

# AK Zaumseil

**Lehrstuhl für Angewandte Physikalische Chemie**  
**Institut für Physikalische Chemie**

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**UNIVERSITÄT  
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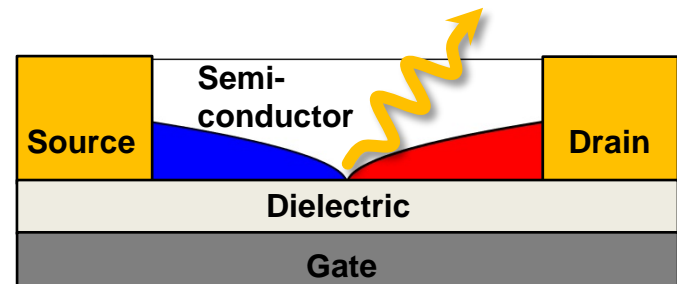
# Themengebiete:

Ladungstransport und Emissionseigenschaften (Elektro- und Photolumineszenz) von neuartigen (aus Lösung prozessierbaren) Halbleitern

- **Organische Halbleiter (inkl. Polymere)**
- **Kohlenstoffnanoröhrchen (SWNT)**
- **Nanopartikel (PbS, ZnO, etc.)**

## Anwendung in flexiblen/druckbaren

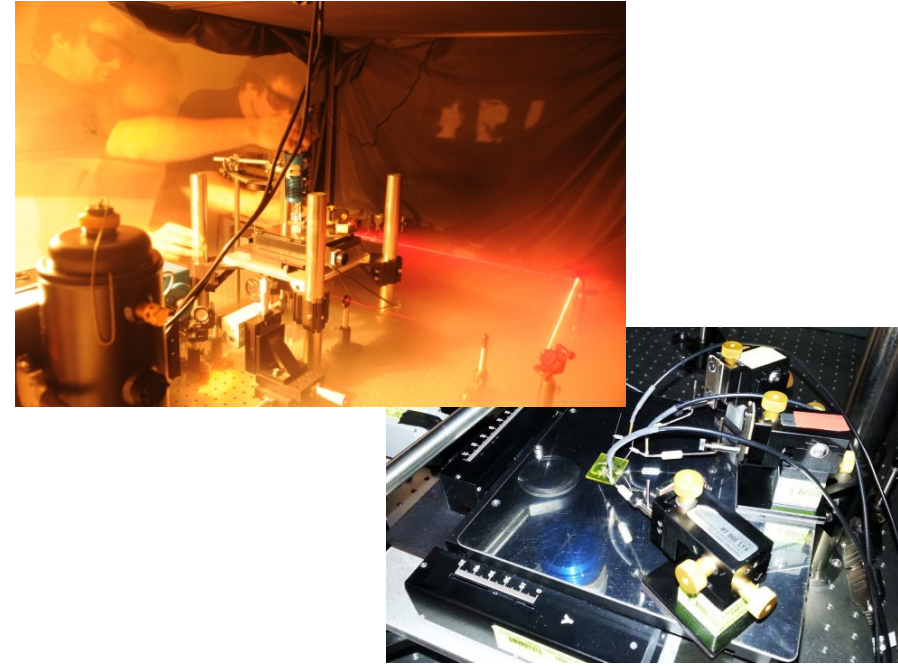
- **Transistoren**
- **Sensoren**
- **Leuchtdioden**
- **Solarzellen**



