

Dominik Kriegner

Curriculum Vitae

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0000-0001-6961-6581
Citizenship: Austria



Work experience

- Apr 2016 – **Senior Scientist and head of Laboratory of magnetron sputtering**, *Academy of Sciences of Czech Republic, Institute of Physics.*
thin film growth and magnetotransport studies of magnetic materials
- Oct 2019 – **Post-doc**, *Technical University Dresden, Institute for Solid State and Materials Physics.*
magnetotransport studies of ferrimagnetic thin films
- 2018 – 9/2019 **Post-doc**, *Max Planck Institute for Chemical Physics of Solids, Dresden, Germany.*
thin films growth by magnetron sputtering, film characterization, magnetotransport
- 2014 – 2017 **Post-doc**, *Charles University, Czech Republic, Department of Condensed Matter Physics.*
Synchrotron and laboratory x-ray based structural studies: Extended x-ray absorption fine structure spectroscopy; magnetotransport studies of MnTe thin films
- 6–7 2010 **visiting researcher**, *DTU Kopenhagen, Denmark, Center for Electron Nanoscopy.*
High resolution TEM studies of III-V semiconductor nanowires

Education

- 2009 – 2013 **PhD thesis**, *JKU Linz, Austria, Institute of Semiconductor and Solid State Physics.*
thesis title: Crystallographic investigations of nanowires and nanocrystals
PDF: <https://tinyurl.com/yyhszqfw>
- 2008 – 2009 **Master thesis**, *JKU Linz, Austria, Institute of Semiconductor and Solid State Physics.*
thesis title: X-ray diffraction from III-V semiconductor nanowires
PDF: <https://tinyurl.com/y2f9pu3l>
- 2004 – 2009 **student**, *JKU Linz, Austria.*
study program technical physics

Awards and scholarships, research projects

- 2022 – Lumina Quaeruntur fellowship from the Czech Academy of Sciences
- 2022 – principle investigator of a GA ČR Junior Star project
- 2016 Price of the Bernard Bolzano Endowment Fund of the Charles University
- 2016 Award for talents in science of the country of Upper Austria (Talentförderprämie)
- 2014 – 2016 Erwin Schroedinger post-doctoral fellowship of the Austrian Science Fund
- 2012 – 2013 DOC-fellowship of the Austrian Academy of Sciences
- 2010 Wilhelm Macke master thesis prize
- 2009 grant/scholarship from the country of Upper Austria and the JKU for the visit of the MRS Fall Meeting and ICON conference
- 2004 – 2007 achievement scholarships of the Faculty of Engineering and Natural Sciences, JKU Linz

Research highlights

- spintronics first to measure the symmetry of anisotropic magnetoresistance in antiferromagnets
- crystallography first to determine the hexagonal polytype structural parameters important III-V semiconductors (InP, InAs, InSb, GaP, GaAs)
- software author of a widely used software package for diffraction physicists ([xrayutilities](#))

interests

- spintronics with ferro- and antiferromagnets
- epitaxial growth of materials
- research using large scale facilities
- development of crystallography methods

Publishing

- Web of Science: H-index 31 / number of citations > 3500; Researcher-ID [C-6225-2013](#)
- Google Scholar: H-index 35 / number of citations > 4700; ID [AJFXyKQAAAAJ](#)
- ORCID: [0000-0001-6961-6581](#); Scopus ID [26641274000](#)
- 96 papers in peer-rev. journals, 10×NPG, 8×Nano Lett., 2×PRL, 25×Phys. Rev., 4× APL, 9× J. Appl. Cryst. (see publ. list)
- newspaper article in "Der Standard" (german)
- former editorial board member of MDPI/Crystal

Professional skill set

- growth / UHV magnetron sputtering, proficient in crystallography, x-ray and neutron diffraction, SQUID
- characterization magnetometry, imaging (AFM, SEM), chemical analysis by EDX and Auger spectroscopy
- cryogenics use/maintainance of liquid as well as closed-cycle cryostats
- el. transport optical and e-beam lithography, experience with liquid and dry etching tools, DC as well as AC measurements using PPMS, LabView and self written code
- IT Linux usage and administration programming Python, C/C++, Matlab, Fortran, LabView, HTML

Languages

German native
Czech survival

English fluent