

Curriculum Vitae: Dr. Nadine Hauptmann

Personal Information

Name Dr. Nadine Hauptmann
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Employment History

- 08/19 - today Assistant professor (tenure track): SPM department, IMM, Radboud University, Nijmegen, The Netherlands
- 08/14 – 07/19 Postdoctoral researcher, Project: *Atomic-scale magnetism studied by combined SP-STM and MExFM (SPEX)*, Institute for Molecules and Materials (IMM), Radboud University, Nijmegen, The Netherlands. Group leader: Prof. Alexander A. Khajetoorians.
- 07/13 – 07/14 Postdoctoral researcher, Project: *Transport properties of molecular switches*, Institute for Experimental and Applied Physics (IEAP), Christian-Albrechts-University Kiel, Germany. Group leader: Prof. Richard Berndt
- 03 – 04/10 Research PhD student, Project: *Force and Conductance during contact formation to a C₆₀ molecule*, IBM Research GmbH, Zürich, Switzerland. Supervisor: Dr. Gerhard Meyer
- 01/09 – 06/13 PhD student, *Force and conductance in molecular junctions*, IEAP, Christian-Albrechts-University Kiel, Germany.
Group leader: Prof. Richard Berndt
- 07 – 09/06 Research student, Synchrotron radiation facility DESY, Hamburg, Germany.
Supervisor: Dr. Stephan Roth
- 03 – 06/06 Research student, Synchrotron radiation facilities DESY, Hamburg, Germany, and ESRF, Grenoble, France. Group leader: Prof. Martin Müller, Institute for Experimental and Applied Physics, Christian-Albrechts-University Kiel, Germany.

Education

- 14.06.13 PhD in Physics with *summa cum laude* (highest honor awarded), Faculty of Mathematics and Natural Sciences, Christian-Albrechts-University Kiel, Germany.
Topic: “*Force and conductance in molecular junctions*”, Supervisor: Prof. Richard Berndt
- 04.11.08 Diplom in Physics (equivalent: Master of Physics) *mit Auszeichnung* (highest honor awarded), Faculty of Mathematics and Natural Sciences, Christian-Albrechts-University Kiel, Germany.

Topic: *Low Temperature scanning tunneling microscopy and spectroscopy of superconducting V_3Si* , Supervisor: Prof. Richard Berndt

Fellowships and Grants

01/2021	ERC Starting grant, project: ‘DeQ’, European Union’s Horizon 2020 research and innovation programme (grant agreement No. 947717)
08/2018	NWO Physics/f grant, NWO, The Netherlands
01/2015	Feodor Lynen Research Fellowship of the Alexander von Humboldt Foundation, Germany
2007	Student grant from the “German National Academic Foundation”, Germany

Supervision of Graduate Students

2014 – today	Bachelor students: 4, Master students: 3, PhD students: 1, IMM, Radboud University, Nijmegen, The Netherlands
2011 – 2014	Bachelor students: 2, Master students: 3, IEAP, Christian-Albrechts-University Kiel, Germany

Teaching Activities

2019 – now	Electronics (second year Bachelor), IMM, Radboud University, Nijmegen
2009 – 2013	Teaching assistant in physical practical courses: Optics, mechanics, and thermodynamics, IEAP, Christian-Albrechts-University Kiel, Germany
2006 – 2008	Teaching assistant: Classical mechanics and mathematical methods of theoretical physics, IEAP, Christian-Albrechts-University Kiel, Germany

Institutional Responsibilities

Since 2018	Organizing committee of the theme 3 colloquium at the IMM, Radboud University
2013 – 2014	PhD committee, Christian-Albrechts-University Kiel, Germany
2011 – 2012	Appointment committee for a W2 professorship in theoretical physics, Christian-Albrechts-University Kiel, Germany

Presentations at Conferences and Research Centers

Total number of invited presentations: 26

Total number of non-invited conference contributions: 22

Highlighted invited presentations:

- [1] Gerhard Ertl Young Investigator Award talk, DPG meeting Regensburg, Germany (2019)
- [2] Prof. Sebastian Loth, University of Stuttgart, Germany (2019)
- [3] SPSTM-7/LTSPM-1 International Conference, Radboud University, Nijmegen, The Netherlands (2018)
- [4] Prof. Yuanbo Zhang, Fudan University Shanghai, China (2016)
- [5] Prof. Man-Ching Ng, Southern University of Science and Technology, Shenzhen, China (2016)

Outreach Activities

- Presentations for High School students within the scope of “Saturday Morning Physics“, Christian-Albrechts-University Kiel, Germany, (in the years: 2013, 2014, 2017)
- SFB 677 Podcast: Molecules as nanomachines? (<http://vimeo.com/87175015>) (2014)

- Presentation for engineering students within the scope of the SFB 677 event: “Research meets Application”, Christian-Albrechts-University Kiel, Germany (2013)

Awards

- Kiel Nano-, Surface and Interface Sciences Award for nanophysics (2014)
- Poster award of Wilhelm and Else Heraeus foundation at the 543. WE-Heraeus-Seminar in Bad Honnef (2013)
- Award of the Faculty of Mathematics and Natural Sciences, Christian-Albrechts-University Kiel, Germany (2013)
- Poster Award at the 15th International Conference on non-contact Atomic Force Microscopy in Cesky Krumlov (2011)
- Award for the best experimental diploma thesis, Christian-Albrechts-University Kiel, Germany (2008)