## Fabrication and electrical characterisation of devices (under inert conditions)



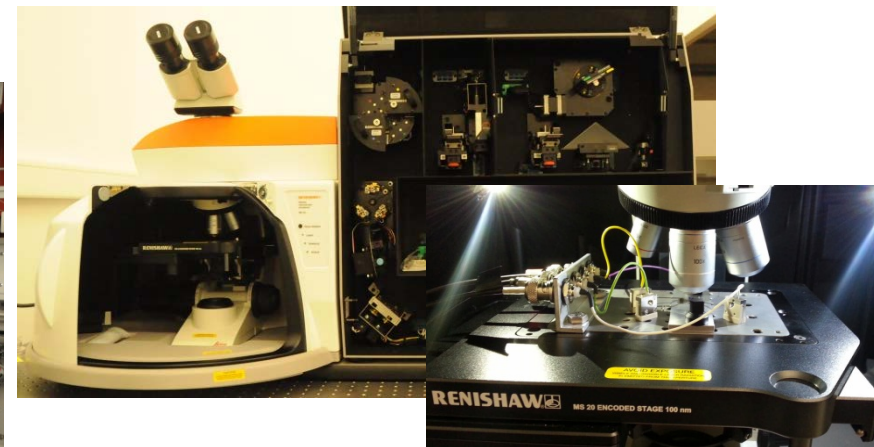
## Photo- and Electroluminescence in the near Infrared



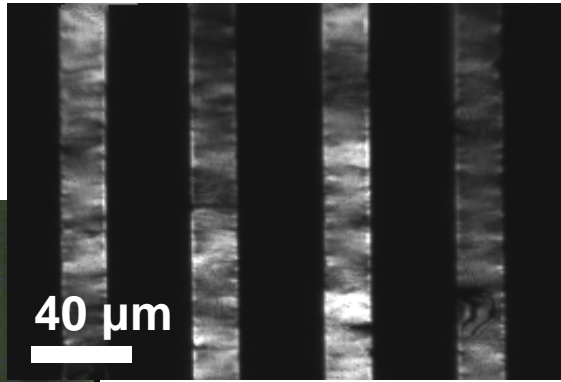
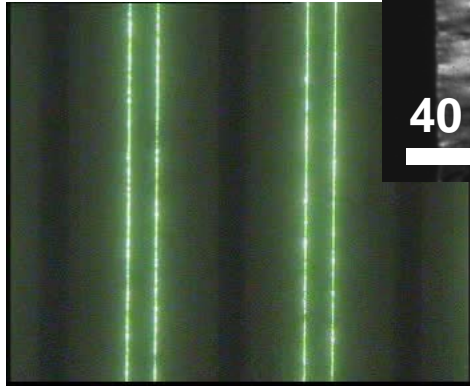
## Synthesis under inert Conditions CVD-Growth of Carbon Nanotubes



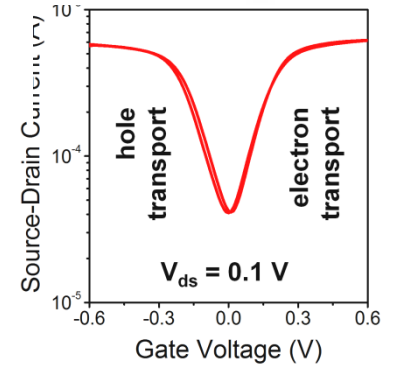
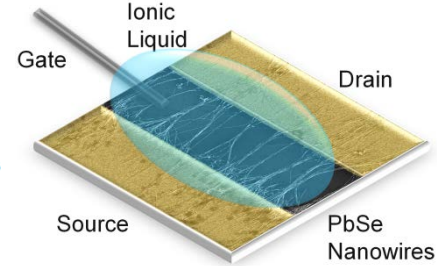
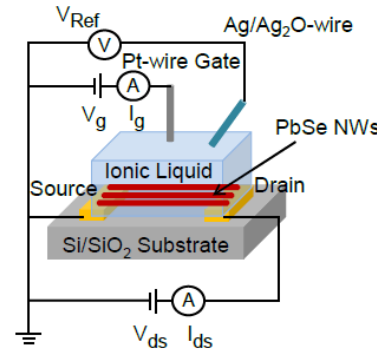
## Confocal Raman Microscopy



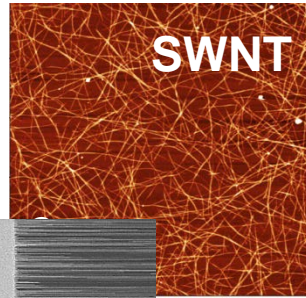
# Ambipolar and Light-emitting Field-effect Transistors



