

personal	date of birth: April 28, 1970 citizenships: Italian, German marital status: married, three daughters office: Institute for Materials Science and Max Bergmann Center of Biomaterials TU Dresden, 01062 Dresden, Germany +49 (0)351 463 -31420 (secretariat) -31414 (direct) gianaurelio.cuniberti@tu-dresden.de http://nano.tu-dresden.de/gc/ home: Brucknerstraße 5A, 01309 Dresden, Germany +49 (0)351 4 850 830 (tel), +49 (0)179 4247029 (mobile, WhatsApp)
career	since 09.2019: Guest Professor of Materials Science at Shanghai Jiao Tong University, China since 01.2018: Courtesy Appointment to the TU Dresden – King's College London <i>transcampus</i> since 01.2013: Courtesy Appointment to the Physics Department at TU Dresden, Germany since 11.2011: Adjunct Professor of Chemistry at the University of Alabama, USA since 11.2009: Honorary Professor of Electronic Engineering at POSTECH, South Korea since 10.2007: Chair "Materials Science and Nanotechnology" (full professor, W3), School of Engineering Sciences (Department of Materials Science) at TU Dresden 2003-2007: Head of the VW-Foundation independent research group <i>Molecular Computing</i> , Department of Physics, University of Regensburg, Germany 2001-2002: Schloßmann award fellow, Max Planck Institute PKS, Dresden, Germany 1998-2000: Guest scientist, Max Planck Institute PKS, Dresden, Germany 1997-1998: Postdoctoral Research Associate, Università di Genova, Italy
education	grad: 1997 Ph.D. in Physics, Università di Genova, Italy undergrad: 1994 Laurea (M.Sc.) in Physics, Università di Genova, Italy
publications & presentations	525 works in international journals and refereed volumes including 4 book (edited for Springer Lecture Notes in Physics), 9 reviews and 46 letters (including Nature Journals Papers), 279 works as first or last author 10 patents 499 abstracts in conferences, workshops, or sci-schools (91 as invited talks) 116 invited talks at universities, research centers including invited public talks
keywords	materials modeling and transport phenomena, electronic olfaction sensors, bottom-up assembly and molecular biosensing, molecular (bio)electronics, heat and charge migration from mesoscopic to molecular systems
grants & awards	since 2003: more than €30m third party grants among others from the European Union, the German Research Foundation (DFG), the German Ministry of Education and Research (BMBF), the Volkswagen Foundation. since 2023: Fellow of the Royal Society of Chemistry (RSC) since 2022: Member of the Germany National Academy of Science and Engineering (acatech) Fellow of the American Physical Society (APS) since 2021: Member of the Academia Europaea since 2019: Member of the European Academy of Sciences
author IDs	Google Scholar: https://scholar.google.com/citations?user=ru9OwLUAAAAJ ORCID: https://orcid.org/0000-0002-6574-7848 Scopus: https://scopus.com/authid/detail.uri?authorId=56273831400 ResearcherID: https://researcherid.com/rid/B-7192-2008

selected recent publications (out of 525)

- A. Prasoon, S. Ghouse, N. Ngan Nguyen, H. Yang, A. Müller, C. Naisa, S. Paasch, A. Herbawe, M. Al Aiti, G. Cuniberti, E. Brunner, and X. Feng,
Mimicking on-water surface synthesis through micellar interfaces,
Nature Communications (2024).
doi: 10.1038/s41467-024-54962-z
- T. Georgiou, J. L. Palma, V. Mujica, S. Varela, M. Galante, V. J. Santamaría-García, L. Mboning, R. N. Schwartz, G. Cuniberti, and L.-S. Bouchard,
Enantiospecificity in NMR enabled by chirality-induced spin selectivity,
Nature Communications **15**, 7367 (2024).
doi: 10.1038/s41467-024-49966-8
- J. Liu, Y. Chen, X. Huang, Y. Ren, M. Hambsch, D. Bodesheim, D. Pohl, X. Li, M. Deconinck, B. Zhang, M. Löffler, Z. Liao, F. Zhao, A. Dianat, G. Cuniberti, Y. Vaynzof, J. Gao, J. Hao, S. C. B. Mannsfeld, X. Feng, and R. Dong,
On-liquid-gallium surface synthesis of ultrasmooth thin films of conductive metal–organic frameworks,
Nature Synthesis (2024).
doi: 10.1038/s44160-024-00513-9
- A. Prasoon, X. Yu, M. Hambsch, D. Bodesheim, K. Liu, A. Zacarias, N. N. Nguyen, T. Seki, A. Dianat, A. Croy, G. Cuniberti, P. Fontaine, Y. Nagata, S. C. B. Mannsfeld, R. Dong, M. Bonn, and X. Feng,
Site-selective chemical reactions by on-water surface sequential assembly,
Nature Communications **14**, 8313 (2023).
doi: 10.1038/s41467-023-44129-7
- Z. Wang, Z. Zhang, H. Qi, A. Ortega-Guerrero, L. Wang, K. Xu, M. Wang, S. Park, F. Hennersdorf, A. Dianat, A. Croy, H. Komber, G. Cuniberti, J. J. Weigand, U. Kaiser, R. Dong, and X. Feng,
On-water surface synthesis of charged two-dimensional polymer single crystals via the irreversible Katritzky reaction,
Nature Synthesis **13**, 69-76 (2021).
doi: 10.1038/s44160-021-00001-4
- E. Baek, N. R. Das, C. V. Cannistraci, T. Rim, G. S. C. Bermúdez, K. Nych, H. Cho, K. Kim, C. K. Baek, D. Makarov, R. Tetzlaff, L. Chua, L. Baraban, and G. Cuniberti,
Intrinsic plasticity of silicon nanowire neurotransistors for dynamic memory and learning functions,
Nature Electronics **3**, 398-408 (2020).
doi: 10.1038/s41928-020-0412-1
- R. Gutiérrez, R. A. Caetano, B. P. Woiczikowski, T. Kubar, M. Elstner, and G. Cuniberti,
Charge transport through bio-molecular wires in a solvent: Bridging molecular dynamics and model Hamiltonian approaches,
Physical Review Letters **102**, 208102 (2009).
doi: 10.1103/PhysRevLett.102.208102
- E. Shafir, H. Cohen, A. Calzolari, C. Cavazzoni, D. A. Ryndyk, G. Cuniberti, A. Kotlyar, R. Di Felice, and D. Porath,
Electronic structure of single DNA molecules resolved by transverse scanning tunneling spectroscopy,
Nature Materials **7**, 68 (2008).
doi: 10.1038/nmat2060
- M. Del Valle, R. Gutiérrez, C. Tejedor, and G. Cuniberti,
Tuning the conductance of a molecular switch,
Nature Nanotechnology **2**, 176 (2007).
doi: 10.1038/nnano.2007.38
- N. Nemec, D. Tománek, and G. Cuniberti,
Contact dependence of carrier injection in carbon nanotubes: An ab initio study,
Physical Review Letters **96**, 076802 (2006).
doi: 10.1103/PhysRevLett.96.076802
- G. Cuniberti, G. Fagas, and K. Richter (Eds.),
Introducing Molecular Electronics (book),
Lecture Notes in Physics **680**, (2005).
doi: 10.1007/b101525

Prof. Dr. Gianaurelio Cuniberti

Extended Curriculum Vitæ

including a complete list of publications

Dresden, April 10, 2025

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CURRICULUM VITÆ

Prof. Dr. Gianaurelio Cuniberti



name:	Gianaurelio Cuniberti EurASc, MAE, acatech, FAPS, FRSC	
citizenships:	Italian, German	
marital status:	married, three daughters	
date of birth:	April 28, 1970	
address:	Institute for Materials Science and Max Bergmann Center of Biomaterials, TU Dresden 01062 Dresden, Germany <i>Brucknerstraße 5A, 01309 Dresden, Germany</i>	<i>private contacts ↓</i> <i>Brucknerstraße 5A, 01309 Dresden, Germany</i>
tel.:	+49 (0)351 463-31420 (-31414 direct line)	+49 (0)351 4 850 830 (home) +49 (0)179 424 7029 (mobile, WhatsApp)
e-mail:	gianaurelio.cuniberti@tu-dresden.de	gianaurelio.cuniberti@googlemail.com
web:	http://nano.tu-dresden.de/gc/	Zoom, Skype IDs: Cuniberto
Google Scholar:	https://scholar.google.com/citations?user=ru9OwLUAAAAJ	
ORCID:	https://orcid.org/0000-0002-6574-7848	
Scopus:	https://scopus.com/authid/detail.uri?authorId=56273831400	
ResearcherID:	https://researcherid.com/rid/B-7192-2008	
ResearchGate:	https://researchgate.net/profile/Gianaurelio_Cuniberti/	
LinkedIn:	https://linkedin.com/in/Cuniberti/	

Biography

Professor Gianaurelio Cuniberti holds since 2007 the Chair of Materials Science and Nanotechnology at the *Technische Universität Dresden* (TU Dresden) and the Max Bergmann Center of Biomaterials in Dresden, Germany. He is a member of the TU Dresden School of Engineering Sciences (Materials Science) and of the School Science (Physics). He studied Physics at the University of Genoa, Italy (where he got his B.Sc. and M.Sc.) and obtained his PhD in 1997 at the age of 27 in a joint collaboration between the University of Genoa and the University of Hamburg, Germany. He was visiting scientist at MIT and the Max Planck Institute for the Physics of Complex Systems Dresden. From 2003 to 2007, he was the head of a Volkswagen Foundation Research Group at the University of Regensburg, Germany. His research activity is internationally recognized in 525 scientific journal papers to date. He initiated and organized numerous workshops, schools and conferences and took part in international research training networks, offering extensive opportunities for young scientists. He has given plenary and invited talks at numerous international meetings. He serves as referee for numerous high impact journals, and for several funding research institutions including among others the EU, the German Science Foundation (DFG), the USA National Science Foundation (NSF), the German Israeli Foundation (GIF), and the Alexander von Humboldt Foundation. He received several talent scholarships and awards including the Max Planck Society Schloëßmann award (2001) and the VolkswagenStiftung Research Group Individual Grant (2003). He is member of several scientific organizations and corresponding member of the Umbrian Academy of Sciences. Gianaurelio Cuniberti is Honorary Professor at the Division of IT Convergence Engineering of POSTECH, the Pohang University of Science and Technology since 2009, since 2011 Adjunct Professor for the Department of Chemistry at the University of Alabama and since 2019 Guest Professor at SJTU. In 2018 he became faculty member of the transcampus between TU Dresden and King's College London. Professor Gianaurelio Cuniberti is an elected member of the European Academy of Sciences and of the Academia Europaea and of the Germany National Academy of Science and Engineering (acatech). He has been awarded Fellow of the American Physical Society (APS) and of the Royal Society of Chemistry (RSC).

Academic Career

- 12.2023** Declined the offer to become Rector of the Free University of Bozen-Bolzano, Italy.
- since 09.2019** Guest Professor of Materials Science at Shanghai Jiao Tong University (SJTU), China.
- since 01.2018** Courtesy Appointment to the TU Dresden – King's College London *transcampus*
- since 01.2013** Courtesy Appointment to the School Science (Physics) at TU Dresden, Germany.
- since 11.2011** Adjunct Professor of Chemistry at the University of Alabama, USA
- since 01.2009** Honorary Professor at the Division of IT Convergence Engineering of POSTECH, the Pohang University of Science and Technology (2009-2013 as Distinguished Visiting Professor).
- since 10.2007** Full Professor (W3), Chair of Materials Science and Nanotechnology at TU Dresden, Germany.
- 01.2007** Withdrawn the application to a W2-Professorship (Theoretical Physics) at the Technical University of Chemnitz, Germany. (First place in the appointment list to be suggested to the University Senate).
- 01.2007** Declined the offer of a W3-Professorship (Theoretical Physics) at the University of Ulm, Germany.
- 10.2006** Declined the offer of a Professorship (Physics) at the University of Hasselt, Belgium.
- 09.2006** Offer of a W3-Professorship (Chair of Materials Science) at TU Dresden, Germany.
- 2003-2008** Head of the VW-Foundation independent research group "Molecular Computing", Department of Physics, University of Regensburg, Germany (BAT I A position later renamed into TV-L E15).
- 1998-2002** Guest scientist, Max Planck Institute for the Physics of Complex Systems, Dresden, Germany (since 2001 as a Schloëßmann fellow).
- 1997-1998:** Postdoctoral Research Associate, Università di Genova, Italy.

Education

- 1994-1997:** **Ph.D. (equiv. Dr. rer. nat.)** in Theoretical Physics. Università di Genova, Italy. Final mark: *summa cum laude*. Completed all theoretical course work in the first year. Second year specialistic course 'Edge States in the Quantum Hall Effect'. Thesis title: *Electronic Transport in Interacting Quantum Wires*. Advisors: Profs. B. Kramer and M. Sassetti.
- 1989-1994:** **Laurea (equiv. M.Sc. resp. Diplom)** in Theoretical Physics. Università di Genova, Italy. Final mark: 110/110 *summa cum laude*. Elective exams: Advanced Functional Analysis, Cybernetics, Mathematical Physics, Molecular Physics, Theoretical Physics (many body physics and quantum field theory).
- 06.1989:** **Diploma Maturità (equiv. A level and Abitur)**. Liceo Leonardo da Vinci, Genova, Italy. Final mark: 60/60 *con menzione di lode*.

Current Affiliations

TU Dresden

PI at the DFG Excellence Programs cfaed (EXC 1056) and DIGS-BB (GSC 97), PL at the Saxonian Excellence Program ECEMP, PI and board member at the International Max Planck Research School coordinated by MPI-PKS, PI and deputy speaker at the International Helmholtz Research School IHRS-nanoNET (coordinated by HZDR).

Scientific Advisory Boards

the *Italian Institute of Technology (iit)* (member of iit the Scientific Technical Committee, www.iit.it/about-us/governance/).
Infineon Technologies AG

Learned Societies

the *American Physical Society* (APS ID No: 60046993, Fellow), the *Royal Society of Chemistry* (RSC ID No: 728351, Fellow), the *Institute of Electrical and Electronics Engineers* (IEEE ID No: 91142410, Senior Member), the *European Materials Research Society* (E-MRS, member of the scientific council), the *German Materials Research Society* (DGM ID No: 167619), the *German Physical Society* (DPG ID No: 31867), the *German Association of Nanotechnology* (DV Nano), the *American Chemical Society* (ACS ID No: 30156900), the *SPIE* (SPIE ID No: 3006594), the *Chinese Chemical Society* (CCS ID No: 180210757), the *IAAM* (IAAM ID No: 704281493679).

Scientific Academies

Member of the *German National Academy of Science and Engineering (acatech)*,
 Elected Member of the *Academia Europaea*,
 Fellow of the *European Academy of Sciences*,
 Corresponding member of the *Umbrian Academy of Sciences*.

Local Associations

member of the *Leibniz-Institut für Polymerforschung Dresden e.V.* (IPF Dresden), the *Materials Research Network Dresden* (MFD, member of the executive board) (former executive board) the *Association of Friends and Sponsors of TU Dresden* (GFF), the *Association of Supporters of the Max Bergmann Center of Biomaterials Dresden* (executive board).

Grants

More than €2m pa (€30m since 2003). A list of past and running projects can be found at:
<http://nano.tu-dresden.de/projects/>.

Scientific Conference Organization¹

- 07.2022:** Co-organizer of the International Conference on Science and Technology of Synthetic Metals (ICSM).
 Dresden, Germany.
 web site: www.icsm2022.com/
- 12.2020:** Co-organizer of the 8. Dresdner Werkstoffsymposium 2020 *Innovative Werkstoffe für neue Produkte* (in German) Dresden, Germany.
 web site: www.werkstoffsymposium-dresden.de/
- 12.2019:** Co-organizer of the International Conference on Computers and devices for Communication (CODEC)
 Kolkata, India.
 web site: www.codec-rpe.org/
- 06.2019:** General Co-Chair of *Graphene 2019*, Dresden, Germany.
 web site: www.grapheneconf.com/2019/
- 12.2018:** Co-organizer of the 7. Dresdner Werkstoffsymposium 2018 *Werkstoffe für die industrielle Fertigung* (in German) Dresden, Germany.
 web site: www.werkstoffsymposium-dresden.de/
- 06.2018:** General Co-Chair of *Graphene 2018*, Dresden, Germany.
 web site: www.grapheneconf.com/2018/

¹web site: <http://nano.tu-dresden.de/conforg/>

- 08.2017:** General Co-Chair of the 14th International Conference on Molecular Electronics *ECME2017*, Dresden, Germany.
web site: www.ecme2017.eu/
- 09.2017:** General Chair of the International Summer School *Materials 4.0*, Dresden, Germany.
web site: dcms.tu-dresden.de/en/materials40/
- 09.2017:** General Chair of the *NanoBioSensors 2017* Conference, Dresden, Germany.
web site: cfaed.tu-dresden.de/nanobiosensors-welcome
- 06.2017:** Co-organizer of the International Conference *Trends in Nanotechnology (TNT2017)*, Dresden, Germany.
web site: www.tntconf.org/2017/
- 06.2017:** Co-organizer of the International IUPAC Symposium *Macro- and Supramolecular Architectures and Materials: Multifunctional Materials and Structures (MAM-17)*, Dresden, Germany.
web site: www.mam-17.org/
- 12.2016:** Co-organizer of the 6. Dresdner Werkstoffsymposium 2016 *Additive Manufacturing* (in German) Dresden, Germany.
web site: www.werkstoffsymposium-dresden.de/
- 11.2016:** Co-organizer of the EFDS Workshop: "Graphenschichten: Abscheideverfahren und Eigenschaften" *EFDSgraphene2017* (in German), Dresden, Germany.
web site: www.efds.org/
- 09.2016:** Co-organizer of the MolArNet Workshop on "Supramolecular Assembly: towards Novel Functional Materials and Devices", Lecce, Italy.
web site: www.molarnet.eu/
- 12.2014:** Co-organizer of the 5. Dresdner Werkstoffsymposium 2014 *Diskussions- und Kontaktforum* (in German) Dresden, Germany.
web site: www.werkstoffsymposium-dresden.de/
- 07.2014:** Co-organizer of the 10th International Nanotechnology Symposium "New ideas for industry" *nanoFAIR2014*, Dresden, Germany.
web site: www.nanofair.com/
- 12.2013:** Co-organizer of the 4. Dresdner Werkstoffsymposium 2013 *Verbundwerkstoffe und Werkstoffverbunde* (in German) Dresden, Germany.
web site: www.werkstoffsymposium-dresden.de/
- 10.2013:** General Chair of First Dresden School on *Functional Nanomaterials* Dresden, Germany.
web site: nano.tu-dresden.de/workshop/funcnanomat2013/
- 09.2013:** Co-organizer of the XIII Mediterranean Conference on *Medical and Biological Engineering and Computing*, Seville, Spain.
web site: www.medicon2013.com/
- 09.2013:** Co-organizer of the International Conference *Trends in Nanotechnology (TNT2013)*, Seville, Spain.
web site: www.tntconf.org/2013/
- 08.2013:** Co-organizer of the International CECAM Workshop *nanophononics*, Bremen, Germany.
web site: www.bccms.uni-bremen.de/
- 03.2013:** General Chair of the Second International Advanced Materials Science Networking (AMaSing) Workshop *Applications of Nanotechnology for the Environment*, Da Nang, Vietnam.
web site: nano.tu-dresden.de/amasing/

- 03.2013:** Co-organizer of the DPG Symposium *Computational Challenges in Scale-Bridging Modeling of Materials (SYMM)*, Regensburg, Germany.
web site: www.dpg-verhandlungen.de
- 12.2012:** General Chair of the Dresden-Japan Workshop on *Molecular Scale and Organic Electronic Materials*, Dresden, Germany.
web site: nano.tu-dresden.de/workshop/jade2012/
- 12.2012:** Co-organizer of the 3. Dresdner Werkstoffsymposium 2012 *Werkstoffoberflächen für Mensch und Technik* (in German) Dresden, Germany.
web site: www.werkstoffsymposium-dresden.de/
- 07.2012:** Co-organizer of the 9th International Nanotechnology Symposium "New ideas for industry" *nanoFAIR2014*, Dresden, Germany.
web site: www.nanofair.com/
- 06.2012:** General Chair of the First International Advanced Materials Science Networking (AMaSing) Workshop Dresden, Germany.
web site: nano.tu-dresden.de/amasing/
- 12.2011:** Co-organizer of the 2. Dresdner Werkstoffsymposium 2011 *Werkstoffe für Mobilität* (in German) Dresden, Germany.
web site: www.werkstoffsymposium-dresden.de/
- 10.2011:** Co-organizer of the International Workshop *Carbon-based spintronics (cspin11)*, Dresden, Germany.
web site: www.pks.mpg.de/~cspin11/
- 09.2011:** Organizer of the International Symposium *ab-initio based modelling, designing new materials with electronic structure calculations* (within EUROMAT 2011), Montpellier, France.
web site: euromat2011.fems.eu/
- 12.2010:** Co-organizer of the 1. Dresdner Werkstoffsymposium 2010 *Werkstoffe der Energietechnik* (in German) Dresden, Germany.
web site: www.werkstoffsymposium-dresden.de/
- 11.2010:** Co-organizer of the Max Bergmann Center Symposium 2010 *Biologische Funktionsschichten für Medizin und Technik*, Dresden, Germany.
web site: www.max-bergmann-symposium.de/
- 07.2010:** Co-organizer of the 8th International Nanotechnology Symposium "New ideas for industry" *nanoFAIR2014*, Dresden, Germany.
web site: www.nanofair.com/
- 05.2009:** Co-organizer of the International Workshop *DNA-based nanotechnology: Construction, mechanics, and electronics (dnatec)*, Dresden, Germany.
web site: nano.tu-dresden.de/dnatec09/
- 11.2008:** Co-organizer of the Max Bergmann Center Symposium 2008 *Molecular designed biological coating*, Dresden, Germany.
web site: nano.tu-dresden.de/MBS08/
- 07.2008:** Co-organizer of the ECOS-25 Symposium *Carbon-based Electronics*, Liverpool, UK.
web site: www.liv.ac.uk/~ecos25/
- 03.2007:** Co-organizer of the DPG Symposium *Graphene*, Regensburg, Germany.
web site: nano.tu-dresden.de/graphene07/
- 04.2006:** Co-organizer of the International Workshop *DNA Nanoelectronics: Theory and Experiments*, Regensburg, Germany.
web site: nano.tu-dresden.de/DNA06/