Full List of Publications in Peer-Reviewed Journals

1. **N. Hauptmann**, S. Haldar, T.-C. Hung, W. Jolie, M. Gutzeit, D. Wegner, S. Heinze, and A. A. Khajetoorians, *Quantifying exchange forces of a spin spiral on the atomic scale*, Nat. Commun. **11**, 1197 (2020). **Featured as Editors' Highlights**
2. **N. Hauptmann**, M. Dupé, T.-C. Hung, A. K. Lemmens, D. Wegner, B. Dupé, A. A. Khajetoorians, *Revealing the Correlation between Real-Space Structure and Chiral Magnetic Order at the Atomic Scale*, Phys. Rev. B, **97**, 100401(R) (2018).
3. **N. Hauptmann**, J. W. Gerritsen, D. Wegner, A. A. Khajetoorians, *Sensing Noncollinear Magnetism at the Atomic Scale Combining Magnetic Exchange and Spin-Polarized Imaging*, Nano Lett., **17**, 5660-5665 (2017).
4. B. Kiraly, **N. Hauptmann**, A. N. Rudenko, M. I. Katsnelson, and A. A. Khajetoorians, *Probing Single Vacancies in Black Phosphorus at the Atomic Level*, Nano Lett., **17**, 3607 (2017).
5. K. Buchmann, **N. Hauptmann**, A. S. Foster, and R. Berndt, *Submolecular Resolution in Scanning Probe Images of Sn-Phthalocyanines on Cu(100) using Metal Tips*, J. Phys. Condens. Matter, **29**, 394004 (2017).
6. A. Bruix, J. A. Miwa, **N. Hauptmann**, D. Wegner, S. Ulstrup, S. S. Grønberg, C. E. Sanders, M. Dendzik, A. Grubišić, Cabo, M. Bianchi, J. V Lauritsen, A. A. Khajetoorians, B. Hammer, and P. Hofmann, *Single-Layer MoS₂ on Au(111): Band Gap Renormalization and Substrate Interaction*, Phys. Rev. B, **93**, 165422 (2016).
7. **N. Hauptmann**, R. Robles, P. Abufager, N. Lorente, R. Berndt, *AFM Imaging of Mercaptobenzoic Acid on Au(110): Sub-Molecular Contrast with Metal Tips*, J. Phys. Chem. Lett., **7**, 1984-1990 (2016).
8. **N. Hauptmann**, L. Gross, K. Buchmann, K. Scheil, C. Schütt, F. L. Otte, R. Herges, C. Herrmann and R. Berndt, *High-Conductance Surface-Anchoring of a Mechanically Flexible Platform-Based Porphyrin Complex*, New J. Phys., **17**, 013012 (2015).
9. N. M. Caffrey, K. Buchmann, **N. Hauptmann**, C. Lazo, P. Ferriani, S. Heinze, and R. Berndt, *Competing Forces during Contact Formation between a Tip and a Single Molecule*, Nano Lett., **15**, 5156 (2015).

10. **N. Hauptmann**, C. González, F. Mohn, L. Gross, G. Meyer and R. Berndt, *Interactions between two C₆₀ Molecules measured by Scanning Probe Microscopies*, *Nanotechnology*, **26**, 445703 (2015).
11. **N. Hauptmann**, Chr. Hamann, H. Tang, and R. Berndt, *Soft-Landing Electrospray Deposition of the Ruthenium Dye N3 on Au(111)*, *J. Phys. Chem. C*, **117**, 9734 (2013).
12. **N. Hauptmann**, Chr. Hamann, H. Tang, and R. Berndt, *Switching and Charging of a Ruthenium Dye on Ag(111)*, *Phys. Chem. Chem. Phys.*, **15**, 10326 (2013).
13. **N. Hauptmann**, K. Scheil, T. G. Gopakumar, F. L. Otte, C. Schütt, R. Herges, and R. Berndt, *Surface Control of Alkyl Chain Conformations*, *J. Am. Chem. Soc.*, **153**, 8814 (2013).
14. **N. Hauptmann** and R. Berndt, *Force and Conductance Spectroscopy of Second-Layer Tin-Phthalocyanine on Ag(111)*, *Phys. Status Solidi B*, **250**, 2403 (2013).
15. **N. Hauptmann**, F. Mohn, L. Gross, G. Meyer, T. Frederiksen, and R. Berndt, *Force and Conductance during Contact Formation to a C₆₀ Molecule*, *New J. Phys.*, **14**, 073032 (2012).
16. Chr. Hamann, R. Woltmann, I-Po Hong, **N. Hauptmann**, S. Karan, and R. Berndt, *Ultrahigh Vacuum Deposition of Organic Molecules by Electrospray Ionization*, *Rev. Sci. Instrum.*, **82**, 033903 (2011).
17. **N. Hauptmann**, M. Becker, J. Kröger, and R. Berndt, *Surface Reconstruction and Energy Gap of Superconducting V₃Si(001)*, *Phys. Rev. B*, **79**, 144522 (2009).
18. I. Krasnov, I. Diddens, **N. Hauptmann**, G. Helms, M. Ogurreck, T. Seydel, S. S. Funari, and M. Müller, *Mechanical Properties of Silk: Interplay of Deformation on Macroscopic and Molecular Length Scales*, *Phys. Rev. Lett.*, **100**, 048104 (2008).
19. T. Seydel, K. Kölln, I. Krasnov, I. Diddens, **N. Hauptmann**, G. Helms, M. Ogurreck, S.-G. Kang, M. M. Koza, and M. Müller, *Silkworm Silk under Tensile Strain investigated by Synchrotron X-Ray Diffraction and Neutron Spectroscopy*, *Macromolecules*, **40**, 1035 (2007).