

Maxim Trushin, PhD

Centre for Advanced 2D Materials, National University of Singapore, 6 Science Drive 2
117546 Singapore ■ c2dmt (at) nus.edu.sg

RESEARCH SCIENTIST

More than 10 years of experience with novel semiconductor materials

- Theory of spin and charge transport in semiconductor nanostructures.
- Optoelectronic properties and applications of two-dimensional semiconductors.

My research is driven by experiment rather than by theoretical technique.

Education

University of Hamburg – Hamburg, Germany
PhD in Physics (Dr. rer. nat.), December 2005

Mordovian State University – Saransk, Russia
MS in Physics, June 2001

Professional Appointments

University of Konstanz – Konstanz, Germany
Academic Employee, 2012 to 2017
Research, Teaching, and Grant Proposal Writing

University of Regensburg – Regensburg, Germany
Academic Employee, 2006 to 2012
Research and Teaching

Research Fellowships

National University of Singapore
Senior Research Fellow, Centre for Advanced 2D Materials, 2017 to present
Awarded by the Director's Senior Fellowship for two-dimensional materials research.

The University of Texas at Austin (*one of the top "Public Ivies"*) – Austin, TX
Research Fellow, Department of Physics, 2009 to 2010
Awarded by a grant from the German Research Foundation that secured \$40K in funding for graphene research.

Recent Awards

Gordon Godfrey Fellowship, Australia, 2018
Visiting Fellow at the University of New South Wales, Sydney
Awarded by a travel grant from the Gordon Godfrey Bequest, \$3K

Maxim Trushin, PhD

Page 2 of 2 ■ c2dmt (at) nus.edu.sg

Top 10 most cited publications

More than 30 peer-reviewed publications in total, $h=14$ (Google Scholar estimation).

1. **M. Trushin** and J. Schliemann, *Minimum Electrical and Thermal Conductivity of Graphene: A Quasiclassical Approach*, [Phys. Rev. Lett. **99**, 216602 \(2007\)](#). Cited by 103
 2. **M. Trushin** and J. Schliemann, *Anisotropic current-induced spin accumulation in the two-dimensional electron gas with spin-orbit coupling*, [Phys. Rev. B **75**, 155323 \(2007\)](#). Cited by 75
 3. T.J. Echtermeyer, P.S. Nene, **M. Trushin**, R.V. Gorbachev, A.L. Eiden, S. Milana, Z. Sun, J. Schliemann, E. Lidorikis, K.S. Novoselov, A. C. Ferrari, *Photo-thermoelectric and photoelectric contributions to light detection in metal-graphene-metal photodetectors*, [Nano Lett. **14**, 3733 \(2014\)](#). Cited by 88
 4. **M. Trushin** and J. Schliemann, *Pseudospin in optical and transport properties of graphene*, [Phys. Rev. Lett. **107**, 156801 \(2011\)](#). Cited by 50
 5. **M. Trushin**, K. Vyborny, P. Moraczewski, A.A. Kovalev, J. Schliemann, and T. Jungwirth, *Anisotropic magnetoresistance of spin-orbit coupled carriers scattered from polarized magnetic impurities*, [Phys. Rev. B **80**, 134405 \(2009\)](#). Cited by 39
 6. **M. Trushin** and J. Schliemann, *Conductivity of Graphene: How to distinguish between samples with short- and long-range scatterers*, [Europhys. Lett. **83**, 17001 \(2008\)](#). **Highlighted in** [Nature Physics **4**, 671 \(2008\)](#). Cited by 31
 7. **M. Trushin**, J. Kailasvuori, J. Schliemann, and A.H. MacDonald, *Finite Conductivity Minimum in Bilayer Graphene without Charge Inhomogeneities*, [Phys. Rev. B **82**, 155308 \(2010\)](#). Cited by 27
 8. **M. Trushin** and J. Schliemann, *Spin dynamics in rolled-up two-dimensional electron gases*, [New Journal of Physics **9**, 346 \(2007\)](#). Cited by 23
 9. **M. Trushin**, E. J. R. Kelleher, T. Hasan, *Theory of edge-state optical absorption in two-dimensional transition metal dichalcogenide flakes*, [Phys. Rev. B **94**, 155301 \(2016\)](#). Cited by 20
 10. **M. Trushin**, A. Grupp, G. Soavi, A. Budweg, D. De Fazio, U. Sassi, A. Lombardo, A. C. Ferrari, W. Belzig, A. Leitenstorfer, D. Brida, *Ultrafast pseudospin dynamics in graphene*, [Phys. Rev. B **92**, 165429 \(2015\)](#). Cited by 20
-

Teaching, Mentoring, and Synergistic Activities

- ◆ Courses taught (tutorials and lectures): Theoretical Mechanics (SS2006, SS2007, WS2013), Mechanics (WS2006), Mesoscopic Physics (WS2007, WS2011), Thermodynamics and Quantum Statistics (SS2008), Electrodynamics (WS2008, WS2010), Quantum Mechanics (SS2010, SS2012), Advanced Quantum Mechanics (WS2015), Quantum Theory of Condensed Matter (SS2011, WS2016), Quantum Transport (SS2013), Modern Aspects of Solid State Physics (WS2014, SS2015), Superconductivity (SS2016), Integrated Tutorials in collaboration with experimentalists (WS2012, SS2014).
- ◆ Mentored undergraduate students: Philipp Trocha (2013), David Fricker (2015), Leon Martin (2015).
- ◆ A popular presentation on the extraordinary properties of graphene aimed for high-school students. Broadcasted during the Day of Physics at the University of Konstanz in the years 2013, 2014, 2015.
- ◆ DPG invited talk, Berlin (2008). (DPG is the German Physical Society, similar to APS.)
- ◆ Referee for Physical Review Letters, Physical Review B, European Physics Letters, European Physics Journal B, Physica Status Solidi, and Nature Communications.