- 07.2005:** Organizer of the One-day Symposium *Regensburg Inelastic Day*, Regensburg, Germany.
web site: nano.tu-dresden.de/RID/
- 06.2005:** Co-organizer of the International Workshop *Computational Challenges and Tools for Nanotubes* (satellite to NT'05: the Sixth International Conference on Nanotubes), Gothenburg, Sweden.
web site: nano.tu-dresden.de/CCTN05/
- 06.2005:** Program committee of *Quantum Transport 2005*, Bologna, Italy.
web site: www.ism.bo.cnr.it/quantumtransport/
- 02.2004:** Co-organizer of the International Workshop *Advances in Molecular Electronics: from molecular materials to single molecule devices*, Max Planck Institute for the Physics of Complex Systems, Dresden, Germany.
web site: www.mpipks-dresden.mpg.de/~admol/
- 10.2002:** Co-organizer of the School and Workshop *Nanotubes & Nanostructures*, Laboratori Nazionali di Frascati (LNF-INFN), Frascati, Rome, Italy.
web site: www.lnf.infn.it/conference/nn2002/
- 02.2001:** Co-organizer of the Symposium *Electron Transport on the Molecular Scale*, Max Planck Institute for the Physics of Complex Systems, Dresden, Germany.
web site: www.mpipks-dresden.mpg.de/~transmol/

Functions, Awards, Fellowships

Teaching

- since 2013:** *Coordinator* of the International Master of Science *Nanobiophysics* (all courses offered in English) at TU Dresden, Germany.
- since 2012:** *Dresden Coordinator* of the Erasmus Mundus Master of *Nanoscience and Nanotechnology* (all courses offered in English) at TU Dresden in consortium with the Katholieke Universiteit Leuven in Belgium (Leuven), Chalmers Tekniska Högskola in Sweden (Gothenburg), the Université Joseph Fourier in France (Grenoble) and the Universitat de Barcelona in Spain. web site: www.emm-nano.org/
- since 2012:** *Member* of the the Study Committee (*Studienkommission*) for the International Master of Science *Organic and Molecular Electronics* (all courses offered in English) at TU Dresden, Germany.
- since 2007:** *Member* of the the Study Committee (*Studienkommission*) and Examination Committee (*Prüfungsausschuss*) for the International Master of Science *Nanobiophysics* (all courses offered in English) at TU Dresden, Germany.

Cooperative Programs

- since 2023:** *PI* at the RTG 2868 "*Data-driven Design of Resilient Metamaterials*" (Dcube).
web site: tu-dresden.de/ing/forschung/graduiertenkollegs/grk2868/
- since 2022:** *Coordinator and PI* at the EIC Pathfinder Open project "*Smart Electronic Olfaction for Body Odor Diagnostics*" (SMELLODI).
web site: smellodi.eu/
- since 2022:** *Coordinator and PI* at the Volkswagen Foundation Change of Course Qualification Concept "*Olfactorial Perceptrics*" (Perceptrics).
web site: perceptrics.science/

- since 2020:** *PI at the CRC 1415 "Chemistry of Synthetic Two-Dimensional Materials".*
web site: tu-dresden.de/mn/chemie/sfb1415/
- since 2012:** *PI and deputy speaker at the IHRS "Nanoelectronic Networks" (nanoNET) (coordinated by HZDR), the International Helmholtz Research School at HZDR and TU Dresden.*
web site: www.hzdr.de/db/Cms?pNid=2870
- since 2012:** *PI at the Center for Advancing Electronics Dresden (cfaed), the Cluster of Excellence EXC 1056 at TU Dresden funded by the DFG within the German Excellence Initiative.*
web site: cfaed.tu-dresden.de/
- 2014-2020** *PI at the Research Unit Nanopatterned Organic Matrices in Biological Silica Mineralization (nanomee), the Forschergruppe FOR 2038 at TU Dresden funded by the DFG.*
web site: www.nanomee.de/
- 2009-2014:** *PI at the International Graduate School for Biomedicine and Bioengineering (DIGS-BB), the Graduate School GRS 97 at TU Dresden funded by the DFG within the German Excellence Initiative.*
web site: www.digs-bb.de/
- 2009-2014:** *PL at the Saxonian Excellence Program ECEMP, the Cluster of Excellence of the State of Saxony for Emerging Materials and Processes, Germany.*
web site: ecemp.tu-dresden.de/
- 2009-2013:** *Visiting Distinguished Professor at the Division of IT Convergence Engineering in POSTECH.*
- since 2007:** *PI and member of the board at the International Max Planck Research School IMPRS at MPI-PKS and TU Dresden.*
web site: www.imprs-dynamics.mpg.de/
- 2006-2013:** *Steering Committee of the Federal Project Quantum Transport on the Molecular Scale, the Priority Program SPP 1243 funded by the DFG.*

Boards

- since 2023:** *Elected Member of the DFG Review Board for the Subject Materials Science, Area Computer-Aided Design of Materials and Simulation of Materials Behaviour from Atomic to Microscopic Scale,*
dfg.de/.
- since 2022:** *Founding President of SIGN e.V., the network of Italian scientists in Germany,*
sign-network.eu/.
- since 2020:** *Consultant for science policy for the Ministry of Economy and Finance (MEF),*
www.mef.gov.it/.
- since 2019:** *Member of the Scientific Technical Committee of the Italian Institute of Technology (iit),*
www.iit.it/about-us/governance/.
- since 2017:** *Member of the Board of Trustees of the Italian Chamber of Commerce in Germany, responsible for Innovation and Knowledge Transfer, itkam.org/.*
- since 2009:** *Referee and Member in several search committees (Berufungskommissionen) for Professorship hirings in Germany and abroad.*
- since 2011:** *One of the 11 members of the Leibniz-Institut für Polymerforschung Dresden e.V. (IPF Dresden), one of the largest polymer research institutions in Germany (ca €35m budget per year). IPF is a member of the Leibniz Association of application-oriented fundamental research institutes.*
web site: www.ipfdd.de/

- since 2009:** *Vice-chairman of the “Board of Trustees” of the ItalienZentrum*, a central academic institution of TU Dresden.
web site: tu-dresden.de/slk/iz/
- since 2009:** *Executive Board at the Association of Supporters of the Max Bergmann Center of Biomaterials Dresden.*
web site: www.mbc-dresden.de/
- 2009-2016:** *Executive Board at the Materials Research Network Dresden (MFD).*
web site: www.mfd-dresden.com/
- since 2007:** *Member of the “M⁴nano” initiative of the Universidad Autónoma de Madrid.*
web site: www.m4nano.com

Awards

- 2024:** *Order “Stella d’Italia”* in the rank of Knight Officer awarded by the President of the Republic Sergio Mattarella for “merits in the promotion of friendly relations and cooperation between Italy and other countries and the promotion of ties with Italy”
web site: www.quirinale.it/onorificenze/insigniti/1590673/
- 2021:** *“Premio Mercurio special prize”* in the category personalities awarded by the German-Italian business association Mercurio for “excellent research and promotion of international exchange”
web site: www.mercurio-net.de/deutsch/premio-mercurio/2021/
- 2003-2007:** *Award Grant “Nachwuchsgruppen an Universitäten”* from the Volkswagen Foundation (“Based upon a thoroughly defined selection process, six to ten groups have been granted every year since 1996 through 2002; the program was equally opened to applicants from the humanities and the social sciences, the natural and engineering sciences as well as medicine and mathematics.”)
web site: www.volkswagen-stiftung.de/foerderung/
- 2006:** *“Förderungpreis”* from the University of Regensburg
web site: www.uni-regensburg.de
- 2001-2003:** *Schloßmann Award Fellowship* (“the Max Planck Society, in memory of Dr. Ernst-Rudolf Schloßmann, a sponsoring member of the society who died on 30 June 1993, grants talented candidates with fellowships financed from the revenue of the Schloßmann Foundation”)
web site: www.mpg.de/english/aboutTheSociety/
- 1994-1997:** *Graduate School Fellowship.* Italian Ministry of University and Scientific Research.
- 1989-1993:** *Borsa esonero tasse per merito scolastico (Tuition Fee Exemption)* for undergraduate studies. Università di Genova. Italy.
- 08.1990:** *Talent Scholarship.* Republic of Malta.
- 1984-1989:** *Borsa di studio (Talent Scholarship)* ENPAS, Italy.

Visiting periods

- 09.2024:** Stanford University, Palo Alto, **USA**.
- 04.2024:** Pohang University of Science and Technology (POSTECH), Pohang, **Korea**.
- 03.2023:** Stanford University, Palo Alto, **USA**.
- 10.2019:** University of Sassari, Sassari, **Italy** (As Visiting Professor Awardee).

- 07.2019:** University of Salento, Lecce, **Italy** (As Professor “per Chiara Fama”, Awardee of the “Clear Renown” Professorship Appointment).
- 06.2017:** University of Sassari, Sassari, **Italy** (As Visiting Professor Awardee).
- 09.2016:** University of Salento, Lecce, **Italy** (As Professor “per Chiara Fama”, Awardee of the “Clear Renown” Professorship Appointment).
- 09.2015:** University of Sassari, Sassari, **Italy** (As Visiting Professor Awardee).
- 07-08.2012:** The Hebrew University of Jerusalem, Jerusalem, **Israel** (As fellow of the Institute for Advanced Studies of Jerusalem).
- 2009-2013:** Pohang University of Science and Technology (POSTECH), Pohang, **Korea** (several 1-2 month visits within the local program “World Class University” and a sabbatical stay during the Winter Semester 2010-2011).
- 11.2005:** Research Organization for Information Science and Technology (RIST), Tokyo, **Japan**.
- 05.2004:** Department of Chemistry, The Hebrew University of Jerusalem, Jerusalem, **Israel** (EU 6FP: IST-2001-38951).
- 10.2003:** Institute of Molecular Physics, Polish Academy of Sciences, Poznań, **Poland** (EU 6FP: Centre of excellence for magnetic and molecular materials for future electronics).
- 11-12.2001:** European Media Lab (EML), Heidelberg, **Germany**.
- 02-04.2001:** Zentrum für interdisziplinäre Forschung (ZiF), Universität Bielefeld, Bielefeld, **Germany**.
- 09-10.1999:** Università di Genova, **Italy** (Cofinanziamento MURST SCQBD98: Sistemi correlati quantistici in bassa dimensionalità).
- 06-08.1999:** Universität Hamburg, **Germany** (EU Network ERB FMRX-CT97-0180: Quantum electron transport in the frequency and time domains).
- 05-06.1998:** Universität Hamburg, **Germany** (EU Network ERB FMRX-CT96-0042: Phase coherent dynamics of hybrid nanostructures).
- 01-07.1997:** Universität Hamburg, **Germany** (EU Network ERB FMRX-CT96-0042: Phase coherent dynamics of hybrid nanostructures).
- 07-09.1994:** Center of Biological and Computational Learning, MIT, Cambridge, Massachusetts, **USA**.

Professional Reviewing

Editorial Boards (open access only)

- *Associate Editor* of **Nanoscale**, a high impact journal publishing experimental and theoretical work across the breadth of nanoscience and nanotechnology.
web site: rsc.org/journals-books-databases/about-journals/nanoscale/
- *Associate Editor* of **Nanoscale Advances**, an open access journal publishing across the breadth of nanoscience and nanotechnology.
web site: rsc.org/journals-books-databases/about-journals/nanoscale-advances/
- *Member of the Editorial Board* of **Advanced Science**, an open access journal that covers fundamental studies and applications for materials science, physics, chemistry, medical, life sciences, and engineering.
web site: [onlinelibrary.wiley.com/journal/10.1002/\(ISSN\)2198-3844](http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)2198-3844)

- *Editorial Advisor* of **BMC Materials**, a Springer Nature open access, peer reviewed journal covering all multi-disciplinary areas of materials science. It considers fundamental and applied research in the synthesis, characterization, modelling and application of materials.
web site: bmcmaterials.biomedcentral.com/
- *Member of the Editorial Board* of **Frontiers in Materials**, an open access journal to provide a thematic and comprehensive platform to publish the most outstanding research across materials science and technology.
web site: journal.frontiersin.org/journal/materials
- *Member of the Editorial Board* of the **International Journal of Molecular Sciences**, an open access journal providing an advanced forum for chemistry, molecular physics and molecular biology.
web site: www.mdpi.com/journal/ijms
- *Member of the Editorial Board* of the **Journal of Semiconductor Technology and Science**, a quarterly published journal in the field of semiconductor technology and science, including fabrication processes, devices, circuits, and MEMS.
web site: www.jsts.org/
- *Member of the Editorial Advisory Panel* of **Nature Scientific Reports**, an online and open access research journal from the publishers of Nature, covering all areas of the natural sciences.
web site: www.nature.com/srep/

Refereeing for international scientific journals

Referee, among others, for

ACS Nano, Angewandte Chemie, Acta Physica Polonica, Applied Physics A, Applied Physics Letters, Biophysical Journal, Chemical Physics, Chemical Physics Letters, ChemPhysChem, Chemistry - an Asian Journal, Computational Materials Science, European Physical Journal B, Europhysics Letters, Graphene Technology, IEEE Transactions on Nanotechnology, International Journal of Modern Physics B, Journal of Chemical Physics, Journal of Computational Electronics, Journal of Mathematical Biology, Journal of Nanoscience and Nanotechnology, Journal of Physics A: Mathematical and General, Journal of Physics B: Atomic, Molecular and Optical Physics, Journal of Physical Chemistry, Journal of the American Chemical Society (JACS), Modeling and Simulation in Materials Science and Engineering, Nanomaterials, Nature Nanotechnology, Nano Letters, Nanoscale, Nanotechnology, New Journal of Physics, Nonlinearity, Physica A, Physica E, Physical Review B, and Physical Review Letters, physica status solidi a, physica status solidi b, physica status solidi - Rapid Research Letters, Physics Letters A, PLOS ONE, Quantitative Finance, RSC Advances, and Synthetic Metals.

Reviewing research projects

Evaluator for research projects submitted, among others, to the

- the European Union within the 5th, 6th and 7th Frame Program (as remote reviewer, on-site reviewer as well as panel review member in Brussels),
- the European Research Council (ERC),
- the Centre européen de calcul atomique et moléculaire (CECAM),
- the German Research Foundation - Deutsche Forschungsgemeinschaft (DFG),
- the Alexander von Humboldt Foundation - Alexander von Humboldt-Stiftung (AvHS),
- the German Academic Exchange Service (DAAD),
- the Helmholtz Society,
- the Volkswagen Foundation - VolkswagenStiftung (VWS),

- the Ministry of Science of the Federal City/State of Hamburg (Landesexzellenzinitiative),
- the Ministry of Science of the Federal State of Thuringia.
- the Franco-German University (*Université franco-allemand*) an association of 186 partner universities from Germany and France,
- the Politecnico di Torino,
- the Pohang University of Science and Technology (POSTECH),
- the Austrian Science Fund (FWF),
- the Belgian Flanders Research Foundation (FWO),
- the Natural Sciences and Engineering Research Council of Canada (NSERC),
- the Croatian Agency for Science and Higher Education (ASHE),
- the Czech Science Foundation,
- the Danish Council for Independent Research (DFF),
- the French National Research Agency (ANR),
- the Hong Kong Research Grants Council (RGC),
- the Innovation and Technology Commission (ITC) of Hong Kong,
- the Italian Institute of Technology (iit),
- the Israel Science Foundation, the German Israel Foundation (GIF) and the United States-Israel Binational Science Foundation,
- the National Research Foundation of Korea (NRF),
- the National Research Foundation of South Africa (NRF),
- the Netherlands Organisation for Scientific Research (NWO),
- the National Science Centre (NSC) of Poland,
- the Qatar National Research Fund (QNRF),
- the Romanian National Research Council (CNCS),
- the Singapore Science & Engineering Research Council (SERC),
- the the Swiss National Science Foundation (SNSF),
- the USA National Science Foundation (NSF),
- the USA Department of Energy (DoE),

Teaching Activity²

courses

- since 2012:** *Computersimulation in der Werkstoffwissenschaft*. Introductory module course for the Materials Science Diplom, TU Dresden, Germany (with Dr. Rafael Gutierrez Laliga).
- since 2011:** *Applied Bionanotechnology*. Compulsory course for the International Master of Science Molecular Bioengineering, TU Dresden, Germany (with Dr. Larysa Baraban).
- since 2009:** *Introduction to Nanobiotechnology*. Compulsory introductory module course for the International Master of Science Nanobiophysics, TU Dresden, Germany (with Dr. Jörg Opitz).
- since 2008:** *Computational Materials Science II*. Compulsory introductory module course for the Materials Science Diplom, TU Dresden, Germany.
- since 2008:** *Current Topics in Materials Science*. Seminar course for the Materials Science Diplom, TU Dresden, Germany (with Dipl.-Phys. Florian Pump).
- since 2008:** *Biomolekulare Nanotechnologie*. Introductory module course for the Materials Science Diplom, TU Dresden, Germany (with Dr. Jörg Opitz).
- WiSe 2011:** *Nanotechnologie - Fluch oder Segen?*. Offered within the *Studium Generale*, TU Dresden, Germany (with Dipl.-Phys. Sebastian Radke).
- since 2008:** *Nanostructured Materials*. Compulsory introductory module course for the Materials Science Diplom, TU Dresden, Germany.
- since 2007:** *Concepts of Molecular Modeling*. Compulsory introductory module course for the International Master of Science Nanobiophysics, TU Dresden, Germany.
- 2008-2010:** *Quantum Phenomena at the Nanoscale*. Compulsory introductory module course for the International Master of Science Nanobiophysics, TU Dresden, Germany.
- SoSe 2007:** *Carbon Nanotubes*. Seminar course for the Physics Diplom, University of Regensburg, Germany.
- SoSe 2007:** *Special Topics in Mesoscopic Physics (Journal Club)*. Organization of a common journal club of our group together with Prof. Strunk's experimental group at the University of Regensburg, Germany.
- WiSe 2006:** *Special Topics in Mesoscopic Physics (Journal Club)*. Organization of a common journal club of our group together with Prof. Strunk's experimental group at the University of Regensburg, Germany.
- SoSe 2006:** *Quantentheorie der kondensierten Materie I (Many-body quantum theory in condensed matter physics)*. Main course for the Physics Diplom, University of Regensburg, Germany.
- SoSe 2006:** *Special Topics in Mesoscopic Physics (Journal Club)*. Organization of a common journal club of our group together with Prof. Strunk's experimental group at the University of Regensburg, Germany.
- WiSe 2005:** *Computational Nanoscience*. Main course for the Physics Diplom, University of Regensburg, Germany.
- WiSe 2005:** *Special Topics in Mesoscopic Physics (Journal Club)*. Organization of a common journal club of our group together with Prof. Strunk's experimental group at the University of Regensburg, Germany.
- SoSe 2005:** *Festkörper-Theorie (Quantum theory of Solids)*. Main course for the Physics Diplom, University of Regensburg, Germany.
- SoSe 2005:** *Special Topics in Mesoscopic Physics (Journal Club)*. Organization of a common journal club of our group together with Prof. Strunk's experimental group at the University of Regensburg, Germany.