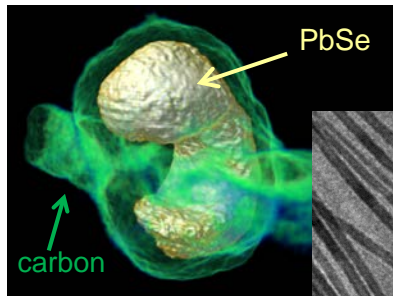
# Electrolyte-gated Field-effect transistors with ionic liquids



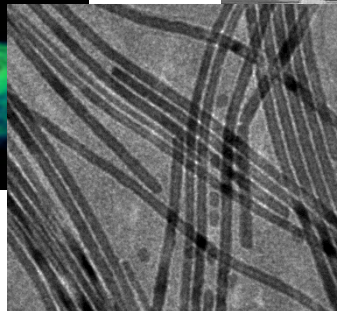
# Synthesis and Growth of Nanomaterials



# Interaction of conjugated Polymers with Carbon Nanotubes

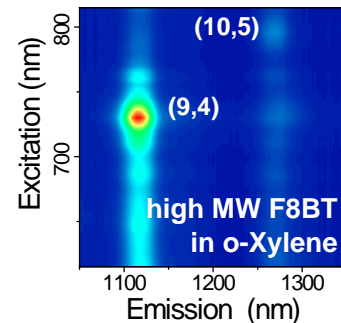
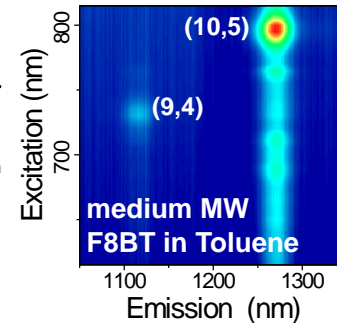
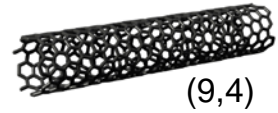
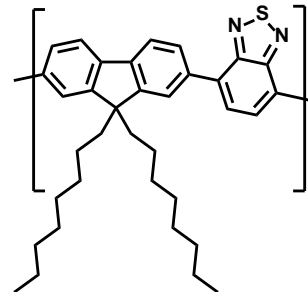


