# SPECIAL SEMINAR/SONDERSEMINAR
# MPQ/LMU

| | |
|---|---|
| **am:** | **Donnerstag, 15. Dezember 2011** |
| **Uhrzeit:** | **9:30 Uhr s.t.** |
| **spricht:** | **Professor Dr. Alexander Högele**<br>**Nano-Photonics Group**<br>**Ludwig-Maximilians-Universität (LMU)**<br>**Geschwister-Scholl-Platz 1**<br>**D-80539 München** |
| **Thema:** | **Long-lived Excitons in Pristine Carbon Nanotubes** |
| **Ort:** | **Max-Planck-Institute for Quantum Optics,**<br>**H.-W. Audience Hall**<br>**Hans-Kopfermann-Str. 1, D-85748 Garching** |

**gez. Prof. T.W. Hänsch**

---

## Abstract

Semiconducting carbon nanotubes exhibit optical resonances in the near infrared. Since the first observation of photoluminescence from single-walled carbon nanotubes basic understanding of optical properties such as the role of strong exciton binding and diameter dictated optical excitations have emerged. However, various aspects of the intrinsic photophysics remained masked by imperfections and defects introduced during the growth of carbon nanotubes or as a result of their uncontrolled environment. We demonstrate that it's possible to minimize such extrinsic effects by growth of ultra-clean carbon nanotubes freely suspended in vacuum. Based on our recent experiments we discuss implications of the material quality for the observation of intrinsic optical properties of pristine carbon nanotubes.