²More information available under nano.tu-dresden.de/teaching/

- WiSe 2004:** *Festkörper-Theorie (Quantum theory of Solids)*. Exercises course for the Physics Diplom, University of Regensburg, Germany.
- WiSe 2004:** *Special Topics in Mesoscopic Physics (Journal Club)*. Organization of a common journal club of our group together with Prof. Strunk's experimental group at the University of Regensburg, Germany.
- SoSe 2004:** *Elektronentransport (Electron Transport)*. Seminar course for the Physics Diplom, University of Regensburg, Germany.
- WiSe 2003:** *Molecular Electronics*. Advanced course for the Physics Diplom, University of Regensburg, Germany.
- AA 1996-7:** *Attività di Supporto alla Didattica per il corso di Fisica Generale I, ex art. 33 (Graduate Teaching Assistantship in General Physics)*. Facoltà di Ingegneria. Università di Genova. Italy.
- 11-12.1996:** *Temporary Teaching Position* for Electronics. Istituto Tecnico Industriale A. Meucci, Genova, Italy.
- 04.1995:** *Temporary Teaching Position* for Physics and Mathematics. Liceo Scientifico Statale C. Colombo, Genova, Italy.

theses supervisions

67 PhD Theses

- 03.2024:** **Eduardo Sergio Oliveros Mata**, TU Dresden, Germany.
- 12.2023:** **Kwan Ho Au-Yeung**, TU Dresden, Germany.
- 10.2023:** **Alvaro Rodriguez Mendez**, TU Dresden, Germany.
- 07.2023:** **Stephanie Klinghammer**, TU Dresden, Germany.
- 06.2023:** **Siyuan Fan**, TU Dresden, Germany.
- 01.2023:** **Jana Hennig**, TU Dresden, Germany.
- 07.2022:** **Muhammad Saqib**, TU Dresden, Germany.
- 04.2022:** **Shirong Huang**, TU Dresden, Germany.
- 03.2022:** **Claudia Winkelmann**, TU Dresden, Germany.
- 02.2022:** **Tao Huang**, TU Dresden, Germany.
- 02.2022:** **Xinne Zhao**, TU Dresden, Germany.
- 12.2021:** **Matthias Geyer**, TU Dresden, Germany.
- 12.2021:** **Antonios Raptakis**, TU Dresden, Germany.
- 12.2021:** **Tim Kühne**, TU Dresden, Germany.
- 12.2021:** **Xu Wang**, TU Dresden, Germany.
- 10.2021:** **Jiao Wang**, TU Dresden, Germany.
- 10.2021:** **Huang-Hsiang Lin**, TU Dresden, Germany.
- 12.2020:** **Hagen Eckert**, TU Dresden, Germany.
- 12.2020:** **Himani Arora**, TU Dresden, Germany.
- 10.2020:** **Phil Goldberg**, TU Dresden, Germany.

10.2020: **Seddigheh Nikipar**, TU Dresden, Germany.
09.2020: **Natalie Haustein**, TU Dresden, Germany.
07.2020: **Sascha Balakin**, TU Dresden, Germany.
07.2020: **Sebastian Schellhammer**, TU Dresden, Germany.
01.2020: **Jonas Jung**, TU Dresden, Germany.
12.2019: **Tina Tauchnitz**, TU Dresden, Germany.
07.2019: **Frank Eisenhut**, TU Dresden, Germany.
05.2019: **Thomas Lehmann**, TU Dresden, Germany.
04.2019: **Dmitry Skidin**, TU Dresden, Germany.
01.2019: **Julian Schütt**, TU Dresden, Germany.
12.2018: **Eunhye Baek**, TU Dresden, Germany.
11.2018: **Gilbert Santiago Canon Bermudez**, TU Dresden, Germany.
10.2018: **Ye Liu**, TU Dresden, Germany.
10.2018: **Leonardo Rafael Medrano Sandonas**, TU Dresden, Germany.
04.2018: **Sara Teixeira**, TU Dresden, Germany.
03.2018: **Hoai Nga Le**, TU Dresden, Germany.
03.2018: **Andreas Gang**, TU Dresden, Germany.
01.2018: **Rico Illing**, TU Dresden, Germany.
12.2017: **Justus Krüger**, TU Dresden, Germany.
11.2017: **Felix Zörgiebel**, TU Dresden, Germany.
10.2017: **Yangxi Fu**, TU Dresden, Germany.
03.2017: **Afnan Qurban Shaikh**, TU Dresden, Germany.
03.2017: **Alejandro Santana-Bonilla**, TU Dresden, Germany.
11.2016: **Ignacio Gonzalez Martinez**, TU Dresden, Germany.
05.2016: **Anindya Majumder**, TU Dresden, Germany.
02.2016: **Jörg Meyer**, TU Dresden, Germany.
10.2015: **Anja Nickel née Wadewitz**, TU Dresden, Germany.
07.2015: **Marcin Meyer**, TU Dresden, Germany.
05.2015: **Markus Pötschke**, TU Dresden, Germany.
04.2015: **Sebastian Pregl**, TU Dresden, Germany.
04.2015: **Cindy Schmädicke**, TU Dresden, Germany.
10.2014: **Mehrdad Shaygan**, POSTECH, Korea.
05.2014: **Lotta Römhildt**, TU Dresden, Germany.

- 05.2014:** **Daria Kovalenko**, TU Dresden, Germany.
- 02.2014:** **Kerstin Bernert**, TU Dresden, Germany.
- 06.2013:** **Teja Roch**, TU Dresden, Germany.
- 05.2013:** **Alexander Nerowski**, TU Dresden, Germany.
- 05.2013:** **Thomas Brumme**, TU Dresden, Germany.
- 04.2013:** **Imad Ibrahim**, TU Dresden, Germany.
- 08.2012:** **Wu Li**, Chinese Academy of Science, China.
- 06.2012:** **Aljoscha Roch**, TU Dresden, Germany.
- 03.2012:** **Keivan Davami**, POSTECH, Korea.
- 06.2009:** **Pino D'Amico**, University of Regensburg, Germany.
- 01.2009:** **Nitesh Ranjan**, TU Dresden, Germany.
- 07.2007:** **Norbert Nemec**, University of Regensburg, Germany.
- 09.2006:** **Miriam del Valle**, Univ. Autonoma de Madrid, Spain (Co-supervision with Prof. Dr. C. Tejedor).
- 11.2005:** **Gernot Klein**, TU Dresden, Germany (Co-supervision with Prof. Dr. F. Jülicher).

postdocs and senior scientists

please check the following web pages

- **Current Members:** <http://nano.tu-dresden.de/people/>
- **Alumni:** <http://nano.tu-dresden.de/alumni/>

116 Invited Talks at Universities, Research Centers including Invited Public Talks

- 12.08.2019:** "Reprogrammable materials".
UC Berkley.
- 16.05.2019:** "Materials 4.0: The age of cognitive materials".
The Shanghai Jiao Tong University.
- 15.02.2019:** "Sensing at the quantum limit".
Denmark University of Technology.
- 18.09.2018:** "Sensing towards the quantum limit: The convergence of molecular detection and artificial perceptrons".
University of Jinan.
- 04.05.2018:** "Cross-scale description of crack propagation in carbon fibre microstructures".
TU Dresden.
- 24.06.2017:** "Multifunctional biosensors for lab-on-a chip systems: electronics meets microfluidics".
University of Sassari.
- 19.05.2016:** "Industry 4.0: the fourth industrial (r)evolution".
Ambrosetti Technology Forum 2017 - The next revolution; Milano.

- 03.05.2017:** "SAC 3 Materials & Structures".
DRESDEN-concept e.V.
- 20.04.2017:** "Exploiting quantum interference in atomic and molecular junctions".
Max Planck Institute for the Physics of Complex Systems, Dresden.
- 22.11.2016:** "Zehn-Thesen-Debatte über Sinn (und Unsinn) von Rankings".
ZEIT KONFERENZ Hochschule & Bildung.
- 18.08.2016:** "Interdisziplinarität - der Blick über den Tellerrand".
futureSAX.
- 08.06.2016:** "Light Weight and Flexible High-performance Sensor Platforms for Medical Diagnostics".
CIMTEC Conferences.
- 23.05.2016:** "Das Identitätskonzept im Siliziumzeitalter mit einem Exkurs zum Verhältnis von Glauben und Vernunft".
Katholisch Deutsche Studentenverbindung Chursachsen zu Dresden.
- 21.05.2016:** "Our tomorrow: New frontiers in science and technology: Smart materials design from atom to system".
Ambrosetti Technology Forum 2016 - Meet, interact, learn; Milano.
- 14.03.2016:** "Reinventing Computing or: Molecular electronics is dead, long live Molecular electronics".
University of Leipzig - Graduate School BuildMoNa.
- 29.01.2016:** "Die Identität im Siliziumzeitalter".
Technische Universität Dresden, School of Law Commencement.
- 16.12.2015:** "Reinventing Computing or: Molecular electronics is dead, long live molecular electronics!".
The Hebrew University of Jerusalem.
- 13.11.2015:** "Technologietransferpotentiale aus der Materialforschung an der TU Dresden am Beispiel innovativer Beschichtungen".
BTS Bahntechnik Sachsen e.V.
- 18.09.2015:** "Molecular electronics: beyond charge transport".
Politecnico di Milano.
- 04.09.2015:** "Molecular electronics: beyond charge transport".
Université de Strasbourg & CNRS.
- 30.07.2015:** "Imperceptible sensorics for medical monitoring".
University of Tor Vergata and Sapienza University of Rome.
- 10.06.2015:** "Molecular electronics: Beyond charge transport".
Weizmann Institute of Science.
- 22.05.2015:** "Education, A key driver for entrepreneurship, innovation and growth: A German University perspective".
Ambrosetti Technology Forum 2015 - Fostering the ecosystems for innovation, Milano.
- 13.05.2015:** "A Lab inside the cluster: the unlimited possibilities of computational materials design".
Technische Universität Dresden.
- 12.05.2015:** "Smeller 2.0 - Erzählen mit Geruchssequenzen, Prof. Gianaurelio Cuniberti trifft Wolfgang Georgsdorf".
Altana Galerie.
- 23.01.2015:** "Ordnung, Ästhetik und Musterbildung in der Nanowelt".
Staatliche Kunstsammlungen Dresden.

- 22.09.2015:** "Molecular Electronics: Beyond tout-court Charge Transport".
University of Sassari.
- 25.08.2015:** "Molecular Electronics: Beyond tout-court Charge Transport".
EMPA, Swiss Federal Laboratories for Materials Science and Technology, Dübendorf, Switzerland.
- 19.03.2015:** "IT from BIT or BIT from IT? New materials for ICT".
International Doctoral School in Functional Materials for Energy, Information Technology and Health.
- 30.01.2015:** "A lab inside the computer: the unlimited possibilities of materials design at the atomic scale".
KMM-VIN - European Virtual Institute on Knowledge-Based Multifunctional Materials AISBL.
- 06.01.2015:** "Kleine Teilchen, grosses Risiko, gigantische Chance. Wie die Nanotechnologie den Alltag revolutioniert."
Technische Universität Dresden.
- 02.12.2014:** "Nanotechnology, Heimat and all that jazz...".
Technischen Sammlungen Dresden, Max-Planck-Institut für molekulare Zellbiologie.
- 24.05.2014:** "Innovation culture in Korea and Germany: different shots on the same goal."
Ambrosetti Technology Forum 2014 - Innovation, Education, Entrepreneurship; Castel Brando.
- 25.04.2014:** "TU Dresden. The Synergetic University".
EMM-NANO.
- 14.02.2014:** "HORIZON 2020 - Consortium meeting".
Horizon2020.
- 27.11.2013:** "Kleines ganz gross - Was ist Nanotechnologie und wie erleben wir sie im Alltag?".
Katholische Akademie des Bistums Dresden-Meißen.
- 24.10.2013:** "Graphen: DAS Wundermaterial für die Zukunft".
VolkswagenStiftung.
- 05.07.2013:** "Kleines ganz gross - was ist Nanotechnologie?".
Dresdner Lange Nacht der Wissenschaften 2013.
- 01.07.2013:** "Kleines ganz gross – moderne Nanotechnologie".
St. Benno Gymnasium Dresden.
- 28.05.2013:** "Dresden, a city of science and technology transfer: a history of grounded dreamers".
Italienischen Handelskammer für Deutschland e.V. und Toscana Promozione, Agentur für die Wirtschaftsförderung der Region Toscana.
- 26.05.2013:** "The quest for the "third culture": Healing the fracture between fundamental and applied research".
Deutscher Akademischer Austausch Dienst DAAD.
- 24.05.2013:** "Aspect of the DE-KR Cooperation".
Deutscher Akademischer Austausch Dienst DAAD.
- 02.02.2013:** "Die Rolle der Universitätsreputation und der wissenschaftlichen Freiheit für die Karriereplanung von high-potential Nachwuchsforschern. Auf dem Weg vom *First Author* zum *Last Author*".
VolkswagenStiftung.
- 11.02.2013:** "Molecular nanostructures: growing mechanisms".
International Iberian Nanotechnology Laboratory.
- 25.01.2013:** "Thermoelectricity in molecular nanostructures: pros and pros".
Friedrich-Schiller-Universität Jena.

- 29.10.2012:** "A molecular electronic route towards neuromorphic computation: experimental realizability and modeling insights".
Chalmers University of Technology.
- 20.09.2012:** "New materials for the next post-Silicon IT revolution: Challenges and Opportunities".
Korea Telecom (KT).
- 23.07.2012:** "From molecular thermoelectrics to carbon-based nanophononics".
Institute for Advanced Studies (IAS) of Jerusalem, The Hebrew University of Jerusalem, Israel.
- 20.06.2012:** "Nanotechnik: Wo liegen unsere Stärken und wie können wir von weltweiter Vernetzung profitieren? (Nanotechnology: Which are our strengths and how can we benefit from international networks?)".
TU Dresden, Dresden, Germany.
- 11.04.2012:** "Charge migration and heat phenomena in biomolecular systems: two sides of the same medal?".
TU Chemnitz, Chemnitz, Germany.
- 16.03.2012:** "Charge migration and heat phenomena in biomolecular systems: two sides of the same medal?".
Okinawa Institute of Science and Technology (OIST), Okinawa, Japan.
- 13.03.2012:** "Charge migration and heat phenomena in biomolecular systems: two sides of the same medal?".
National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan.
- 07.03.2012:** "Charge migration and heat phenomena in biomolecular systems: two sides of the same medal?".
Kobe University, Kobe, Japan.
- 06.02.2012:** "What the West can (re)learn from the East".
Landesgymnasium St. Afra, Meissen, Germany.
- 08.06.2011:** "From molecular wires to organic semiconductors and back - some don't ask, don't tell of soft electronics".
Graz University of Technology, Graz, Austria.
- 26.05.2011:** "From molecular wires to organic semiconductors and back - some don't ask, don't tell of soft electronics".
University of Osnabrück, Osnabrück, Germany.
- 05.05.2011:** "Ein Blick in die Nanowelt - Untersuchung und Beeinflussung einzelner Atome und Moleküle und der Traum selbstorganisierter funktionaler Nanostrukturen".
Technische Sammlungen der Stadt Dresden (Museum of Technology and Industry); Dresden.
- 17.02.2011:** "Towards Molecular Sensorics".
Istituto Italiano di Tecnologia (IIT), Genoa, Italy.
- 12.01.2011:** "Towards Molecular Sensorics".
Hanoi University of Science and Technology, Vietnam.
- 29.10.2010:** "Molecular Electronics: Far away, So Close!".
Chinese Academy of Sciences, Shanghai Institute of Applied Physics.
- 24.09.2010:** "Molecular Electronics: Far away, So Close!".
Chalmers University of Technology.
- 15.06.2010:** "Molecular Electronics: In weiter Ferne, so nah!".
TU Dresden, Faculty of Science.
- 22.04.2010:** "Molecular Electronics: In weiter Ferne, so nah!".
Forschungszentrum Dresden-Rossendorf.
- 02.12.2009:** "Immer kleiner, immer großartiger - Nanotechnologie für die Zukunft".
Novalisforum Freiberg (Katholische Akademie im Bistum Dresden-Meißen).

- 13.10.2009:** "Nanotechnologie - Grosse Ambitionen fuer das unendlich Kleine (**IFW Herbstkurs**)".
IFW Dresden.
- 08.10.2009:** "Immer kleiner, immer großartiger - Nanotechnologie für die Zukunft".
Leibnizforum Leipzig (Katholische Akademie im Bistum Dresden-Meißen).
- 30.09.2009:** "Nanotechnologie für die Zukunft (**Ausstellung nano+art**)".
Leibniz-Institut für Polymerforschung Dresden e. V. (IPF); Dresdner Zentrum der Wissenschaft und Kunst (DZWK).
- 04.01.2009:** "Molecular Electronics".
POSTECH, Pohang University of Science and Technology, Pohang, Korea.
- 24.07.2008:** "Modeling molecular junctions: Pitfalls and caveats in understanding quantum transport mechanisms at the molecular scale".
Max Planck Institute for the Physics of Complex Systems, Dresden, Germany.
- 05.06.2008:** "Modeling molecular junctions: Pitfalls and caveats in understanding quantum transport mechanisms at the molecular scale".
IAPP, Dresden University of Technology.
- 08.05.2008:** "Modeling molecular junctions: Pitfalls and caveats in understanding quantum transport mechanisms at the molecular scale".
Fritz-Haber-Institut der Max-Planck-Gesellschaft.
- 07.05.2008:** "Modeling molecular junctions: Pitfalls and caveats in understanding quantum transport mechanisms at the molecular scale".
Martin-Luther-Universitaet Halle-Wittenberg, Halle, Germany.
- 19.02.2008:** "Tuning the conductance of a molecular switch (**EMM Lecture Series**)".
BIOTEC, Dresden University of Technology, Germany.
- 18.02.2008:** "Molecular nanoelectronics - the challenge for Si-based nanoelectronics? (**Fraunhofer CNT Kolloquium**)".
Fraunhofer Center Nanoelectronic Technology CNT in Dresden.
- 13.02.2008:** "Modeling molecular junctions: Pitfalls and caveats in understanding quantum transport mechanisms at the molecular scale".
Max-Planck-Institut für Festkörperforschung, Stuttgart, Germany.
- 19.10.2007:** "Quantum transport at molecular scale".
Royal Institute of Technology, Stockholm, Sweden.
- 12.01.2007:** "Single-molecule electronics: Conductance mechanisms (**Physikalisch-chemisches Kolloquium**)".
Technischen Universität Carolo-Wilhelmina zu Braunschweig, Braunschweig, Germany.
- 18.12.2006:** "Single-molecule electronics: Conductance mechanisms".
Universität Karlsruhe, Karlsruhe, Germany.
- 04.12.2006:** "Single-molecule electronics: Conductance mechanisms".
Universität Basel, Basel, Switzerland.
- 04.12.2006:** "Single-molecule electronics: Conductance mechanisms".
The Hebrew University, Jerusalem, Israel.
- 22.07.2006:** "Single-molecule electronics: Conductance mechanisms".
Albert Ludwig University of Freiburg, Freiburg, Germany.
- 12.07.2006:** "Single-molecule electronics: Conductance mechanisms (**Kolloquium Physikalische Chemie**)".
Ludwig Maximilian University of Munich, Munich, Germany.

- 23.03.2006:** "Single-molecule electronics: Conductance mechanisms".
University of Liege, Liege, Belgium.
- 06.02.2006:** "Nanoelectronics: Challenges for Theory (**colloquium talk**)".
Technical University of Dresden, Dresden, Germany.
- 26.01.2006:** "Contact dependence of carrier injection in carbon nanotubes".
Linköping University, Linköping, Sweden.
- 09.01.2006:** "New materials for nanoelectronics: Computational challenges (**colloquium talk**)".
Technical University of Chemnitz, Chemnitz, Germany.
- 22.12.2005:** "Molecular Electronics: Theoretical Challenges (**colloquium talk**)".
University of Ulm, Ulm, Germany.
- 05.10.2005:** "Conductance mechanisms in single molecule electronics".
IMO - IMOMEC (Institute for Materials Research), Hasselt, Belgium.
- 07.06.2005:** "Conductance mechanisms in single molecule electronics".
Technical University of Munich, Munich, Germany.
- 17.12.2004:** "Molecular Electronics: And yet it moves! (**colloquium talk**)".
University of Bayreuth, Bayreuth, Germany.
- 13.12.2004:** "Molecular Electronics: And yet it moves! (**theory-colloquium talk**)".
Darmstadt University of Technology, Darmstadt, Germany.
- 10.12.2004:** "Molecular Electronics: And yet it moves! (**colloquium talk**)".
University of Constance, Constance, Germany.
- 18.11.2004:** "Molecular electronics: *eppur si muove!*".
Ludwig Maximilian University of Munich, Munich, Germany.
- 14.10.2004:** "Effects of vibrations on molecular conduction".
Lancaster University, Lancaster, UK.
- 23.05.2004:** "Molecular-scale electronics (**nano seminar**: joint colloquium talk for the physics, chemistry and biology departments)".
The Hebrew University, Jerusalem, Israel.
- 27.10.2003:** "Molecular-scale electronics (**colloquium talk**)".
University of Regensburg, Regensburg, Germany.
- 08.10.2003:** "Electron transport on the nanoscale (**colloquium talk**)".
Institute of Molecular Physics, Polish Academy of Sciences, Poznan, Poland.
- 06.02.2003:** "Molecular electron transport: from artificial molecules to real ones".
University of Regensburg, Regensburg, Germany.
- 29.01.2003:** "Modelling carbon nanostructures".
University of Hannover, Hannover, Germany.
- 05.12.2002:** "Modelling electron transport at the molecular scale".
Ludwig Maximilian University of Munich, Munich, Germany.
- 24.06.2002:** "Transport in carbon-based nanostructures and DNA wires".
Leibniz Institute for Solid State and Materials Research (IFW), Dresden, Germany.
- 23.05.2002:** "Down by law: physics challenges in molecular electronics".
University of Bayreuth, Bayreuth, Germany.