PbSe/SWNT hybrids

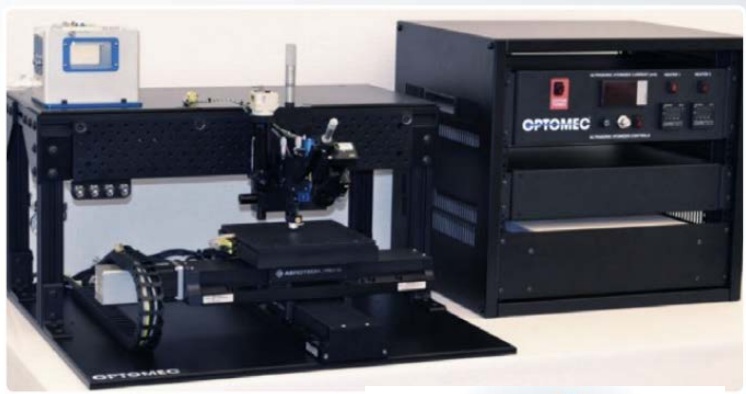


PbSe nanowires

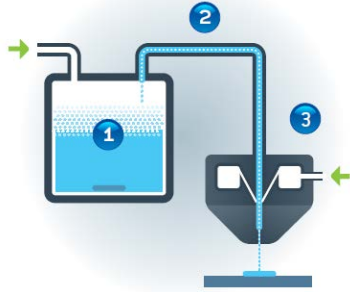
## F8BT



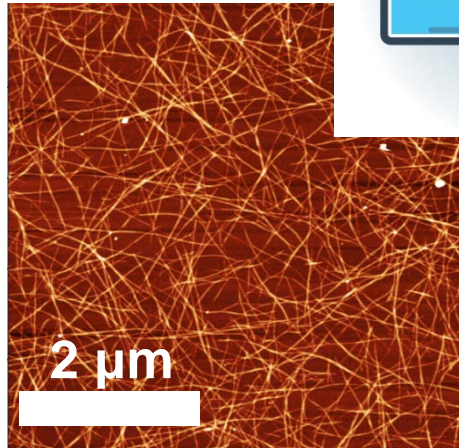
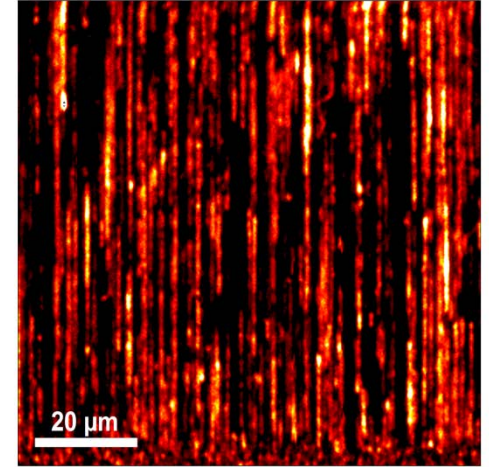
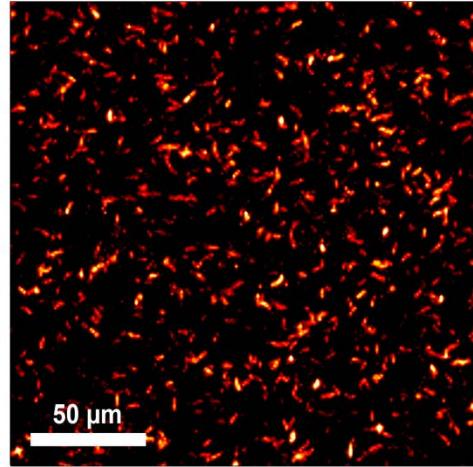
# Printable Semiconductors



Aerosol Jet Printing

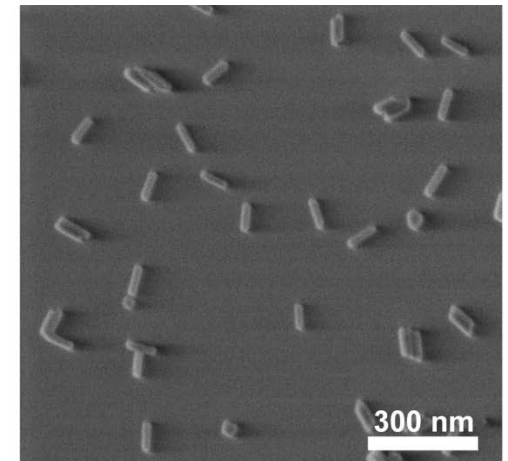
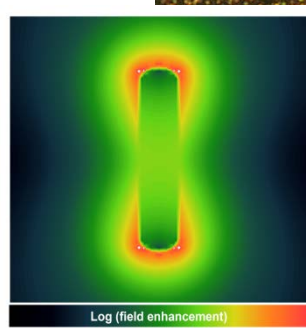
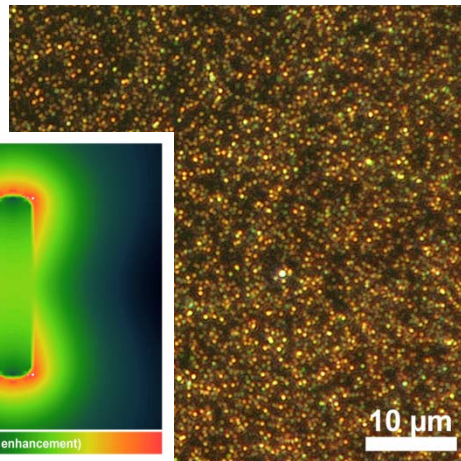


# near-IR Photoluminescence of semiconducting carbon Nanotubes



Solution-processed Single-walled carbon nanotubes

# Nanoplasmonic Antennas for Emission enhancement



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**Möglichkeit für Bachelor- und Masterarbeiten  
sowie Forschungspraktika ab Sommer 2015**