Magdalena Grzeszczyk

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Personal information

+65 9395 2898
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Languages

english (level B2)
german (level C1)

ORCID

Scholar

Education

2015 – 2020 **PhD in Physical Sciences** — Faculty of Physics, Univeristy of Warsaw
„Raman scattering in few layer molybdenum ditelluride ($MoTe_2$)”, supervised by prof. Adam Babiński

2013 – 2015 **Masters in Nanostructures Engineering** — Faculty of Physics, UW
„Raman spectroscopy of layered materials”, supervised by prof. Adam Babiński

2010 – 2013 **Bachelor in Nanostructures Engineering** — Faculty of Chemistry and Physics, UW
„Confocal microscope luminescence mapping of molybdenum disulfide”, supervised by dr hab. Jacek Szczytko

Research Experience

2021 – 2023 **Research Fellow at Institute for Functional Intelligent Materials, National University of Singapore**
Research on optical, electronic, and magnetic properties of advanced materials, particularly focusing on their behavior in different environmental conditions and under various excitations.

10 2020 – 03 2021 **Research Fellow at Faculty of Physics, University of Warsaw**
High pressure study of two-dimensional layered materials via optical spectroscopy providing understanding of material behavior across different environments and external stimuli.

10 – 12 2020 **Internship at National Laboratory for Intense Magnetic Fields, French National Centre for Scientific Research**
Study of excitonic complexes in layered materials and optical characterization of magnon-polarons in transition metal phosphorus trichalcogenides.

02 2018 **Internship at National Graphene Institute, The University of Manchester**
Fabrication of double-gated heterostructures from two-dimensional layered materials via diverse exfoliation and transfer techniques.

04 – 07 2017 **Internship at National Laboratory for Intense Magnetic Fields, French National Centre for Scientific Research**
Investigation of the optical properties of transition metal dichalcogenides aimed to characterize and understand their response to external factors related to the substrate.

09 2014 **Internship at Institute of Physical Chemistry, Ruprecht Karls University**
Examination of electronic structure of perovskites by 2PPE spectroscopy and investigation of surface structure of tetraazaaperopyren (TAPP) and its derivatives by HREEL spectroscopy.

06 2012 **Internship at Laboratory of Applied Laser Technology, Institute of Fundamental Technological Research of Polish Academy of Sciences**
TiC and DLC layer deposition using Nd:YAG laser ablation processes and their characterization via Raman scattering spectroscopy.

Projects

2018-2020 **Principal Investigator of project funded by National Science Centre via Preludium programme**
Influence of the environment on Raman scattering of thin layers of transition metal dichalcogenides

2016-2019 **Staff memeber of ATOMOPTO project carried out within the TEAM programme of the Foundation for Polish Science**
Atomically thin semiconductors for future optoelectronics (ATOMOPTO)

2018 **Staff memeber of Opus project financed by National Science Centre**
Resonance Raman scattering in atomically thin transition metal dichalcogenides

2017 **Staff memeber of Harmonia project financed by National Science Centre**
Physics of two-dimensional semiconductor structures in strong magnetic field

Distinctions

2020 **Doctoral degree**
Grade with distinction for a doctoral thesis awarded by doctoral committee

2018 **Scholarship**
Scholarship for outstanding scientific achievements awarded by polish Ministry of Science and Higher Education

Conferences

2023 **1st International Conference on Low-Energy Digital Devices and Computing, Singapore** oral presentation
„Tunable carrier concentration in hBN-encapsulated MoS_2"

2022 **35th International Conference on the Physics of Semiconductors, Sydney, Australia** oral presentation
„Resonant Raman Spectroscopy of few layer molybdenum telluride ($MoTe_2$)"

2022 **35th International Conference on the Physics of Semiconductors, Sydney, Australia** oral presentation
„Interlayer coupling in artificially stacked MoS_2 bilayers"

2021 **17th International Conference on Optics of Excitons in Confined Systems, Dortmund, Germany** online presentation
„Carrier density in monolayer MoS_2 govern by hBN encapsulation"

2019 **Graphene & 2DM Singapore Summit, Singapore, Singapore** poster
„The influence of metallic substrates on optical properties of $MoSe_2$ monolayer"

2019 **„Flatlands 2019", Toulouse, France** poster
„The effect of h-BN encapsulation on vibrational modes in few-layer $MoTe_2$"

2018 **„Graphene Week 2018", San Sebastian, Spain** poster
„The influence of metallic substrates on optical properties of $MoSe_2$ monolayer"

2018 **47th International Conference on the Physics of Semiconductors „Jaszowiec", Szczyrk, Poland** oral presentation
„The effect of environment on optical properties of $MoSe_2$ monolayer"

2017 **„Flatlands 2017", Lausanne, Swizterland** poster
„Quantum interference in resonant Raman scattering of few-layer $MoTe_2$"

2017 **„Graphene Week 2017", Athens, Greece** poster
„The temperature evolution of the bulk in-active out-of-plane B^1_{2g} mode in the Raman scattering from few-layer $MoTe_2$"

2016 **„SPIE Optics + Photonics 2016", San Diego, USA** oral presentation
„Temperature-dependent Raman scattering in few-layer $MoTe_2$"

2015 **44th International Conference on the Physics of Semiconductors „Jaszowiec", Wisła, Poland** oral presentation
„Optical signiture of few monolayer $MoTe_2$"