- 29.04.2002:** "Transport in bio-molecular systems".
Volkswagen Foundation, Hannover, Germany.
- 21.01.2002:** "Modelling molecular electronic devices: down by (Moore's) law".
Darmstadt University of Technology, Darmstadt, Germany.
- 10.12.2001:** "Conductance of single molecules: pure-carbon devices and DNA wires".
Frascati National Laboratories (LNF-INFN), Frascati, Rome, Italy.
- 20.11.2001:** "Charge transport through single molecules".
Georg August University of Göttingen, Göttingen, Germany.
- 19.10.2001:** "Transport on the bio-molecular scale".
Humboldt University, Berlin, Germany.
- 17.05.2001:** "Electron transport in nanotube-molecular wire hybrids".
Delft University of Technology, Delft, The Netherlands.
- 10.05.2000:** "Electronic transport in (bio)molecular systems".
Max Planck Institute for the Physics of Complex Systems, Dresden, Germany.
- 31.03.2000:** "The non-Fermi physics of electron transport in quantum wires".
University of North Carolina at Chapel Hill, Chapel Hill, USA.
- 21.01.2000:** "Challenges for physicists in finance and economics".
University of Mainz, Mainz, Germany.
- 25.03.1999:** "Some aspects of nonlinear phenomena in novel electronic devices".
Max Planck Institute for the Physics of Complex Systems, Dresden, Germany.
- 07.12.1998:** "Aspects of financial physics".
Max Planck Institute of Colloids and Interfaces, Teltow, Berlin, Germany.
- 17.11.1998:** "Linear and nonlinear AC transport in quantum wires".
Max Planck Institute for the Physics of Complex Systems, Dresden, Germany.
- 24.07.1998:** "Introduction to ARCH models".
University of Genoa, Genoa, Italy.
- 06.05.1998:** "Transport in interacting 1d electronic systems".
University of Hamburg, Hamburg, Germany.

Research Spin-Offs

Out of the Chair Materials Science and Nanotechnology at TU Dresden several companies have been spun off in the recent years:

- quantUP** A company associated to the Steinbeis Foundation for enabling big data intelligence with codes and strategies coming from Materials Research.
web site: quantup.net/.
- smartNT** A company (i.G) specialized in the production of highly purified and atomically precise carbon nanotubes (former proNT).
web site: pront.de/.
- biconex** A company specialized in Galvanic coating (former nomos).
web site: biconex.de/.

Science Communication and Societal Engagement

- since 2017** Board of Trustees of the Italian Chamber of Commerce in Germany, responsible for Innovation and Knowledge Transfer. web site: itkam.org/
- since 2014** Board of Trustees of the Society of Friends of the Staatskapelle Dresden, one of the oldest orchestras in the world still performing with a Top 10 reputation. web site: www.gfskdd.de/
- since 2012** Board of Trustees of the ItalienZentrum Dresden, a cultural platform for the exchange between Italy and Saxony. web site: <http://tu-dresden.de/slk/iz>
- 2011.10** Training course "Leiten und Führen", offered by the TU Dresden Center for Continuing Education.
- 2005-2007** From WS-2005 till SS 2007, organization of the interdisciplinary round table discussions "Regensburger Nachtgespräche" at the Patrizierstube in Regensburg.
- 2004.10:** Workshop "Medientraining für Wissenschaftler", Klaus Tschira Stiftung, Villa Bosch, Heidelberg, Germany.

Publications³

In Refereed Journals and Books

- 525 Chuanhui Huang, Shirong Huang, Wei Wang, Xing Huang, Arezoo Dianat, Rashid Iqbal, Geping Zhang, Naisa Chandrasekhar, Luis Antonio Panes-Ruiz, Yang Lu, Zhongquan Liao, Bergoi Ibarlucea, Chenchen Wang, Xinliang Feng, Gianaurelio Cuniberti, Renhao Dong,
Synthesizing Conductive Metal–Organic Framework Nanosheets for High-Performing Chemiresistive Sensors, *ACS Applied Materials & Interfaces* (2025).
doi: 10.1021/acsami.5c00064
- 524 Antonie Louise Bierling, Alexander Croy, Tim Jesgarzewsky, Maria Rommel, Gianaurelio Cuniberti, Thomas Hummel, Ilona Croy,
A dataset of laymen olfactory perception for 74 mono-molecular odors, *Scientific Data* **12**, 347 (2025).
doi: 10.1038/s41597-025-04644-2
- 523 Li Chen, Leonardo Medrano Sandonas, Philipp Traber, Arezoo Dianat, Nina Tverdokhle, Mattan Hurevich, Shlomo Yitzchaik, Rafael Gutierrez, Alexander Croy and Gianaurelio Cuniberti,
MORE-Q, a dataset for molecular olfactorial receptor engineering by quantum mechanics, *Scientific Data* **12**, 324 (2025).
doi: 10.1038/s41597-025-04616-6
- 522 Umar Rashid, Leonardo Medrano Sandonas, Elarbi Chatir, Zakaria Ziani, PA Sreelakshmi, Saioa Cobo, Rafael Gutierrez, Gianaurelio Cuniberti, Veerabhadrrao Kaliginedi,
Mapping the Extended Ground State Reactivity Landscape of a Photoswitchable Molecule at a Single Molecular Level, *The Journal of the American Chemical Society* (2024).
doi: 10.1021/jacs.4c13531
- 521 A. Prasoon, S. Ghouse, N. Ngan Nguyen, H. Yang, A. Müller, C. Naisa, S. Paasch, A. Herbawe, M. Al Aiti, G. Cuniberti, E. Brunner, and X. Feng,
Mimicking on-water surface synthesis through micellar interfaces, *Nature Communications* (2024).
doi: 10.1038/s41467-024-54962-z
- 520 Eliton Ricardo Cardoso, Nina Tverdokhle, Marcelo Eising, Ederson Esteves da Silva, Sergio Humberto Domingues, Alessandro Francisco Martins, Matt J. Kipper, Lucimara Stolz Roman, Shirong Huang, Gianaurelio Cuniberti, Felipe de Almeida La Porta, Carlos Eduardo Cava,
Hydrogen Gas Sensing Performance of Iron Oxide-Decorated Carbon Nanotubes: The Influence of Iron Oxide Species and Concentration, *Analysis & Sensing* (2024).
doi: 10.1002/anse.202400092
- 519 Li Chen, David Bodesheim, Ahmad Ranjbar, Arezoo Dianat, Robert Biele, Rafael Gutierrez, Mohammad Khazaei, Gianaurelio Cuniberti,
Computational Design of the Electronic Response for Volatile Organic Compounds Interacting with Doped Graphene Substrates, *Nanomaterials* (2024).
doi: 10.3390/nano14221778

³All papers can be downloaded at the web address nano.tu-dresden.de/publications/. Where present, the *pdf-clickable* “e-print” reference indicates the classification code of the Cornell e-print archive arXiv.org/. The Digital Object Identifier (DOI) and International Standard Book Number (ISBN) references are also *pdf-clickable* links. Letter papers are shadowed boxed.

- 518 B. Zhang, X. Liu, D. Bodesheim, W. Li, A. Clausner, J. Liu, B. Jost, A. Dianat, R. Dong, X. Feng, G. Cuniberti, Z. Liao, and E. Zschech,
Fracture Behavior of a 2D Imine-Based Polymer,
Advanced Science (2024).
doi: 10.1002/advs.202407017
- 517 T. Georgiou, J. L. Palma, V. Mujica, S. Varela, M. Galante, V. J. Santamaría-García, L. Mboning, R. N. Schwartz, G. Cuniberti, and L.-S. Bouchard,
Enantiospecificity in NMR enabled by chirality-induced spin selectivity,
Nature Communications **15**, 7367 (2024).
doi: 10.1038/s41467-024-49966-8
- 516 E. Drnovsek, A. Parichenko, N. Power Guerra, J. Pabst, K. Wunderlich, B. Falkenburger, S. Huang, G. Cuniberti, A. Haehner, and T. Hummel,
Human perception of Parkinson's disease body odor in comparison to the volatile organic compounds of Parkinson's disease,
Parkinsonism & Related Disorders **127**, 107091 (2024).
doi: 10.1016/j.parkreldis.2024.107091
- 515 O. Steuer, D. Schwarz, M. Oehme, F. Bärwolf, Y. Cheng, F. Ganss, R. Hübner, R. Heller, S. Zhou, M. Helm, G. Cuniberti, Y. M. Georgiev, and S. Prucnal,
Structural changes in Ge_{1-x}Sn_x and Si_{1-x}Ge_x thin films on SOI substrates treated by pulse laser annealing,
Journal of Applied Physics **136**, 055303 (2024).
doi: <https://doi.org/10.1063/5.0218703>
- 514 Thong Quang Trinh, Lan Thi Mai, Dang Hai Le, Volodymyr Bon, Frank Simon, Markus Löffler, Bernd Rellinghaus, Muhannad Al Aiti, Gianaurelio Cuniberti,
Morphological characteristics of silica nanoparticles derived from rice husk for expected agricultural application,
Ceramics International (2024).
doi: j.ceramint.2024.08.050
- 513 Ivan Lopez Carrasco, Gianaurelio Cuniberti, Jörg Opitz and Natalia Beshchasna,
Evaluation of Transducer Elements Based on Different Material Configurations for Aptamer-Based Electrochemical Biosensors,
Biosensors (2024).
doi: 10.3390/bios14070341
- 512 Wei Wang, Bergoi Ibarlucea, Chuanhui Huang, Renhao Dong, Muhannad Al Aiti, Shirong Huang and Gianaurelio Cuniberti,
Multi-metallic MOF based composites for environmental applications: synergizing metal centers and interactions,
Nanoscale Horizons (2024).
doi: 10.1039/D4NH00140K
- 511 Klaus Morawetz, Vinod Ashokan, Kare Narain Pathak, Neil Drummond, and Gianaurelio Cuniberti,
Electronic quantum wires in extended quasiparticle picture,
Physical Review B **109**, 205116 (2024).
doi: 10.1103/PhysRevB.109.205116
- 510 J. Liu, Y. Chen, X. Huang, Y. Ren, M. Hambsch, D. Bodesheim, D. Pohl, X. Li, M. Deconinck, B. Zhang, M. Löffler, Z. Liao, F. Zhao, A. Dianat, G. Cuniberti, Y. Vaynzof, J. Gao, J. Hao, S. C. B. Mannsfeld, X. Feng, and R. Dong,
On-liquid-gallium surface synthesis of ultrasmooth thin films of conductive metal-organic frameworks,
Nature Synthesis (2024).
doi: 10.1038/s44160-024-00513-9

- 509 Y. Yang, D. Sabaghi, C. Liu, A. Dianat, D. Muecke, H. Qi, Y. Liu, M. Hambsch, Z.-K. Xu, M. Yu, G. Cuniberti, S. C. B. Mannsfeld, U. Kaiser, R. Dong, Z. Wang, and X. Feng, *On-Water Surface Synthesis of Vinylene-Linked Cationic Two-Dimensional Polymer Films as the Anion-Selective Electrode Coating*, *Angewandte Chemie International Edition* (2024).
doi: 10.1002/anie.202316299
- 508 N. Bangruwa, M. Tiwari, A. Shandilya, R. Gutierrez, M. Peralta, S. Varela, G. Cuniberti, and D. Mishra, *Chiral-Induced Spin Selectivity Modulated Time-Correlated Single-Photon Counting for DNA Hybridization Detection*, *The Journal of Physical Chemistry Letters* 2384-2391 (2024).
doi: 10.1021/acs.jpcllett.3c03479
- 507 K. H. Au-Yeung, S. Sarkar, S. Haldar, P. Das, T. Kühne, D. A. Ryndyk, P. Bhauriyal, S. Kaskel, T. Heine, G. Cuniberti, A. Schneemann, and F. Moresco, *Tuning the Planarity of an Aromatic Thianthrene-Based Molecule on Au(111)*, *The Journal of Physical Chemistry C* (2024).
doi: 10.1021/acs.jpcc.3c07633
- 506 S. Toumi, A. Bardaoui, B. Ibarlucea, G. Cuniberti, I. Slama, J. Ben Naceur, N. Sghaier, and R. Chtourou, *Conductivity monitoring of PBASE functionalized CVD graphene electrode for biosensor applications*, *Journal of Applied Electrochemistry* (2024).
doi: 10.1007/s10800-023-02060-1
- 505 B. Ibarlucea, E. E. Yildirim, R. Tetzlaff, A. Ascoli, L.-A. Panes-Ruiz, and G. Cuniberti, *Nanoscale Mem-Devices for Chemical Sensing*, *2023 30th IEEE International Conference on Electronics, Circuits and Systems (ICECS)* 1-5 (2024).
doi: 10.1109/ICECS58634.2023.10382795
- 504 A. Prasoon, X. Yu, M. Hambsch, D. Bodesheim, K. Liu, A. Zacarias, N. N. Nguyen, T. Seki, A. Dianat, A. Croy, G. Cuniberti, P. Fontaine, Y. Nagata, S. C. B. Mannsfeld, R. Dong, M. Bonn, and X. Feng, *Site-selective chemical reactions by on-water surface sequential assembly*, *Nature Communications* **14**, 8313 (2023).
doi: 10.1038/s41467-023-44129-7
- 503 Y. Kapon, Q. Zhu, S. Yochelis, R. Naaman, R. Gutierrez, G. Cuniberti, Y. Paltiel, and V. Mujica, *Probing chiral discrimination in biological systems using atomic force microscopy: The role of van der Waals and exchange interactions*, *The Journal of Chemical Physics* **159**, (2023).
doi: 10.1063/5.0171742
- 502 J. Wang, N. Licciardello, M. Sgarzi, and G. Cuniberti, *Multifunctional polymer-based nanocomposites for synergistic adsorption and photocatalytic degradation of mixed pollutants in water*, *Nanoscale Advances* (2023).
doi: 10.1039/D3NA00931A
- 501 S. Fan, J. E. Inkumsah Jnr, E. Trave, M. Gigli, T. Joshi, N. Licciardello, M. Sgarzi, and G. Cuniberti, *Solar-driven photodegradation of ciprofloxacin and E. coli growth inhibition using a Tm3+ upconverting nanoparticle-based polymer composite*, *Chemical Engineering Journal* **476**, 146877 (2023).
doi: 10.1016/j.cej.2023.146877
- 500 E. E. Yildirim, L. A. Panes-Ruiz, P. Yemulwar, E. Cihan, B. Ibarlucea, and G. Cuniberti, *Carbon nanotube neurotransistors with ambipolar memory and learning functions*, *MRS Bulletin* (2023).
doi: 10.1557/s43577-023-00613-5

- 499 S. Huang, L. Riemenschneider, L. A. Panes-Ruiz, B. Ibarlucea, and G. Cuniberti, *Discrimination of Complex Mixtures Using Carbon Nanotubes-based Multichannel Electronic Nose: Coffee Aromas*, *2023 IEEE Nanotechnology Materials and Devices Conference (NMDC)* (2023).
doi: 10.1109/NMDC57951.2023.10343973
- 498 J. Zhao, G. Karalis, M. Liebscher, L. Tzounis, T. Köberle, D. Fischer, F. Simon, M. A. Aiti, G. Cuniberti, and V. Mechtcherine, *Mineral-impregnated carbon-fiber based reinforcing grids as thermal energy harvesters: A proof-of-concept study towards multifunctional building materials*, *Energy and Buildings* **113564** (2023).
doi: 10.1016/j.enbuild.2023.113564
- 497 J. Timpel, S. Klinghammer, L. Riemenschneider, B. Ibarlucea, G. Cuniberti, C. Hannig, and T. Sterzenbach, *Sensors for in situ monitoring of oral and dental health parameters in saliva*, *Clinical Oral Investigations* (2023).
doi: 10.1007/s00784-023-05206-9
- 496 C. Wang, L. Cusin, C. Ma, E. Unsal, H. Wang, V. G. Consolaro, V. Montes-García, B. Han, S. Vitale, A. Dianat, A. Croy, H. Zhang, R. Gutierrez, G. Cuniberti, Z. Liu, L. Chi, A. Ciesielski, and P. Samorì, *Enhancing the Carrier Transport in Monolayer MoS_2 Through Interlayer Coupling with 2D Covalent Organic Frameworks*, *Advanced Materials* (2023).
doi: 10.1002/adma.202305882
- 495 C. Zhang, A. Parichenko, W. Choi, S. Shin, L. A. Panes-Ruiz, D. Belyaev, T. F. Custódio, C. Löw, J.-S. Lee, B. Ibarlucea, and G. Cuniberti, *Synbodies as Novel Bioreceptors toward Field-Effect Transistor-Based Detection of SARS-CoV-2 Antigens*, *ACS Applied Materials & Interfaces* **15**, 40191 (2023).
doi: 10.1021/acsami.3c06073
- 494 N. Bangruwa, Suryansh, M. Peralta, R. Gutierrez, G. Cuniberti, and D. Mishra, *Sequence-controlled chiral induced spin selectivity effect in ds-DNA*, *Journal of Chemical Physics* **159**, (2023).
doi: 10.1063/5.0157931
- 493 M. Khazaei, S. Bae, R. Khaledialidusti, A. Ranjbar, H.-P. Komsa, S. Khazaei, M. Bagheri, V. Wang, Y. Mochizuki, M. Kawamura, G. Cuniberti, S. M. V. Allaei, K. Ohno, H. Hosono, and H. Raebiger, *Superlattice MAX Phases with A-Layers Reconstructed into 0D-Clusters, 1D-Chains, and 2D-Lattices*, *The Journal of Physical Chemistry C* (2023).
doi: 10.1021/acs.jpcc.3c02233
- 492 A. Parichenko, W. Choi, S. Shin, M. Schlecht, R. Gutierrez, T. F. Akbar, C. Werner, J. Lee, B. Ibarlucea, and G. Cuniberti, *Hydrogel-Gated Silicon Nanotransistors for SARS-CoV-2 Antigen Detection in Physiological Ionic Strength*, *Advanced Materials Interfaces* (2023).
doi: 10.1002/admi.202300391
- 491 A. Pérez Roig, B. Ibarlucea, C. Amaro, and G. Cuniberti, *Vibrio vulnificus marine pathogen detection with thin-film impedance biosensors*, *ChemRxiv* (2023).
doi: 10.26434/chemrxiv-2023-t63jq
- 490 Z. Hajiahmadi, M. Khazaei, A. Ranjbar, A. Mostafaei, S. Chertopalov, T. D. Kühne, G. Cuniberti, H. Hosono, H. Raebiger, and K. Ohno, *Electronic and optical properties of $\text{C}_{60}/\text{Ti}_2\text{CT}_2$ and $\text{C}_{60}/\text{Ti}_3\text{C}_2\text{T}_2$ ($T = \text{F}, \text{OH}, \text{or O}$) Heterostructures*, *Computational Materials Science* **228**, 112364 (2023).
doi: 10.1016/j.commatsci.2023.112364

