

# ABHISHEK GREWAL

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Heisenbergstrasse 1, DE 70569 Stuttgart, Germany

## EXPERIENCE

### Scientist

**Max Planck Institute for Solid State Research**  
**École Polytechnique Fédérale de Lausanne**

Feb. 2018 – Present Stuttgart, Germany

- Low-temperature Scanning Tunneling Microscopy (STM), time-resolved optical spectroscopy, single molecule dynamics, triplet emitters

### Research Consultant

**Max Planck Institute for Solid State Research**

Nov. 2017 – Jan. 2018 Stuttgart, Germany

- time-resolved STM, nanooptics, single molecule optoelectronics

### Research Assistant

**Max Planck Institute for Solid State Research**  
**2. Physikalisches Institut, Universität Stuttgart**

August 2016 – Oct. 2017 Stuttgart, Germany

- sub-Kelvin STM/AFM, qPlus sensor, KPFM, and Kondo effect

### Research Assistant

**1. Physikalisches Institut, Universität Stuttgart**

Feb. 2016 – June 2016 Stuttgart, Germany

- Electron spin resonance measurements, cryogenics, and coplanar metallic resonators

### Project student

**University of Delhi**

Feb. 2015 – April 2015 Delhi, India

- Discrete dipole approximation method, surface plasmon resonance, and nanoparticle growth

### Project student

**University of Delhi**

Sept. 2014 – Dec. 2014 Delhi, India

- Gutzwiller mean-field theory & non-equilibrium dynamics, 2D optical lattices of strongly-correlated bosons, and Mott insulator to superfluid phase transition

### Intern

**Indian Institute of Technology**

Nov. 2013 – Dec. 2013 Roorkee, India

- Thin-film growth, PLD, SQUID measurements, functionalization using oxide layers

## EDUCATION

### Ph.D. Physics

**Max Planck Institute for Solid State Research**

**École Polytechnique Fédérale de Lausanne**

2018-Present Stuttgart, Germany

### M.Sc. Physics

**Universität Stuttgart**

**Max Planck Institute for Solid State Research**

2015-2017 Stuttgart, Germany

### B.Sc. Physics

**University of Delhi**

2012-2015 New Delhi, India

## SKILLS

Nanooptics



Scanning probe microscopy



UHV, cryogenics



Surface science



- C++, Python, MATLAB,  $\LaTeX$ , NI LabVIEW, HTML, technical writing, scientific outreach
- Languages: English, Hindi, German (A2)

## PUBLICATIONS

- Leon, C., Rosławska, A., Grewal, A., Gunnarsson, O., Kuhnke, K. and Kern, K. (2019). Photon superbunching from a generic tunnel junction. *Science Advances*, 5(5), p.eaav4986.
- Merino, P., Rosławska, A., Leon, C., Grewal, A., Große, C., González, C., Kuhnke, K. and Kern, K. (2018). A Single Hydrogen Molecule as an Intensity Chopper in an Electrically Driven Plasmonic Nanocavity. *Nano Letters*, 19(1), pp.235-241.

## REFERENCES

Prof. Dr. Klaus Kern  
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Prof. Dr. Markus Ternes  
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