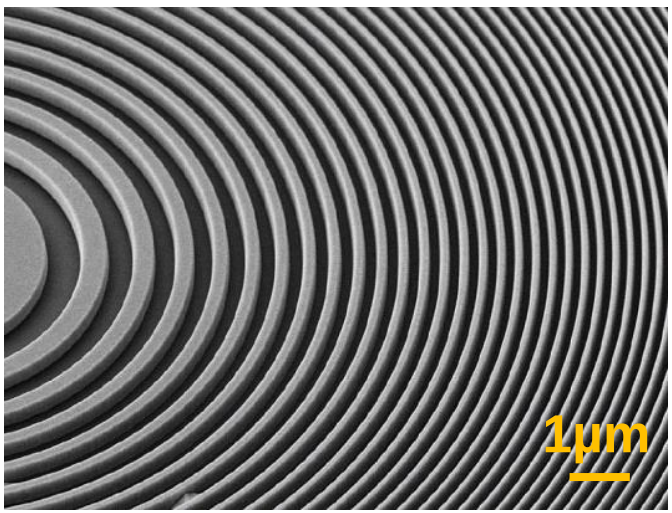

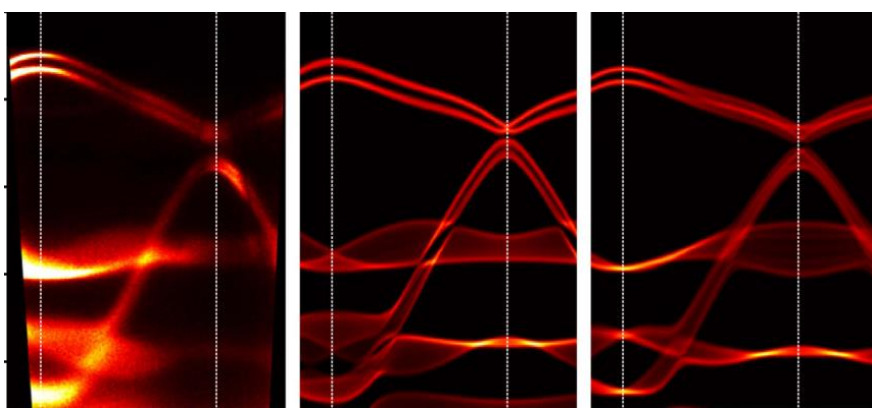

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