- 489 M. Peralta, S. Feijoo, S. Varela, R. Gutierrez, G. Cuniberti, V. Mujica, and E. Medina, *Spin-phonon coupling in a double-stranded model of DNA*, *The Journal of Chemical Physics* **159**, (2023).
doi: 10.1063/5.0156347
- 488 A. Parichenko, S. Huang, J. Pang, B. Ibarlucea, and G. Cuniberti, *Recent advances in technologies toward the development of 2D materials-based electronic noses*, *TrAC Trends in Analytical Chemistry* **166**, 117185 (2023).
doi: 10.1016/j.trac.2023.117185
- 487 Á. Rodríguez Méndez, A. Dianat, L. Medrano Sandonas, R. Gutierrez, and G. Cuniberti, *Functionalization-Induced Local Magnetization in Black Phosphorene*, *The Journal of Physical Chemistry C* **127**, 13157-13166 (2023).
doi: 10.1021/acs.jpcc.2c08548
- 486 S. Sarkar, K. H. Au-Yeung, T. Kühne, A. Waentig, D. A. Ryndyk, T. Heine, G. Cuniberti, X. Feng, and F. Moresco, *Adsorption and reversible conformational change of a thiophene based molecule on Au(111)*, *Scientific Reports* **13**, (2023).
doi: 10.1038/s41598-023-37661-5
- 485 S. Huang, A. Croy, B. Ibarlucea, G. Cuniberti, *Machine Learning-Driven Gas Identification in Gas Sensors*, *Machine Learning for Advanced Functional Materials*, Springer, Singapore 978-981-99-0393-1 (2023).
doi: 10.1007/978-981-99-0393-1_2
- 484 S. Huang, A. Croy, A. L. Bierling, V. Khavrus, L. A. Panes-Ruiz, A. Dianat, B. Ibarlucea, and G. Cuniberti, *Machine learning-enabled graphene-based electronic olfaction sensors and their olfactory performance assessment*, *Applied Physics Reviews* **10**, 021406 (2023).
doi: 10.1063/5.0132177
- 483 S. Laleh, B. Ibarlucea, M. Stadtmuller, G. Cuniberti, and M. Medina-Sánchez, *Portable microfluidic impedance biosensor for SARS-CoV-2 detection*, *Biosensors and Bioelectronics* 115362 (2023).
doi: 10.1016/j.bios.2023.115362
- 482 W. Dargie, J. Wen, L. A. Panes-Ruiz, L. Riemenschneider, B. Ibarlucea, and G. Cuniberti, *Monitoring Toxic Gases Using Nanotechnology and Wireless Sensor Networks*, *IEEE Sensors Journal* 1-1 (2023).
doi: 10.1109/JSEN.2023.3269723
- 481 D. Bodesheim, R. Biele, and G. Cuniberti, *Hierarchies of Hofstadter butterflies in 2D covalent organic frameworks*, *npj 2D Materials and Applications* **7**, (2023).
doi: 10.1038/s41699-023-00378-0
- 480 Umar Rashid, Elarbi Chatir, Leonardo Medrano Sandonas, PA Sreelakshmi, Arezoo Dianat, Rafael Gutierrez, Gianaurelio Cuniberti, Saiao Cobo, Veerabhadrrao Kaliginedi, Saiao Cobo, *Dithienylethene-Based Single Molecular Photothermal Linear Actuator*, *Angewandte Chemie International Edition* (2023).
doi: 10.1002/anie.202218767
- 479 S. Kampmann, A. Croy, A. Dianat, and G. Cuniberti, *Workflow for computational characterization of PDMS cross-linked systems*, *Frontiers in Built Environment* **8**, (2023).
doi: 10.3389/fbuil.2022.1070045

- 478 Jinbo Pang , Songang Peng, Chongyang Hou, Hongbin Zhao, Yingju Fan, Chen Ye, Nuo Zhang, Ting Wang, Yu Cao, Weijia Zhou , Ding Sun, Kai Wang, Mark H. Rummeli , Hong Liu, and Gianaurelio Cuniberti, *Applications of Graphene in Five Senses, Nervous System, and Artificial Muscles*, *American Chemical Society* **3**, (2023).
doi: 10.1021/acssensors.2c02790
- 477 J. Yang, Y. Liu, E. Y. Wang, J. Pang, S. Huang, T. Gemming, J. Bi, A. Bachmatiuk, H. Jia, S. X. Hu, C. Jiang, H. Liu, G. Cuniberti, W. Zhou, and M. H. Rummeli, *Modulating p-type doping of two dimensional material palladium diselenide*, *Nano Research* (2023).
doi: 10.1007/s12274-023-6196-7
- 476 H.-H. Lin, A. Croy, R. Gutierrez, and G. Cuniberti, *Atomistic Modelling of Energy Dissipation in Nanoscale Gears*, *Moresco, F., Joachim, C. (eds) Single Molecule Mechanics on a Surface. Springer* 157-175 (2023).
doi: 10.1007/978-3-031-16930-4_9
- 475 L. A. Panes-Ruiz, S. Huang, L. Riemenschneider, A. Croy, B. Ibarlucea, and G. Cuniberti, *Surface-Functionalized Multichannel Nanosensors and Machine Learning Analysis for Improved Sensitivity and Selectivity in Gas Sensing Applications*, *Lecture Notes in Networks and Systems* **546**, 700-707 (2023).
doi: 10.1007/978-3-031-16281-7_66
- 474 Y. Li, S. Huang, S. Peng, H. Jia, J. Pang, B. Ibarlucea, C. Hou, Y. Cao, W. Zhou, H. Liu, and G. Cuniberti, *Toward Smart Sensing by MXene*, *Small* **2206126** (2022).
doi: 10.1002/smll.202206126
- 473 Á. Rodríguez Méndez, L. Medrano Sandonas, A. Dianat, R. Gutierrez, and G. Cuniberti, *Electronic and thermal signatures of phosphorene grain boundaries under uniaxial strain*, *Physical Review Materials* **6**, 114003 (2022).
doi: 10.1103/PhysRevMaterials.6.114003
- 472 A. Croy, A. Raptakis, D. Bodesheim, A. Dianat, and G. Cuniberti, *Toward Coarse-Grained Elasticity of Single-Layer Covalent Organic Frameworks*, *Journal of Physical Chemistry C* **126**, 18943 (2022).
doi: 10.1021/acs.jpcc.2c06268
- 471 Y. Cao, C. Liu, T. Yang, Y. Zhao, Y. Na, C. Jiang, J. Zhou, J. Pang, H. Liu, M. H. Rummeli, W. Zhou, and G. Cuniberti, *Gradient bandgap modification for highly efficient carrier transport in antimony sulfide-selenide tandem solar cells*, *Solar Energy Materials and Solar Cells* **246**, 111926 (2022).
doi: 10.1016/j.solmat.2022.111926
- 470 M. Davoodabadi, M. Liebscher, M. Sgarzi, L. Riemenschneider, D. Wolf, S. Hampel, G. Cuniberti, and V. Mechtcherine, *Sulphuric acid sensing by single-walled carbon nanotubes incorporated alkali activated materials*, *Composites Part B: Engineering* **247**, 110323 (2022).
doi: 10.1016/j.compositesb.2022.110323
- 469 Y. Liu, S. Fu, D. L. Pastoetter, A. H. Khan, Y. Zhang, A. Dianat, S. Xu, Z. Liao, M. Richter, M. Yu, M. Položij, E. Brunner, G. Cuniberti, T. Heine, M. Bonn, H. I. Wang, and X. Feng, *Vinylene-Linked 2D Conjugated Covalent Organic Frameworks by Wittig Reaction*, *Angewandte Chemie* (2022).
doi: 10.1002/ange.202209762

- 468 M. Saqib, N. Beshchasna, R. Pelaccia, A. Roshchupkin, I. Yanko, Y. Husak, S. Kyrylenko, B. Reggiani, G. Cuniberti, M. Pogorielov, J. Opitz, and L. Orazi, *Tailoring surface properties, biocompatibility and corrosion behavior of stainless steel by laser induced periodic surface treatment towards developing biomimetic stents*, *Surfaces and Interfaces* 102365 (2022).
doi: 10.1016/j.surfin.2022.102365
- 467 T. Huang, V. Misko, A. Caspari, A. Synytska, B. Ibarlucea, F. Nori, J. Fassbender, G. Cuniberti, D. Makarov, and L. Baraban, *Electrokinetic Janus micromotors moving on topographically flat chemical patterns*, *Communications Materials* 3, (2022).
doi: 10.1038/s43246-022-00282-y
- 466 J. Wang, M. Sgarzi, Z. Němečková, J. Henych, N. Licciardello, and G. Cuniberti, *Reusable and Antibacterial Polymer-Based Nanocomposites for the Adsorption of Dyes and the Visible-Light-Driven Photocatalytic Degradation of Antibiotics*, *Global Challenges* 2200076 (2022).
doi: 10.1002/gch2.202200076
- 465 F. M. Pennisi, A. L. Pellegrino, N. Licciardello, C. Mezzalana, M. Sgarzi, A. Speghini, G. Malandrino, and G. Cuniberti, *Synthesis, characterization and photocatalytic properties of nanostructured lanthanide doped beta-NaYF₄/TiO₂ composite films*, *Scientific Reports* 12, 13748 (2022).
doi: 10.1038/s41598-022-17256-2
- 464 M. Geyer, R. Gutierrez, V. Mujica, J. F. Silva, A. Dianat, and G. Cuniberti, *The contribution of intermolecular spin interactions to the London dispersion forces between chiral molecules*, *Journal of Chemical Physics* 156, 234106 (2022).
doi: 10.1063/5.0090266
- 463 T. A. Nguyen-Le, T. Bartsch, R. Wodtke, F. Brandt, C. Arndt, A. Feldmann, D. I. Sandoval Bojorquez, A. P. Roig, B. Ibarlucea, S. Lee, C. K. Baek, G. Cuniberti, R. Bergmann, E. Puentes-Cala, J. A. Soto, B. T. Kurien, M. Bachmann, and L. Baraban, *Nanosensors in clinical development of CAR-T cell immunotherapy*, *Biosensors and Bioelectronics* 206, 114124 (2022).
doi: 10.1016/j.bios.2022.114124
- 462 V. Sessi, B. Ibarlucea, F. Seichepine, S. Klinghammer, I. Ibrahim, A. Heinzig, N. Szabo, T. Mikolajick, A. Hierlemann, U. Frey, W. M. Weber, L. Baraban, and G. Cuniberti, *Multisite Dopamine Sensing With Femtomolar Resolution Using a CMOS Enabled Aptasensor Chip*, *Frontiers in Neuroscience* 16, 875656 (2022).
doi: 10.3389/fnins.2022.875656
- 461 R. Bockholt, S. Paschke, L. Heubner, B. Ibarlucea, A. Laupp, Ž. Janićijević, S. Klinghammer, S. Balakin, M. F. Maitz, C. Werner, G. Cuniberti, L. Baraban, and P. M. Spieth, *Real-Time Monitoring of Blood Parameters in the Intensive Care Unit: State-of-the-Art and Perspectives*, *Journal of Clinical Medicine* 11, 2408 (2022).
doi: 10.3390/jcm11092408
- 460 A. Raptakis, A. Croy, A. Dianat, R. Gutierrez, and G. Cuniberti, *Exploring the similarity of single-layer covalent organic frameworks using electronic structure calculations*, *RSC Advances* 12, 12283 (2022).
doi: 10.1039/d2ra01007k

- 459 U. Aßmann, M. Belov, T. T. T. Cong, W. Dargie, J. Wen, L. Urbas, C. Lohse, L. A. A. Panes-Ruiz, L. Riemenschneider, B. Ibarlucea, G. Cuniberti, M. M. Al Chawa, C. Grossmann, S. Ihlenfeld, R. Tetzlaff, S. A. A. Pertuz, and D. Goehringer,
Sniffbots to the Rescue - Fog Services for a Gas-Sniffing Immersive Robot Collective,
Lecture Notes in Computer Science **13226 LNCS**, 3 (2022).
doi: 10.1007/978-3-031-04718-3_1
- 458 T. Thiele, B. Ibarlucea, T. F. Akbar, C. Werner, and G. Cuniberti,
StarPEG-heparin biosensors for rapid and portable diagnostics in complex biofluids,
Sensors & Diagnostics (2022).
doi: 10.1039/D2SD00036A
- 457 C. D. Aiello, J. M. Abendroth, M. Abbas, A. Afanasev, S. Agarwal, A. S. Banerjee, D. N. Beratan, J. N. Belling, B. Berche, A. Botana, J. R. Caram, G. L. Celardo, G. Cuniberti, A. Garcia-Etxarri, A. Dianat, I. Diez-Perez, Y. Guo, R. Gutierrez, C. Herrmann, J. Hihath, S. Kale, P. Kurian, Y. C. Lai, T. Liu, A. Lopez, E. Medina, V. Mujica, R. Naaman, M. Noormandipour, J. L. Palma, Y. Paltiel, W. Petuskey, J. C. Ribeiro-Silva, J. J. Saenz, E. J. Santos, M. Solyanik-Gorgone, V. J. Sorger, D. M. Stemer, J. M. Ugalde, A. Valdes-Curiel, S. Varela, D. H. Waldeck, M. R. Wasielewski, P. S. Weiss, H. Zacharias, and Q. H. Wang,
A Chirality-Based Quantum Leap,
ACS Nano **16**, 4989 (2022).
doi: 10.1021/acsnano.1c01347
- 456 S. Huang, A. Croy, L. A. Panes-Ruiz, V. Khavrus, V. Bezugly, B. Ibarlucea, and G. Cuniberti,
Machine Learning-Enabled Smart Gas Sensing Platform for Identification of Industrial Gases,
Advanced Intelligent Systems 2200016 (2022).
doi: 10.1002/aisy.202200016
- 455 M. Faghih, D. Karnaushenko, Q. A. Besford, C. Becker, R. Ravishankar, D. D. Karnaushenko, G. Cuniberti, A. Fery, and O. G. Schmidt,
Membranotronics: Bioinspired Nonlinear Ion Transport with Negative Differential Resistance Based on Elastomeric Membrane System,
Advanced Functional Materials 2200233 (2022).
doi: 10.1002/adfm.202200233
- 454 S. Xu, Z. Liao, A. Dianat, S. W. Park, M. A. Addicoat, Y. Fu, D. L. Pastoetter, F. G. Fabozzi, Y. Liu, G. Cuniberti, M. Richter, S. Hecht, and X. Feng,
Combination of Knoevenagel Polycondensation and Water-Assisted Dynamic Michael-Addition-Elimination for the Synthesis of Vinylene-Linked 2D Covalent Organic Frameworks,
Angewandte Chemie - International Edition e202202492 (2022).
doi: 10.1002/anie.202202492
- 453 D. L. Pastoetter, Y. Liu, M. A. Addicoat, S. Paasch, A. Dianat, D. Bodesheim, A. L. Waentig, S. Xu, M. Borrelli, A. Croy, M. Richter, E. Brunner, G. Cuniberti, and X. Feng,
Control of Crystallinity of Vinylene-Linked Two-Dimensional Conjugated Polymers by Rational Monomer Design,
Chemistry - A European Journal **28**, e2021045 (2022).
doi: 10.1002/chem.202104502
- 452 S. Zhang, J. Pang, Y. Li, B. Ibarlucea, Y. Liu, T. Wang, X. Liu, S. Peng, T. Gemming, Q. Cheng, H. Liu, J. Yang, G. Cuniberti, W. Zhou, and M. H. Rümmeli,
An effective formaldehyde gas sensor based on oxygen-rich three-dimensional graphene,
Nanotechnology **33**, 185702 (2022).
doi: 10.1088/1361-6528/ac4eb4
- 451 H. H. Lin, A. Croy, R. Gutierrez, C. Joachim, and G. Cuniberti,
A nanographene disk rotating a single molecule gear on a Cu(111) surface,
Nanotechnology **33**, 175701 (2022).
doi: 10.1088/1361-6528/ac4b4b

- 450 H.-H. Lin, J. Heinze, A. Croy, R. Gutiérrez, and G. Cuniberti, *Effect of lubricants on the rotational transmission between solid-state gears*, *Beilstein Journal of Nanotechnology* **13**, 54-62 (2022).
doi: 10.3762/bjnano.13.3
- 449 S. Zhang, J. Pang, Y. Li, F. Yang, T. Gemming, K. Wang, X. Wang, S. Peng, X. Liu, B. Chang, H. Liu, W. Zhou, G. Cuniberti, and M. H. Rummeli, *Emerging Internet of Things driven carbon nanotubes-based devices*, *Nano Research* (2022).
doi: 10.1007/s12274-021-3986-7
- 448 Y. Cao, P. Qu, C. Wang, J. Zhou, M. Li, X. Yu, X. Yu, J. Pang, W. Zhou, H. Liu, and G. Cuniberti, *Epitaxial Growth of Vertically Aligned Antimony Selenide Nanorod Arrays for Heterostructure Based Self-Powered Photodetector*, *Advanced Optical Materials* 2200816 (2022).
doi: 10.1002/adom.202200816
- 447 S. Huang, A. Croy, A. Bierling, L. A. Panes-Ruiz, B. Ibarlucea, and G. Cuniberti, *Machine Learning-enabled Biomimetic Electronic Olfaction Using Graphene Single-channel Sensors*, *International Symposium on Olfaction and Electronic Nose, ISOEN 2022 - Proceedings* (2022).
doi: 10.1109/isoen54820.2022.9789605
- 446 S. Huang, A. Croy, L. A. Panes-Ruiz, V. Khavrus, B. Ibarlucea, and G. Cuniberti, *Industrial Gases Identification Using Graphene-based Gas Sensors: NH₃ and PH₃ as an Example*, *International Symposium on Olfaction and Electronic Nose, ISOEN 2022 - Proceedings* (2022).
doi: 10.1109/isoen54820.2022.9789653
- 445 A. Idili, H. Montón, M. Medina-Sánchez, B. Ibarlucea, G. Cuniberti, O. G. Schmidt, K. W. Plaxco, and C. Parolo, *Continuous monitoring of molecular biomarkers in microfluidic devices*, *Progress in Molecular Biology and Translational Science* **187**, 295 (2022).
doi: 10.1016/bs.pmbts.2021.07.027
- 444 W. Wang, J. Pang, J. Su, F. Li, Q. Li, X. Wang, J. Wang, B. Ibarlucea, X. Liu, Y. Li, W. Zhou, K. Wang, Q. Han, L. Liu, R. Zang, M. H. Rummeli, Y. Li, H. Liu, H. Hu, and G. Cuniberti, *Applications of nanogenerators for biomedical engineering and healthcare systems*, *InfoMat* **4**, 1-57 (2021).
doi: 10.1002/inf2.12262
- 443 J. Pang, Y. Wang, X. Yang, L. Zhang, Y. Li, Y. Zhang, J. Yang, F. Yang, X. Wang, G. Cuniberti, H. Liu, and M. Rummeli, *Wafer-scale two-dimensional platinum monosulfide ultrathin film via metal sulfurization for high performance photoelectronics*, *Materials Advances* (2021).
doi: 10.1039/d1ma00757b
- 442 Z. Wang, Z. Zhang, H. Qi, A. Ortega-Guerrero, L. Wang, K. Xu, M. Wang, S. Park, F. Hennerdsdorf, A. Dianat, A. Croy, H. Komber, G. Cuniberti, J. J. Weigand, U. Kaiser, R. Dong, and X. Feng, *On-water surface synthesis of charged two-dimensional polymer single crystals via the irreversible Katritzky reaction*, *Nature Synthesis* **13**, 69-76 (2021).
doi: 10.1038/s44160-021-00001-4
- 441 Q. Han, J. Pang, Y. Li, B. Sun, B. Ibarlucea, X. Liu, T. Gemming, Q. Cheng, S. Zhang, H. Liu, J. Wang, W. Zhou, G. Cuniberti, and M. H. Rummeli, *Graphene Biodevices for Early Disease Diagnosis Based on Biomarker Detection*, *ACS Sensors* **6**, 3841 (2021).
doi: 10.1021/acssensors.1c01172

- 440 S. Zhang, J. Pang, Q. Cheng, F. Yang, Y. Chen, Y. Liu, Y. Li, T. Gemming, X. Liu, B. Ibarlucea, J. Yang, H. Liu, W. Zhou, G. Cuniberti, and M. H. Rummeli,
High-performance electronics and optoelectronics of monolayer tungsten diselenide full film from pre-seeding strategy,
InfoMat 1-15 (2021).
doi: 10.1002/inf2.12259
- 439 M. S. Khoshkhoo, A. Prudnikau, M. R. Chashmejahanbin, R. Helbig, V. Lesnyak, and G. Cuniberti,
Multicolor Patterning of 2D Semiconductor Nanoplatelets,
ACS Nano **15**, 17623-17634 (2021).
doi: 10.1021/acsnano.1c05400
- 438 K. H. Au-Yeung, T. Kühne, D. Becker, M. Richter, D. A. Ryndyk, G. Cuniberti, T. Heine, X. Feng, and F. Moresco,
On-Surface Formation of Cyano-Vinylene Linked Chains by Knoevenagel Condensation,
Chemistry - A European Journal **27**, 1-6 (2021).
doi: 10.1002/chem.202103094
- 437 F. Eisenhut, T. Kuhne, J. Monsalve, S. Srivastava, D. A. Ryndyk, G. Cuniberti, O. Aiboudi, F. Lissel, V. Zobac, R. Robles, N. Lorente, C. Joachim, and F. Moresco,
One-way rotation of a chemically anchored single molecule-rotor,
Nanoscale **13**, 16077 (2021).
doi: 10.1039/d1nr04583k
- 436 Lokamani, J. Kelling, R. Ohmann, J. Meyer, T. Kühne, G. Cuniberti, J. Wolf, T. Huhn, P. Zahn, F. Moresco, and S. Gemming,
A combined experimental and theoretical study of 1,4-bis(phenylethynyl)-2,5-bis(ethoxy)benzene adsorption on Au(111),
Surface Science **712**, 121877 (2021).
doi: 10.1016/j.susc.2021.121877
- 435 J. Pang, A. Bachmatiuk, F. Yang, H. Liu, W. Zhou, M. H. Rummeli, and G. Cuniberti,
Applications of Carbon Nanotubes in the Internet of Things Era,
Nano-Micro Letters **13**, 191 (2021).
doi: 10.1007/s40820-021-00721-4
- 434 T. A. Nguyen-Le, T. Bartsch, R. Wodtke, F. Brandt, C. Arndt, A. Feldmann, D. I. S. Bojorquez, A. P. Roig, B. Ibarlucea, S. Lee, C.-K. Baek, G. Cuniberti, R. Bergmann, E. Puentes-Cala, J. A. Soto, B. T. Kurien, M. Bachmann, and L. Baraban,
Nanochips assisted peptide screening for clinical development of CAR-T cell immunotherapy,
Research Square (2021).
doi: 10.21203/rs.3.rs-841987/v1
- 433 A. Raptakis, A. Croy, A. Dianat, R. Gutierrez, and G. Cuniberti,
The role of structural symmetry on proton tautomerization: A DFTB/Meta-Dynamics computational study,
Chemical Physics **548**, 111222 (2021).
doi: 10.1016/j.chemphys.2021.111222
- 432 S. Kampmann, D. Bodesheim, A. Croy, T. Schied, R. Gutierrez, A. Dianat, and G. Cuniberti,
Virtual PC pools for computer practicals using the example of materials science,
Lessons Learned **1**, (2021).
doi: 10.25369/11.v1i1/2.17
- 431 Lokamani, J. Kelling, R. Ohmann, J. Meyer, T. Kühne, G. Cuniberti, J. Wolf, G. Juckeland, T. Huhn, P. Zahn, F. Moresco, and S. Gemming,
Describing chain-like assembly of ethoxygroup-functionalized organic molecules on Au(111) using high-throughput simulations,
Scientific Reports **11**, 14649 (2021).
doi: 10.1038/s41598-021-93724-5

- 430 Á. Rodríguez Méndez, L. Medrano Sandonas, A. Dianat, R. Gutierrez, and G. Cuniberti, *An Atomistic Study of the Thermoelectric Signatures of CNT Peapods*, *Journal of Physical Chemistry C* **125**, 13721 (2021).
doi: 10.1021/acs.jpcc.1c02611
- 429 B. Sun, J. Pang, Q. Cheng, S. Zhang, Y. Li, C. Zhang, D. Sun, B. Ibarlucea, Y. Li, D. Chen, H. Fan, Q. Han, M. Chao, H. Liu, J. Wang, G. Cuniberti, L. Han, and W. Zhou, *Synthesis of Wafer-Scale Graphene with Chemical Vapor Deposition for Electronic Device Applications*, *Advanced Materials Technologies* **6**, 2000744 (2021).
doi: 10.1002/admt.202000744
- 428 Y. Wang, J. Pang, Q. Cheng, L. Han, Y. Li, X. Meng, B. Ibarlucea, H. Zhao, F. Yang, H. Liu, H. Liu, W. Zhou, X. Wang, M. H. Rummeli, Y. Zhang, and G. Cuniberti, *Applications of 2D-Layered Palladium Diselenide and Its van der Waals Heterostructures in Electronics and Optoelectronics*, *Nano-Micro Letters* **13**, 143 (2021).
doi: 10.1007/s40820-021-00660-0
- 427 A. Ortega-Guerrero, H. Sahabudeen, A. Croy, A. Dianat, R. Dong, X. Feng, and G. Cuniberti, *Multiscale Modeling Strategy of 2D Covalent Organic Frameworks Confined at an Air-Water Interface*, *ACS Applied Materials and Interfaces* **13**, 26411 (2021).
doi: 10.1021/acsami.1c05967
- 426 T. Schied, A. Nickol, C. Heubner, M. Schneider, A. Michaelis, M. Bobeth, and G. Cuniberti, *Determining the Diffusion Coefficient of Lithium Insertion Cathodes from GITT measurements: Theoretical Analysis for low Temperatures*, *ChemPhysChem* **22**, 885 (2021).
doi: 10.1002/cphc.202001025
- 425 A. L. Bierling, I. Croy, T. Hummel, G. Cuniberti, and A. Croy, *Olfactory perception in relation to the physicochemical odor space*, *Brain Sciences* **11**, 563 (2021).
doi: 10.3390/brainsci11050563
- 424 M. Davoodabadi, I. Vareli, M. Liebscher, L. Tzounis, M. Sgarzi, A. S. Paipetis, J. Yang, G. Cuniberti, and V. Mechtcherine, *Thermoelectric energy harvesting from single-walled carbon nanotube alkali-activated nanocomposites produced from industrial waste materials*, *Nanomaterials* **11**, 1095 (2021).
doi: 10.3390/nano11051095
- 423 X. Zhao, R. Illing, P. Ruelens, M. Bachmann, G. Cuniberti, J. A. de Visser, and L. Baraban, *Coexistence of fluorescent Escherichia coli strains in millifluidic droplet reactors*, *Lab on a Chip* **21**, 1492 (2021).
doi: 10.1039/d01c01204a
- 422 J. Wang, L. Svoboda, Z. Němečková, M. Sgarzi, J. Henych, N. Licciardello, and G. Cuniberti, *Enhanced visible-light photodegradation of fluoroquinolone-based antibiotics and E. coli growth inhibition using Ag-TiO₂ nanoparticles*, *RSC Adv.* **11**, 13980 (2021).
doi: 10.1039/D0RA10403E
- 421 A. Ulyankina, T. Molodtsova, M. Gorshenkov, I. Leontyev, D. Zhigunov, E. Konstantinova, T. Lastovina, J. Tolasz, J. Henych, N. Licciardello, G. Cuniberti, and N. Smirnova, *Photocatalytic degradation of ciprofloxacin in water at nano-ZnO prepared by pulse alternating current electrochemical synthesis*, *Journal of Water Process Engineering* **40**, 101809 (2021).
doi: 10.1016/j.jwpe.2020.101809

- 420 Y. Cao, C. Liu, J. Jiang, X. Zhu, J. Zhou, J. Ni, J. Zhang, J. Pang, M. H. Rummeli, W. Zhou, H. Liu, and G. Cuniberti,
Theoretical Insight into High-Efficiency Triple-Junction Tandem Solar Cells via the Band Engineering of Antimony Chalcogenides,
Solar RRL **5**, 2000800 (2021).
doi: 10.1002/solr.202000800
- 419 M. Davoodabadi, M. Liebscher, S. Hampel, M. Sgarzi, A. B. Rezaie, D. Wolf, G. Cuniberti, V. Mechtcherine, and J. Yang,
Multi-walled carbon nanotube dispersion methodologies in alkaline media and their influence on mechanical reinforcement of alkali-activated nanocomposites,
Composites Part B: Engineering **209**, 108559 (2021).
doi: 10.1016/j.compositesb.2020.108559
- 418 T. Huang, B. Ibarlucea, A. Caspari, A. Synytska, G. Cuniberti, J. de Graaf, and L. Baraban,
Impact of surface charge on the motion of light-activated Janus micromotors,
European Physical Journal E **44**, (2021).
doi: 10.1140/epje/s10189-021-00008-x
- 417 L. Medrano Sandonas, Á. Rodríguez Méndez, R. Gutierrez, G. Cuniberti, and V. Mujica,
Nanoscale Phononic Analog of the Ranque-Hilsch Vortex Tube,
Physical Review Applied **15**, 034008 (2021).
doi: 10.1103/physrevapplied.15.034008
- 416 S. Huang, L. A. Panes-Ruiz, A. Croy, M. Löffler, V. Khavrus, V. Bezugly, and G. Cuniberti,
Highly sensitive room temperature ammonia gas sensor using pristine graphene: The role of biocompatible stabilizer,
Carbon **173**, 262 (2021).
doi: 10.1016/j.carbon.2020.11.001
- 415 K. S. Schellhammer, G. Cuniberti, and F. Ortmann,
Investigating a Combined Stochastic Nucleation and Molecular Dynamics-Based Equilibration Approach for Constructing Large-Scale Polycrystalline Films,
Journal of Chemical Theory and Computation **17**, 1266 (2021).
doi: 10.1021/acs.jctc.0c01196
- 414 H. H. Lin, A. Croy, R. Gutierrez, and G. Cuniberti,
Surface-Phonon-Induced Rotational Dissipation for Nanoscale Solid-State Gears,
Physical Review Applied **15**, 024053 (2021).
doi: 10.1103/physrevapplied.15.024053
- 413 A. Raptakis, A. Dianat, A. Croy, and G. Cuniberti,
Predicting the bulk modulus of single-layer covalent organic frameworks with square-lattice topology from molecular building-block properties,
Nanoscale **13**, 1077 (2021).
doi: 10.1039/d0nr07666j
- 412 C. Rebolledo Espinoza, D. A. Ryndyk, A. Dianat, R. Gutierrez, and G. Cuniberti,
First principles study of field effect device through van der Waals and lateral heterostructures of graphene, phosphorene and graphane,
Nano Materials Science **4**, 52-59 (2021).
doi: 10.1016/j.nanoms.2020.12.005
- 411 M. Saqib, O. S. Kuzmin, H. Kraskiewicz, L. Wasyluk, G. Cuniberti, A. A. Fikai, V. F. Pichugin, J. Opitz, and N. Beshchasna,
Evaluation of in Vitro Corrosion Behavior of Titanium Oxynitride Coated Stainless Steel Stents,
IEEE Access **9**, 59766 (2021).
doi: 10.1109/access.2021.3072597

- 410 L. A. Panes-Ruiz, L. Riemenschneider, M. M. Al Chawa, M. Löffler, B. Rellinghaus, R. Tetzlaff, V. Bezugly, B. Ibarlucea, and G. Cuniberti,
Selective and self-validating breath-level detection of hydrogen sulfide in humid air by gold nanoparticle-functionalized nanotube arrays,
Nano Research **15**, 2512-2521 (2021).
doi: 10.1007/s12274-021-3771-7
- 409 T. Kühne, K. H. Au-Yeung, F. Eisenhut, O. Aiboudi, D. A. Ryndyk, G. Cuniberti, F. Lissel, and F. Moresco,
STM induced manipulation of azulene-based molecules and nanostructures: The role of the dipole moment,
Nanoscale **12**, 24471 (2020).
doi: 10.1039/d0nr06809h
- 408 S. Klinghammer, T. Voitsekhivska, N. Licciardello, K. Kim, C. K. Baek, H. Cho, K. J. Wolter, C. Kirschbaum, L. Baraban, and G. Cuniberti,
Nanosensor-Based Real-Time Monitoring of Stress Biomarkers in Human Saliva Using a Portable Measurement System,
ACS Sensors **5**, 4081 (2020).
doi: 10.1021/acssensors.0c02267
- 407 D. L. Pastoetter, S. Xu, M. Borrelli, M. Addicoat, B. P. Biswal, S. Paasch, A. Dianat, H. Thomas, R. Berger, S. Reineke, E. Brunner, G. Cuniberti, M. Richter, and X. Feng,
Synthesis of Vinylene-Linked Two-Dimensional Conjugated Polymers via the Horner-Wadsworth-Emmons Reaction,
Angewandte Chemie - International Edition **59**, 23620 (2020).
doi: 10.1002/anie.202010398
- 406 M. Saqib, R. Bernhardt, M. Kästner, N. Beshchasna, G. Cuniberti, and J. Opitz,
Determination of the entire stent surface area by a new analytical method,
Materials **13**, 1 (2020).
doi: 10.3390/ma13245633
- 405 A. Eichler-Volf, T. Huang, F. V. Luna, Y. Alsaadawi, S. Stierle, G. Cuniberti, M. Steinhart, L. Baraban, and A. Erbe,
Comparative studies of light-responsive swimmers: Janus Nanorods versus Spherical Particles,
Langmuir **36**, 12504 (2020).
doi: 10.1021/acs.langmuir.0c01913
- 404 M. Bobeth, A. Dianat, R. Gutierrez, D. Werner, H. Yang, H. Eckert, and G. Cuniberti,
Continuum modelling of structure formation of biosilica patterns in diatoms,
BMC Materials **2**, (2020).
doi: 10.1186/s42833-020-00018-7
- 403 E. Brunner, G. Cuniberti, M. Montagna, S. I. Brückner, A. Dianat, R. Gutierrez, F. Daus, and A. Geyer,
Interactions of long-chain polyamines with silica studied by molecular dynamics simulations and solid-state NMR spectroscopy,
Langmuir **36**, 11600 (2020).
doi: 10.1021/acs.langmuir.0c02157
- 402 I. Y. Sahalianov, T. M. Radchenko, V. A. Tatarenko, and G. Cuniberti,
Sensitivity to strains and defects for manipulating the conductivity of graphene,
Europhysics Letters **132**, 48002 (2020).
doi: 10.1209/0295-5075/132/48002
- 401 H.-H. Lin, J. Heinze, A. Croy, R. Gutierrez, and G. Cuniberti,
Mechanical Transmission of Rotation for Molecule Gears and Solid-State Gears, Building and Probing Small for Mechanics 165-180 (2020).
doi: 10.1007/978-3-030-56777-4_11

- 400 J. Dolado, R. Martínez-Casado, P. Hidalgo, R. Gutierrez, A. Dianat, G. Cuniberti, F. Domínguez-Adame, E. Díaz, and B. Méndez,
Understanding the UV luminescence of zinc germanate: The role of native defects,
Acta Mater **196**, 626 (2020).
doi: 10.1016/j.actamat.2020.07.009
- 399 B. Ibarlucea, A. Pérez Roig, D. Belyaev, L. Baraban, and G. Cuniberti,
Electrochemical detection of ascorbic acid in artificial sweat using a flexible alginate/CuO-modified electrode,
Microchimica Acta **187**, (2020).
doi: 10.1007/s00604-020-04510-5
- 398 S. Balakin, Y.-S. Yun, J. Lee, E.-H. Kang, J. Spohn, I.-S. Yun, J. Opitz, G. Cuniberti, and J.-S. Yeo,
In vitro characterization of osteoblast cells on polyelectrolyte multilayers containing detonation nanodiamonds,
Biomed. Mater. **15**, 55026 (2020).
doi: 10.1088/1748-605x/ab9baf
- 397 T. Huang, V. R. Misko, S. Gobeil, X. Wang, F. Nori, J. Schütt, J. Fassbender, G. Cuniberti, D. Makarov, and L. Baraban,
Inverse Solidification Induced by Active Janus Particles,
Advanced Functional Material **30**, 2003815 (2020).
doi: 10.1002/adfm.202003851
- 396 K. H. Au Yeung, T. Kühne, F. Eisenhut, M. Kleinwächter, Y. Gisbert, R. Robles, N. Lorente, G. Cuniberti, C. Joachim, G. Rapenne, C. Kammerer, and F. Moresco,
Transmitting Stepwise Rotation among Three Molecule-Gear on the Au(111) Surface,
J. Phys. Chem. Lett. **11**, 16 (2020).
doi: 10.1021/acs.jpclett.0c01747
- 395 A. Dianat, R. Gutierrez, H. Alpern, V. Mujica, A. Ziv, S. Yochelis, O. Millo, Y. Paltiel, and G. Cuniberti,
The Role of Exchange Interactions in the Magnetic Response and Inter-Molecular Recognition of Chiral Molecules,
Nano Letters **20**, 7077-7086 (2020).
doi: 10.1021/acs.nanolett.0c02216
- 394 A. Gazzi, L. Fusco, M. Orecchioni, S. Ferrari, G. Franzoni, J. S. Yan, M. Rieckher, G. Peng, M. A. Lucherelli, I. A. Vacchi, N. D. Q. Chau, A. Criado, A. Istif, D. Mancino, A. Dominguez, H. Eckert, E. Vázquez, T. D. Ros, P. Nicolussi, V. Palermo, B. Schumacher, G. Cuniberti, Y. Mai, C. Clementi, M. Pasquali, X. Feng, K. Kostarelos, A. Yilmazer, D. Bedognetti, B. Fadeel, M. Prato, A. Bianco, and L. G. Delogu,
Graphene, other carbon nanomaterials and the immune system: toward nanoimmunity-by-design,
J. Phys. Mater. **3**, 34009 (2020).
doi: 10.1088/2515-7639/ab9317
- 393 J. Schuett, D. I. Sandoval Bojorquez, E. Avitabile, E. S. Oliveros Mata, G. Milyukov, J. Colditz, L. G. Delogu, M. Rauner, A. Feldmann, S. Koristka, J. M. Middeke, K. Sockel, J. Fassbender, M. Bachmann, M. Bornhauser, G. Cuniberti, and L. Baraban,
Nanocytometer for smart analysis of peripheral blood and acute myeloid leukemia: a pilot study,
Nano Lett. **20**, 6572-6581 (2020).
doi: 10.1021/acs.nanolett.0c02300
- 392 M. Geyer, R. Gutierrez, and G. Cuniberti,
Effective Hamiltonian model for helically constrained quantum systems within adiabatic perturbation theory: Application to the chirality-induced spin selectivity (CISS) effect,
J Chem Phys **152**, 214105 (2020).
doi: 10.1063/5.0005181
- 391 L. Svoboda, N. Licciardello, R. Dvorský, J. Bednář, J. Henych, and G. Cuniberti,
Design and Performance of Novel Self-Cleaning g-C₃N₄/PMMA/PUR Membranes,
Polym. **12**, 850 (2020).
doi: 10.3390/polym12040850

- 390 H. Eckert, M. Montagna, A. Dianat, R. Gutierrez, M. Bobeth, and G. Cuniberti, *Exploring the organic-inorganic interface in biosilica: atomistic modeling of polyamine and silica precursors aggregation behavior*, *BMC Mat* **2**, 1 (2020).
doi: 10.1186/s42833-020-00012-z
- 389 S. Klinghammer, S. Rauch, S. Pregl, P. Uhlmann, L. Baraban, and G. Cuniberti, *Surface Modification of Silicon Nanowire Based Field Effect Transistors with Stimuli Responsive Polymer Brushes for Biosensing Applications*, *Micromachines* **11**, 274 (2020).
doi: 10.3390/mi11030274
- 388 E. Baek, N. R. Das, C. V. Cannistraci, T. Rim, G. S. C. Bermúdez, K. Nych, H. Cho, K. Kim, C. K. Baek, D. Makarov, R. Tetzlaff, L. Chua, L. Baraban, and G. Cuniberti, *Intrinsic plasticity of silicon nanowire neurotransistors for dynamic memory and learning functions*, *Nature Electronics* **3**, 398-408 (2020).
doi: 10.1038/s41928-020-0412-1
- 387 E. Wlaźlak, D. Przyczyna, R. Gutierrez, G. Cuniberti, and K. Szaciłowski, *Towards synthetic neural networks: can artificial electrochemical neurons be coupled with artificial memristive synapses?*, *Jpn. J. Appl. Phys.* **59**, S10801 (2020).
doi: 10.35848/1347-4065/ab7e11
- 386 S. Park, Z. Liao, B. Ibarlucea, H. Qi, H. Lin, D. Becker, J. Melidonie, T. Zhang, H. Sahabudeen, L. Baraban, C. Baek, Z. Zheng, E. Zschech, A. Fery, T. Heine, U. Kaiser, G. Cuniberti, R. Dong, and X. Feng, *Two-Dimensional Boronate Ester Covalent Organic Framework Thin Films with Large Single Crystalline Domains for a Neuromorphic Memory Device*, *Angew. Chem.* **132**, 21 (2020).
doi: 10.1002/ange.201916595
- 385 H. H. Lin, A. Croy, R. Gutierrez, C. Joachim, and G. Cuniberti, *Mechanical Transmission of Rotational Motion between Molecular-Scale Gears*, *Phys. Rev. Appl.* **13**, 34024 (2020).
doi: 10.1103/physrevapplied.13.034024
- 384 T. Huang, S. Gobeil, X. Wang, V. Misko, F. Nori, W. De Malsche, J. Fassbender, D. Makarov, G. Cuniberti, and L. Baraban, *Anisotropic Exclusion Effect between Photocatalytic Ag/AgCl Janus Particles and Passive Beads in a Dense Colloidal Matrix*, *Langmuir* **36**, 7091 (2020).
doi: 10.1021/acs.langmuir.0c00012
- 383 Y. Liu, V. Khavrus, T. Lehmann, H. L. Yang, L. Stepien, M. Greifzu, S. Oswald, T. Gemming, V. Bezugly, and G. Cuniberti, *Boron-Doped Single-Walled Carbon Nanotubes with Enhanced Thermoelectric Power Factor for Flexible Thermoelectric Devices*, *ACS Appl. Ener. Mat.* **3**, 3 (2020).
doi: 10.1021/acsaem.9b02243
- 382 P. Martins, S. Kappert, H. N. Le, V. Sebastian, K. Kühn, M. Alves, L. Pereira, G. Cuniberti, M. Melle-Franco, and S. Lanceros-Méndez, *Enhanced Photocatalytic Activity of Au/TiO₂ Nanoparticles against Ciprofloxacin*, *Catalysts* **10**, 234 (2020).
doi: 10.3390/catal10020234

- 381 E. Krok, S. Balakin, J. Jung, F. Gross, J. Opitz, and G. Cuniberti, *Modification of titanium implants using biofunctional nanodiamonds for enhanced antimicrobial properties*, *Nanotechnology* **31**, 205603 (2020).
doi: 10.1088/1361-6528/ab6d9b
- 380 D. Belyaev, J. Schütt, B. Ibarlucea, T. Rim, L. Baraban, and G. Cuniberti, *Nanosensors-Assisted Quantitative Analysis of Biochemical Processes in Droplets*, *Micromachines* **11**, 138 (2020).
doi: 10.3390/mi11020138
- 379 B. Krause, V. Bezugly, V. Khavrus, L. Ye, G. Cuniberti, and P. Pötschke, *Boron Doping of SWCNTs as a Way to Enhance the Thermoelectric Properties of Melt-Mixed Polypropylene/SWCNT Composites*, *Energies* **13**, 394 (2020).
doi: 10.3390/en13020394
- 378 M. A. Sierra, D. Sánchez, R. Gutierrez, G. Cuniberti, F. Domínguez-Adame, and E. Díaz, *Spin-Polarized Electron Transmission in DNA-Like Systems*, *Biomolecules* **10**, 49 (2020).
doi: 10.3390/biom10010049
- 377 A. Nickol, T. Schied, C. Heubner, M. Schneider, A. Michaelis, M. Bobeth, and G. Cuniberti, *GITT Analysis of Lithium Insertion Cathodes for Determining the Lithium Diffusion Coefficient at Low Temperature: Challenges and Pitfalls*, *J Electrochem Soc* **167**, 90546 (2020).
doi: 10.1149/1945-7111/ab9404
- 376 E. Mervinetsky, I. Alshanski, K. K. Tadi, M. Hurevich, S. Yitzchaik, A. Dianat, J. Buchwald, R. Gutierrez, G. Cuniberti, M. Hurevich, and S. Yitzchaik, *A zinc selective oxytocin based biosensor*, *J. Mater. Chem. B* **8**, 1 (2020).
doi: 10.1039/c9tb01932d
- 375 M. Geyer, R. Gutierrez, V. Mujica, and G. Cuniberti, *Chirality-Induced Spin Selectivity in a Coarse-Grained Tight-Binding Model for Helicene*, *J. Phys. Chem. C* **123**, 27230 (2020).
doi: 10.1021/acs.jpcc.9b07764
- 374 F. Eisenhut, T. Kühne, F. García, S. Fernández, E. Guitián, D. Pérez, G. Trinquier, G. Cuniberti, C. Joachim, D. Peña, and F. Moresco, *Dodecacene Generated on Surface: Reopening of the Energy Gap*, *ACS Nano* **14**, 1011-1017 (2020).
doi: 10.1021/acsnano.9b08456
- 373 J. Jung, M. Lakatos, S. Bengs, S. Matys, J. Raff, A. Blüher, and G. Cuniberti, *S-layer protein-AuNP systems for the colorimetric detection of metal and metalloid ions in water*, *Colloids and Surfaces B: Biointerfaces* **183**, 110284 (2019).
doi: 10.1016/j.colsurfb.2019.06.014
- 372 T. Zhang, H. Qi, Z. Liao, Y. D. Horev, L. A. Panes-Ruiz, P. S. Petkov, Z. Zhang, R. Shivhare, P. Zhang, K. Liu, V. Bezugly, S. Liu, Z. Zheng, S. Mannsfeld, T. Heine, G. Cuniberti, H. Haick, E. Zschech, U. Kaiser, R. Dong, and X. Feng, *Engineering crystalline quasi-two-dimensional polyaniline thin film with enhanced electrical and chemiresistive sensing performances*, *Nature Communications* **10**, 4225 (2019).
doi: 10.1038/s41467-019-11921-3

- 371 I. Y. Sahalianov, T. M. Radchenko, V. A. Tatarenko, G. Cuniberti, and Y. I. Prylutsky, *Straintronics in graphene: Extra large electronic band gap induced by tensile and shear strains*, *Journal of Applied Physics* **126**, 5 (2019).
doi: 10.1063/1.5095600
- 370 R. Götz, K. H. Ly, P. Wrzolek, A. Dianat, A. Croy, G. Cuniberti, P. Hildebrandt, M. Schwalbe, and I. M. Weidinger, *Influence of Mesityl and Thiophene Peripheral Substituents on Surface Attachment, Redox Chemistry, and ORR Activity of Molecular Iron Porphyrin Catalysts on Electrodes*, *Inorganic Chemistry* **58**, 10637-10647 (2019).
doi: 10.1021/acs.inorgchem.9b00043
- 369 B. Mortazavi, M. Shahrokhi, G. Cuniberti, and X. Zhuang, *Two-Dimensional SiP, SiAs, GeP and GeAs as Promising Candidates for Photocatalytic Applications*, *Coatings* **9**, 8 (2019).
doi: 10.3390/coatings9080522
- 368 E. Mervinetsky, I. Alshanski, J. Buchwald, A. Dianat, I. Lončarić, P. Lazić, Ž. Crljen, R. Gutierrez, G. Cuniberti, M. Hurevich, and S. Yitzchaik, *Direct Assembly and Metal-Ion Binding Properties of Oxytocin Monolayer on Gold Surfaces*, *Langmuir* **35**, 34 (2019).
doi: 10.1021/acs.langmuir.9b01830
- 367 V. Bordoni, G. Reina, M. Orecchioni, G. Furesi, S. Thiele, C. Gardin, B. Zavan, G. Cuniberti, A. Bianco, M. Rauner, and L. G. Delogu, *Stimulation of bone formation by monocyte-activator functionalized graphene oxide in vivo*, *Nanoscale* **0** (2019).
doi: 10.1039/C9NR03975A
- 366 P. Zhang, S. Yang, R. Pineda-Gómez, B. Ibarlucea, J. Ma, M. R. Lohe, T. F. Akbar, L. Baraban, G. Cuniberti, and X. Feng, *Electrochemically Exfoliated High-Quality 2H-MoS₂ for Multiflake Thin Film Flexible Biosensors*, *Small* **15**, 1901265 (2019).
doi: 10.1002/smll.201901265
- 365 A. Santana-Bonilla, L. Medrano Sandonas, R. Gutierrez, and G. Cuniberti, *Exploring the write-in process in molecular Quantum Cellular Automata: A combined modeling and first-principle approach*, *Journal of Physics: Condensed Matter* **31**, 40 (2019).
doi: 10.1088/1361-648X/ab29c1/
- 364 Y. Liu, M. Nitschke, L. Stepien, V. Khavrus, V. Bezugly, and G. Cuniberti, *Ammonia Plasma-Induced n-Type Doping of Semiconducting Carbon Nanotube Films: Thermoelectric Properties and Ambient Effects*, *ACS Applied Materials and Interfaces* **11**, 24 (2019).
doi: 10.1021/acsami.9b02918
- 363 M. Schwarze, K. S. Schellhammer, K. Ortstein, J. Benduhn, C. Gaul, A. Hinderhofer, L. Perdigón Toro, R. Scholz, J. Kublitski, S. Roland, M. Lau, C. Poelking, D. Andrienko, G. Cuniberti, F. Schreiber, D. Neher, K. Vandewal, F. Ortmann, and K. Leo, *Impact of molecular quadrupole moments on the energy levels at organic heterojunctions*, *Nature Comm.* **10**, 2466 (2019).
doi: 10.1038/s41467-019-10435-2
- 362 S. Balakin, A. Missirlis, B. Klemmed, J. Lee, J. Opitz, J. S. Yeo, and G. Cuniberti, *Quantitative analysis of BMP-2 derived peptide covalently grafted onto oxidized detonation nanodiamonds*, *Carbon* (2019).
doi: 10.1016/j.carbon.2019.05.064

- 361 I. G. Gonzalez-Martinez, A. Bachmatiuk, T. Gemming, G. Cuniberti, B. Trzebicka, and M. H. Rummeli, *Room temperature single-step synthesis of metal decorated boron-rich nanowires via laser ablation*, *Nano convergence* **6**, 1 (2019).
doi: 10.1186/s40580-019-0185-2
- 360 D. Becker, B. P. Biswal, P. Kaleńczuk, N. Chandrasekhar, L. Giebeler, M. Addicoat, S. Paasch, E. Brunner, K. Leo, A. Dianat, G. Cuniberti, R. Berger, and X. Feng, *Fully sp²-Carbon-Linked Crystalline Two-Dimensional Conjugated Polymers: Insight into 2D Poly(phenylenecyanovinylene) Formation and its Optoelectronic Properties*, *Chemistry - A European Journal* **25**, 26, 6562-6568 (2019).
doi: 10.1002/chem.201806385
- 359 P. M. Martins, J. M. Ribeiro, S. Teixeira, D. Y. Petrovykh, G. Cuniberti, L. Pereira, and S. Lanceros-Méndez, *Photocatalytic microporous membrane against the increasing problem of water emerging pollutants*, *Materials* **12**, 10, 1649 (2019).
doi: 10.3390/ma12101649
- 358 D. Martinez Gutierrez, A. Di Pierro, A. Pecchia, L. M. Sandonas, R. Gutierrez, M. Bernal, B. Mortazavi, G. Cuniberti, G. Saracco, and A. Fina, *Thermal bridging of graphene nanosheets via covalent molecular junctions: A non-equilibrium Green functions-density functional tight-binding study*, *Nano Research* **12**, 4, 791 (2019).
doi: 10.1007/s12274-019-2290-2
- 357 H. Sevinçli, S. Roche, G. Cuniberti, M. Brandbyge, R. Gutierrez, and L. M. Sandonas, *Green function, quasi-classical Langevin and Kubo-Greenwood methods in quantum thermal transport*, *J. Phys.: Condensed Matter* **31**, (2019).
doi: 10.1088/1361-648X/ab119a
- 356 M. Saiz-Bretín, L. Medrano Sandonas, R. Gutierrez, G. Cuniberti, and F. Domínguez-Adame, *Impact of device geometry on electron and phonon transport in graphene nanorings*, *Phys. Rev. B* **99**, 165428 (2019).
doi: 10.1103/PhysRevB.99.165428
- 355 B. Naydenov, S. Torsney, A. S. Bonilla, A. Gualandi, L. Mengozzi, P. G. Cozzi, R. Gutierrez, G. Cuniberti, and J. J. Boland, *Mapping Conformational Changes in a Self-Assembled Two-Dimensional Molecular Network by Statistical Analysis of Conductance Images*, *Phys. Rev. Applied* **11**, 034070 (2019).
doi: 10.1103/PhysRevApplied.11.034070
- 354 L. Medrano Sandonas, Á. Rodríguez Méndez, R. Gutierrez, J. M. Ugalde, V. Mujica, and G. Cuniberti, *Selective Transmission of Phonons in Molecular Junctions with Nanoscopic Thermal Baths*, *J. Phys. Chem. C* **123**, 9680 (2019).
doi: 10.1021/acs.jpcc.8b11879
- 353 E. Mervinetsky, I. Alshanski, S. Lenfant, D. Guerin, L. Medrano Sandonas, A. Dianat, R. Gutierrez, G. Cuniberti, M. Hurevich, S. Yitzchaik, and D. Vuillaume, *Electron Transport through Self-Assembled Monolayers of Tripeptides*, *J. Phys. Chem. C* **123**, 14, 9600-9608 (2019).
doi: 10.1021/acs.jpcc.9b01082
- 352 A. C. Hansen-Dörr, L. Wilkens, A. Croy, A. Dianat, G. Cuniberti, and M. Kästner, *Combined molecular dynamics and phase-field modelling of crack propagation in defective graphene*, *Computational Materials Science* **163**, 117-126 (2019).
doi: 10.1016/j.commatsci.2019.03.028

- 351 H. H. Lin, A. Croy, R. Gutierrez, C. Joachim, and G. Cuniberti, *Current-induced rotations of molecular gears*, *J. Phys. Commun.* **3**, 2 (2019).
doi: 10.1088/2399-6528/ab0731
- 350 A. Gankin, E. Mervinetsky, I. Alshanski, J. Buchwald, A. Dianat, R. Gutierrez, G. Cuniberti, R. Sfez, and S. Yitzchaik, *ITO Work Function Tunability by Polarizable Chromophore Monolayers*, *Langmuir* **35**, 2997 (2019).
doi: 10.1021/acs.langmuir.8b03943
- 349 L. Baraban, B. Ibarlucea, E. Baek, and G. Cuniberti, *Hybrid Silicon Nanowire Devices and Their Functional Diversity*, *Advanced Science* **6**, 15 (2019).
doi: 10.1002/advs.201900522
- 348 L. M. Sandonas, R. Gutierrez, A. Pecchia, A. Croy, and G. Cuniberti, *Quantum phonon transport in nanomaterials: Combining atomistic with non-equilibrium green's function techniques*, *Entropy* **21**, 8 (2019).
doi: 10.3390/e21080735
- 347 L. Medrano Sandonas, G. Cuba-Supanta, R. Gutierrez, C. V. Landauro, J. Rojas-Tapia, and G. Cuniberti, *Doping engineering of thermoelectric transport in BNC heteronanotubes*, *Physical Chemistry Chemical Physics* **21**, 4 (2019).
doi: 10.1039/c8cp05592k
- 346 S. Balakin, N. R. Dennison, B. Klemmed, J. Spohn, G. Cuniberti, L. Römhildt, and J. Opitz, *Immobilization of detonation nanodiamonds on macroscopic surfaces*, *Applied Sciences (Switzerland)* **9**, 6 (2019).
doi: 10.3390/app9061064
- 345 D. Skidin, F. Eisenhut, M. Richter, S. Nikipar, J. Krüger, D. A. Ryndyk, R. Berger, G. Cuniberti, X. Feng, and F. Moresco, *On-surface synthesis of nitrogen-doped nanographenes with 5-7 membered rings*, *Chemical Communications* **55**, 23 (2019).
doi: 10.1039/C9CC00276F
- 344 P. S. Lee, R. Hess, J. Friedrichs, V. Haenchen, H. Eckert, G. Cuniberti, D. Rancourt, R. Krawetz, V. Hintze, M. Gelinsky, and D. Scharnweber, *Recapitulating bone development events in a customised bioreactor through interplay of oxygen tension, medium pH, and systematic differentiation approaches*, *Journal of Tissue Engineering and Regenerative Medicine* **0** (2019).
doi: 10.1002/term.2921
- 343 L. Medrano Sandonas, G. Cuba-Supanta, R. Gutierrez, C. V. Landauro, J. Rojas-Tapia, and G. Cuniberti, *Doping engineering of thermoelectric transport in BNC heteronanotubes*, *Phys. Chem. Chem. Phys.* **21**, 1904 (2019).
doi: 10.1039/C8CP05592K
- 342 S. Huang, A. Croy, V. Bezugly, and G. Cuniberti, *Stabilization of aqueous graphene dispersions utilizing a biocompatible dispersant: a molecular dynamics study*, *Physical Chemistry Chemical Physics* **21**, 24007 (2019).
doi: 10.1039/c9cp04742e
- 341 F. Eisenhut, J. Meyer, J. Krüger, R. Ohmann, G. Cuniberti, and F. Moresco, *Inducing the controlled rotation of single o-MeO-DMBI molecules anchored on Au(111)*, *Surface Science* **678**, 177 (2018).
doi: 10.1016/j.susc.2018.05.003

- 340 X. Wang, L. Baraban, A. Nguyen, J. Ge, V. R. Misko, J. Tempere, F. Nori, P. Formanek, T. Huang, G. Cuniberti, J. Fassbender, and D. Makarov, *High-Motility Visible Light-Driven Ag/AgCl Janus Micromotors*, *Small* **14**, 1803613 (2018).
doi: 10.1002/smll.201803613
- 339 H. Yang, A. Dianat, M. Bobeth, and G. Cuniberti, *Modeling of the Coadsorption of Chloride and Hydrogen Ions on Copper Electrode Surface*, *J. Electrochem. Soc.* **166**, D3042 (2018).
doi: 10.1149/2.0061901jes
- 338 T. Zhang, Z. Liao, L. M. Sandonas, A. Dianat, X. Liu, P. Xiao, I. Amin, R. Gutierrez, T. Chen, E. Zschech, G. Cuniberti, and R. Jordan, *Polymerization driven monomer passage through monolayer chemical vapour deposition graphene*, *Nature Communications* **9**, 4051 (2018).
doi: 10.1038/s41467-018-06599-y
- 337 D. Skidin, T. Erdmann, S. Nikipar, F. Eisenhut, J. Krüger, F. Günther, S. Gemming, A. Kiriy, B. Voit, D. A. Ryndyk, C. Joachim, F. Moresco, and G. Cuniberti, *Tuning the conductance of a molecular wire by the interplay of donor and acceptor units*, *Nanoscale* **10**, 17131 (2018).
doi: 10.1039/c8nr05031g
- 336 S. Yitzchaik, R. Gutierrez, G. Cuniberti, and R. Yerushalmi, *Diversification of Device Platforms by Molecular Layers; Hybrid Sensing Platforms, Monolayer Doping and Modeling*, *Langmuir* **0** (2018).
doi: 10.1021/acs.langmuir.8b02369
- 335 X. Wang, L. Baraban, V. R. Misko, F. Nori, T. Huang, G. Cuniberti, J. Fassbender, and D. Makarov, *Visible light actuated efficient exclusion between plasmonic Ag/AgCl micromotors and passive beads*, *Small* **0** (2018).
doi: 10.1002/smll.201802537
- 334 V. V. Maslyuk, R. Gutierrez, A. Dianat, V. Mujica, and G. Cuniberti, *Enhanced Magnetoresistance in Chiral Molecular Junctions*, *J. Phys. Chem. Letters* **9**, 5453 (2018).
doi: 10.1021/acs.jpcllett.8b02360
- 333 E. Díaz, F. Domínguez-Adame, R. Gutierrez, G. Cuniberti, and V. Mujica, *Thermal Decoherence and Disorder Effects on Chiral-Induced Spin Selectivity*, *J. Phys. Chem. Letters* **9**, 5753-5758 (2018).
doi: 10.1021/acs.jpcllett.8b02196
- 332 L. Medrano Sandonas, A. Croy, R. Gutierrez, and G. Cuniberti, *An Atomistic Framework for Time-Dependent Thermal Transport*, *The Journal of Physical Chemistry C* **0** (2018).
doi: 10.1021/acs.jpcc.8b06598
- 331 J. Krüger, F. Eisenhut, D. Skidin, T. Lehmann, D. A. Ryndyk, G. Cuniberti, F. García, J. M. Alonso, E. Guitián, D. Pérez, D. Peña, G. Trinquier, J. P. Malrieu, F. Moresco, and C. Joachim, *Electronic Resonances and Gap Stabilization of Higher Acenes on a Gold Surface*, *ACS Nano* **12**, 8506 (2018).
doi: 10.1021/acsnano.8b04046
- 330 C. C. Toma, A. Aloisi, V. Bordoni, R. Di Corato, M. Rauner, G. Cuniberti, L. G. Delogu, and R. Rinaldi, *Immune Profiling of Polysaccharide Submicron Vesicles*, *Biomacromolecules* **19**, 3560 (2018).
doi: 10.1021/acs.biomac.8b00832

- 329 S. D'Agostino, R. Rinaldi, G. Cuniberti, and F. Della Sala, *Density Functional Tight Binding for Quantum Plasmonics*, *The Journal of Physical Chemistry C* 0 (2018).
doi: 10.1021/acs.jpcc.8b05278
- 328 L. Baraban, G. Cuniberti, *Pioneering Nanotechnology Research for Macroscale Applications*, *Scientia* 0 (2018).
doi: 10.26320/SCIENTIA194
- 327 F. Eisenhut, J. Krüger, D. Skidin, S. Nikipar, J. M. Alonso, E. Guitián, D. Pérez, D. A. Ryndyk, D. Peña, F. Moresco, and G. Cuniberti, *Hexacene generated on passivated silicon*, *Nanoscale* **10**, 12582 (2018).
doi: 10.1039/c8nr03422b
- 326 J. Jung, A. Blüher, M. Lakatos, and G. Cuniberti, *Metal ion binding and tolerance of bacteria cells in view of sensor applications*, *Journal of Sensors and Sensor Systems* **7**, 433 (2018).
doi: 10.5194/jsss-7-433-2018
- 325 B. Naydenov, S. Torsney, A. S. Bonilla, M. El Garah, A. Ciesielski, A. Gualandi, L. Mengozzi, P. G. Cozzi, R. Gutierrez, P. Samorì, G. Cuniberti, and J. J. Boland, *Self-Assembled Two-Dimensional Supramolecular Networks Characterized by Scanning Tunneling Microscopy and Spectroscopy in Air and under Vacuum*, *Langmuir* **34**, 7698 (2018).
doi: 10.1021/acs.langmuir.8b01374
- 324 S. Klinghammer, T. Uhlig, F. Patrovsky, M. Böhm, J. Schütt, N. Pütz, L. Baraban, L. M. Eng, and G. Cuniberti, *Plasmonic Biosensor Based on Vertical Arrays of Gold Nanoantennas*, *Asc Sensors* **3**, 1392 (2018).
doi: 10.1021/acssensors.8b00315
- 323 B. Ibarlucea, L. Römhildt, F. Zörgiebel, S. Pregl, M. Vahdatzadeh, W. M. Weber, T. Mikolajick, J. Opitz, L. Baraban, and G. Cuniberti, *Gating Hysteresis as an Indicator for Silicon Nanowire FET Biosensors*, *Appl. Sci.* **8**, 950 (2018).
doi: 10.3390/app8060950
- 322 F. Wang, H. Yang, J. Zhang, P. Zhang, G. Wang, X. Zhuang, G. Cuniberti, and X. Feng, *A Dual-Stimuli-Responsive Sodium-Bromine Battery with Ultrahigh Energy Density*, *Advanced Materials* 0 (2018).
doi: 10.1002/adma.201800028
- 321 M. Kettner, V. V. Maslyuk, D. Nürenberg, J. Seibel, R. Gutierrez, G. Cuniberti, K. H. Ernst, and H. Zacharias, *Chirality-Dependent Electron Spin Filtering by Molecular Monolayers of Helicenes*, *Journal of Physical Chemistry Letters* **9**, 2025 (2018).
doi: 10.1021/acs.jpclett.8b00208
- 320 S. Teixeira, B. Magalhães, P. M. Martins, K. Kühn, L. Soler, S. Lanceros-Méndez, and G. Cuniberti, *Reusable Photocatalytic Optical Fibers for Underground, Deep-Sea, and Turbid Water Remediation*, *GLOBAL CHALLENGES* **2**, 1700124 (2018).
doi: 10.1002/gch2.201700124
- 319 S. Krompiewski, and G. Cuniberti, *Effect of Magnetic Zigzag Edges in Graphene-like Nanoribbons on the Thermoelectric Power Factor*, *Acta Physica Polonica A* **133**, 535 (2018).
doi: 10.12693/APhysPo1A.133.535

- 318 C. Gaul, S. Hutsch, M. Schwarze, K. S. Schellhammer, F. Bussolotti, S. Kera, G. Cuniberti, K. Leo, and F. Ortmann,
Insight into doping efficiency of organic semiconductors from the analysis of the density of states in n-doped C₆₀ and ZnPc,
Nature Materials **17**, 439 (2018).
doi: 10.1038/s41563-018-0030-8
- 317 S. Pregl, L. Baraban, V. Sessi, T. Mikolajick, W. M. Weber, and G. Cuniberti,
Signal and Noise of Schottky-Junction Parallel Silicon Nanowire Transducers for Biochemical Sensing,
IEEE Sens. J. **18**, 967 (2018).
doi: 10.1109/JSEN.2017.2778188
- 316 T. Lehmann, A. Croy, R. Gutiérrez, and G. Cuniberti,
Time-dependent framework for energy and charge currents in nanoscale systems,
Chem. Phys. **502**, 72 (2018).
doi: 10.1016/j.chemphys.2018.01.011
- 315 L. M. Sandonas, H. Sevinçli, R. Gutierrez, and G. Cuniberti,
First-Principle-Based Phonon Transport Properties of Nanoscale Graphene Grain Boundaries,
Advanced Sciences **1700365**, (2018).
doi: 10.1002/advs.201700365
- 314 H. Yang, R. Krause, C. Scheunert, R. Liske, B. Uhlig, A. Preusse, A. Dianat, M. Bobeth, and G. Cuniberti,
Copper Electroplating with Polyethylene Glycol II. Experimental Analysis and Determination of Model Parameters,
J. Electrochem. Soc. **165**, D13-D22 (2018).
doi: 10.1149/2.0081802jes
- 313 A. Dianat, H. Yang, M. Bobeth, and G. Cuniberti,
DFT study of interaction of additives with Cu(111) surface relevant to Cu electrodeposition,
Journal of Applied Electrochemistry **48**, 211 (2018).
doi: 10.1007/s10800-018-1150-1
- 312 D. Krychowski, S. Lipiński, and G. Cuniberti,
Spin dependent conductance of a quantum dot side attached to topological superconductors as a probe of Majorana fermion states,
Acta Physica Polnica A (2018).
doi: 10.12693/aphyspola.133.552
- 311 A. Gankin, R. Sfez, E. Mervinetsky, J. Buchwald, A. Dianat, L. Medrano Sandonas, R. Gutierrez, G. Cuniberti, and S. Yitzchaik,
Molecular and Ionic Dipole Effects on the Electronic Properties of Si-/SiO₂-Grafted Alkylamine Monolayers,
ACS Appl. Mat. Interfaces **9**, 44873-44879 (2017).
doi: 10.1021/acsmi.7b12218
- 310 B. Ibarlucea, T. Rim, C. K. Baek, J. A. De Visser, L. Baraban, and G. Cuniberti,
Nanowire sensors monitor bacterial growth kinetics and response to antibiotics,
ACS Nano **17**, 4283 (2017).
doi: 10.1039/c71c00807d
- 309 D. Skidin, O. Faizy, J. Krüger, F. Eisenhut, A. Jancarik, K. H. Nguyen, G. Cuniberti, A. Gourdon, F. Moresco, and C. Joachim,
Unimolecular Logic Gate with Classical Input by Single Gold Atoms,
ACS Nano **12**, 1139 (2017).
doi: 10.1021/acsnano.7b06650

- 308 L. A. Panes-Ruiz, M. Shaygan, Y. Fu, Y. Liu, V. Khavrus, S. Oswald, T. Gemming, L. Baraban, V. Bezugly, and G. Cuniberti,
Toward Highly Sensitive and Energy Efficient Ammonia Gas Detection with Modified Single-Walled Carbon Nanotubes at Room Temperature,
ACS Sensors **3**, 79 (2017).
doi: 10.1021/acssensors.7b00358
- 307 M. Medina-Sánchez, S. M. Weiz, A. Egunov, B. Ibarlucea, L. Baraban, G. Cuniberti, and O. G. Schmidt,
Lab-In-A-Tube: From Molecule to Cell Detection,
Proceedings **1**, 840 (2017).
doi: 10.3390/proceedings1080840
- 306 L. Römhildt, F. Zörgiebel, B. Ibarlucea, M. Vahdatzadeh, L. Baraban, G. Cuniberti, S. Pregl, W. M. Weber, T. Mikolajick, and J. Opitz,
Human thrombin detection platform using aptamers on a silicon nanowire field-effect transistor,
27th International Symposium on Power and Timing Modeling, Optimization and Simulation (IEEE PATMOS) **0** (2017).
doi: 10.1109/PATMOS.2017.8106958
- 305 F. Eisenhut, T. Lehmann, A. Viertel, D. Skidin, J. Krüger, S. Nikipar, D. A. Ryndyk, C. Joachim, S. Hecht, F. Moresco, and G. Cuniberti,
On-Surface Annulation Reaction Cascade for the Selective Synthesis of Diindenopyrene,
ACS Nano **11**, 12419 (2017).
doi: 10.1021/acsnano.7b06459
- 304 B. Ibarlucea, L. Baraban, G. Cuniberti, K. Kim, T. Rim, C. K. Baek, A. Ascoli, and R. Tetzlaff,
Gap engineering for improved control of memristor nanosensors,
European Conference on Circuit Theory and Design (IEEE ECCTD) **0** (2017).
doi: 10.1109/ECCTD.2017.8093293
- 303 S. Krompiewski, and G. Cuniberti,
Edge magnetism impact on electrical conductance and thermoelectric properties of graphenelike nanoribbons,
Physical Review B **96**, 155447 (2017).
doi: 10.1103/physrevb.96.155447
- 302 D. Y. Jeon, T. Baldau, S. J. Park, S. Pregl, L. Baraban, G. Cuniberti, T. Mikolajick, and W. M. Weber,
In-depth electrical characterization of carrier transport in ambipolar Si-NW Schottky-barrier FETs,
IEEE ESSDERC **0** (2017).
doi: 10.1109/ESSDERC.2017.8066652
- 301 E. Baek, T. Rim, J. Schütt, C. K. Baek, K. Kim, L. Baraban, and G. Cuniberti,
Negative photoconductance in heavily doped Si nanowire field-effect transistors,
Nano Letters **17**, 6727 (2017).
doi: 10.1021/acs.nanolett.7b02788
- 300 E. Díaz, R. Gutiérrez, C. Gaul, G. Cuniberti, and F. Domínguez-Adame,
Coherent spin dynamics in a helical arrangement of molecular dipoles,
AIMS Materials Science **4**, 1052 (2017).
doi: 10.3934/matricsci.2017.5.1052
- 299 L. Medrano Sandonas, G. Cuba-Supanta, R. Gutierrez, A. Dianat, C. V. Landauro, and G. Cuniberti,
Enhancement of thermal transport properties of asymmetric Graphene/hBN nanoribbon heterojunctions by substrate engineering,
Carbon **124**, 642 (2017).
doi: 10.1016/j.carbon.2017.09.025

- 298 J. Krüger, F. Eisenhut, T. Lehmann, J. M. Alonso, J. Meyer, D. Skidin, R. Ohmann, D. A. Ryndyk, D. Pérez, E. Guitián, D. Peña, F. Moresco, and G. Cuniberti,
Molecular Self-Assembly Driven by On-Surface Reduction: Anthracene and Tetracene on Au(111),
J. Phys. Chem. C **121**, 20353 (2017).
doi: 10.1021/acs.jpcc.7b06131
- 297 M. E. Garah, E. Borré, A. Ciesielski, A. Dianat, R. Gutierrez, G. Cuniberti, S. Bellemin-Lapponnaz, M. Mauro, and P. Samorì,
Light-induced contraction/expansion of one-dimensional photo-switchable metallopolymer monitored at the solid-liquid interface,
Small **13**, 1701790 (2017).
doi: 10.1002/smll.201701790
- 296 E. Mervinetsky, I. Alshanski, Y. Hamo, L. M. Sandonas, A. Dianat, J. Buchwald, R. Gutierrez, G. Cuniberti, M. Hurevich, and S. Yitzchaik,
Copper Induced Conformational Changes of Tripeptide Monolayer Based Impedimetric Biosensor,
Nature Scientific Reports **7**, 211 (2017).
doi: 10.1038/s41598-017-10288-z
- 295 S. Kraner, G. Prampolini, and G. Cuniberti,
Exciton Binding Energy in Molecular Triads,
J. Phys. Chem. C **121**, 17088 (2017).
doi: 10.1021/acs.jpcc.7b03923
- 294 J. Krüger, F. García, F. Eisenhut, D. Skidin, J. M. Alonso, E. Guitián, D. Pérez, G. Cuniberti, F. Moresco, and D. Peña,
Decacene: On-Surface Generation,
Angewandte Chemie International Edition **56**, 11945 (2017).
doi: 10.1002/anie.201706156
- 293 L. Zhao, H. Q. Ta, A. Dianat, A. Soni, A. Fediai, W. Yin, T. Gemming, B. Trzebicka, G. Cuniberti, Z. Liu, A. Bachmatiuk, and M. H. Rummeli,
In situ electron driven carbon nanopillar-fullerene transformation through Cr atom mediation,
Nano Letters **17**, 4725-4732 (2017).
doi: 10.1021/acs.nanolett.7b01406
- 292 A. Dianat, Z. Liao, M. Gall, T. Zhang, R. Gutierrez, E. Zschech, and G. Cuniberti,
Doping of graphene induced by boron/silicon substrate,
Nanotechnology **28**, 1-20 (2017).
doi: 10.1088/1361-6528/aa6ce9
- 291 P. S. Lee, H. Eckert, R. Hess, M. Gelinsky, D. Rancourt, R. Krawetz, G. Cuniberti, and D. Scharnweber,
Developing a Customized Perfusion Bioreactor Prototype with Controlled Positional Variability in Oxygen Partial Pressure for Bone and Cartilage Tissue Engineering,
Tissue Eng. C **23**, 286-297 (2017).
doi: 10.1089/ten.tec.2016.0244
- 290 Y. Fu, V. Romy, Y. Liu, B. Ibarlucea, L. Baraban, V. Khavrus, S. Oswald, A. Bachmatiuk, I. Ibrahim, M. Rummeli, T. Gemming, V. Bezugly, and G. Cuniberti,
Chemiresistive biosensors based on carbon nanotubes for label-free detection of DNA sequences derived from avian influenza virus H5N1,
Sensors and Actuators B: Chemical **249**, 691 (2017).
doi: 10.1016/j.snb.2017.04.080
- 289 V. V. Maslyuk, R. Gutierrez, and G. Cuniberti,
Spin-orbit coupling in nearly metallic chiral carbon nanotubes,
Phys. Chem. Chem. Phys. **19**, 8848-8853 (2017).
doi: 10.1039/c7cp00059f

- 288 S. Krompiewski, and G. Cuniberti,
In-Plane Edge Magnetism in Graphene-Like Nanoribbons,
Acta Physica Polnica A **4**, 828-829 (2017).
doi: 10.12693/APhysPolA.131.828
- 287 C. Yang, K. S. Schellhammer, F. Ortmann, S. Sun, R. Dong, M. Karakus, Z. Mics, M. Löffler, F. Zhang, X. Zhuang, E. Cánovas, G. Cuniberti, M. Bonn, and X. Feng,
Coordination Polymer Framework Based On-Chip Micro-Supercapacitors with AC Line-Filtering Performance,
Angewandte Chemie International Edition **56**, 3920-3924 (2017).
doi: 10.1002/anie.201700679
- 286 B. Cai, A. Dianat, R. Hübner, W. Liu, D. Wen, A. Benad, L. Sonntag, T. Gemming, G. Cuniberti, and A. Eychmüller,
Multimetallic Hierarchical Aerogels: Shape Engineering of the Building Blocks for Efficient Electrocatalysis,
Adv. Mat. **29**, 18841-18849 (2017).
doi: 10.1002/adma.201605254
- 285 Z. Liao, L. M. Sandonas, T. Zhang, M. Gall, A. Dianat, R. Gutierrez, U. Mühle, J. Gluch, R. Jordan, G. Cuniberti, and E. Zschech,
In-Situ Stretching Patterned Graphene Nanoribbons in the Transmission Electron Microscope,
Nature Scientific Reports **7**, 211 (2017).
doi: 10.1038/s41598-017-00227-3
- 284 J. Ma, J. Liu, M. Baumgarten, Y. Fu, Y. Z. Tan, K. S. Schellhammer, F. Ortmann, G. Cuniberti, H. Komber, R. Berger, K. Müllen, and X. Feng,
A Stable Saddle-Shaped Polycyclic Hydrocarbon with an Open-Shell Singlet Ground State,
Angewandte Chemie International Edition **12**, 3280-3284 (2017).
doi: 10.1002/anie.201611689
- 283 J. Russier, V. León, M. Orecchioni, E. Hirata, P. Viridis, C. Fozza, F. Sgarrella, G. Cuniberti, M. Prato, E. Vázquez, A. Bianco, and L. G. Delogu,
Few-Layer Graphene Kills Selectively Tumor Cells from Myelomonocytic Leukemia Patients,
Angewandte Chemie International Edition **56**, 3014-3019 (2017).
doi: 10.1002/anie.201700078
- 282 B. Mortazavi, O. Rahaman, M. Makaremi, A. Dianat, G. Cuniberti, and T. Rabczuk,
First-principles investigation of mechanical properties of silicene, germanene and stanene,
Physica E **87**, 228-232 (2017).
doi: 10.1016/j.physe.2016.10.047
- 281 J. Krüger, F. Eisenhut, J. M. Alonso, T. Lehmann, E. Guitián, D. Pérez, D. Skidin, F. Gamaleja, D. A. Ryndyk, C. Joachim, D. Peña, F. Moresco, and G. Cuniberti,
Imaging the Electronic Structure of On-Surface Generated Hexacene,
Chem. Commun. **53**, 1583 (2017).
doi: 10.1039/C6CC09327B
- 280 O. Rahaman, B. Mortazavi, A. Dianat, G. Cuniberti, and T. Rabczuk,
A structural insight into mechanical strength of graphene-like carbon and carbon nitride networks,
Nanotechnology **28**, 1487-1495 (2017).
doi: 10.1088/1361-6528/28/5/055707
- 279 K. Vandewal, J. Benduhn, K. S. Schellhammer, T. Vangerven, J. E. Rückert, F. Piersimoni, R. Scholz, O. Zeika, Y. Fan, S. Barlow, D. Neher, S. R. Marder, J. Manca, D. Spoltore, G. Cuniberti, and F. Ortmann,
Absorption Tails of Donor:C-60 Blends Provide Insight into Thermally Activated Charge-Transfer Processes and Polaron Relaxation,
Journal of the American Chemical Society **139**, 1699-1704 (2017).
doi: 10.1021/jacs.6b12857

- 278 R. Dong, M. Pfeiffermann, D. Skidin, F. Wang, Y. Fu, A. Narita, M. Tommasini, F. Moresco, G. Cuniberti, R. Berger, K. Müllen, and X. Feng,
Persulfurated Coronene: A New Generation of “Sulflower”,
Journal of the American Chemical Society **139**, 2168 (2017).
doi: 10.1021/jacs.6b12630
- 277 L. M. Sandonas, R. Gutierrez, A. Pecchia, G. Seifert, and G. Cuniberti,
Tuning quantum electron and phonon transport in two-dimensional materials by strain engineering: a Green function based study,
Phys. Chem. Chem. Phys. **19**, 1487-1495 (2017).
doi: 10.1039/c6cp06621f
- 276 K. S. Schellhammer, and G. Cuniberti,
Competence-Based, Research-Related Lab Courses for Materials Modeling: The Case of Organic Photovoltaics,
J. Chem. Educ. **94**, 190 (2017).
doi: 10.1021/acs.jchemed.6b00499
- 275 O. Rahaman, B. Mortazavi, A. Dianat, G. Cuniberti, and T. Rabczuk,
Metamorphosis in carbon network: From penta-graphene to biphenylene under uniaxial tension,
FlatChem **1**, 65 (2017).
doi: 10.1016/j.flatc.2016.12.001
- 274 Y. Huang, D. Wu, A. Dianat, M. Bobeth, T. Huang, Y. Mai, F. Zhang, G. Cuniberti, and X. Feng,
Bipolar nitrogen-doped graphene frameworks as high-performance cathodes for lithium ion batteries,
J. Mat. Chem. A **5**, 1588-1594 (2017).
doi: 10.1039/c6ta09161j
- 273 H. Yang, A. Dianat, M. Bobeth, and G. Cuniberti,
Copper Electroplating with Polyethylene Glycol I. An Alternative Hysteresis Model without Additive Consumption,
J. Electrochem. Soc. **164**, D196-D203 (2017).
doi: 10.1149/2.1051704jes
- 272 A. Nickel, T. Lehmann, J. Meyer, F. Eisenhut, R. Ohmann, D. A. Ryndyk, C. Joachim, F. Moresco, and G. Cuniberti,
Electronically Driven Single-Molecule Switch on Silicon Dangling Bonds,
J. Phys. Chem. C **120**, (2016).
doi: 10.1021/acs.jpcc.6b05680
- 271 H. Yu, A. Kopach, V. R. Misko, A. A. Vasylenko, D. Makarov, F. Marchesoni, F. Nori, L. Baraban, and G. Cuniberti,
Confined Catalytic Janus Swimmers in a Crowded Channel: Geometry-Driven Rectification Transients and Directional Locking,
Small **12**, 5882 (2016).
doi: 10.1002/smll.201602039
- 270 S. I. Brückner, S. Donets, A. Dianat, M. Bobeth, R. Gutiérrez, G. Cuniberti, and E. Brunner,
Probing Silica-Biomolecule Interactions by Solid-State NMR and Molecular Dynamics Simulations,
Langmuir **32**, 11698-11705 (2016).
doi: 10.1021/acs.langmuir.6b03311
- 269 B. Mortazavi, O. Rahaman, M. Makaremi, A. Dianat, G. Cuniberti, and T. Rabczuk,
Reusability of photocatalytic TiO₂ and ZnO nanoparticles immobilized in poly(vinylidene difluoride)-co-trifluoroethylene,
Appl. Surf. Science **384**, 497-504 (2016).
doi: 10.1016/j.apsusc.2016.05.073

- 268 B. Mortazavi, A. Dianat, O. Rahaman, G. Cuniberti, and T. Rabczuk, *Borophene as an anode material for Ca, Mg, Na or Li ion storage: A first-principle study*, *J. Pow. Sour.* **329**, 456-461 (2016).
doi: 10.1016/j.jpowsour.2016.08.109
- 267 M. Meyer, N. Van Binh, V. Calero, L. Baraban, J. Rogers, and G. Cuniberti, *A Stretchable and Flexible Platform for Epidermal Electronics*, *Advances in Science and Technology* **102**, 65-67 (2016).
doi: 10.4028/www.scientific.net/AST.102.65
- 266 X. Wang, F. Zhang, K. S. Schellhammer, P. Machata, F. Ortmann, G. Cuniberti, Y. Fu, J. Hunger, R. Tang, A. A. Popov, R. Berger, K. Müllen, and X. Feng, *Synthesis of NBN-Type Zigzag-Edged Polycyclic Aromatic Hydrocarbons: 1,9-Diaza-9a-boraphenalene as a Structural Motif*, *Journal of the American Chemical Society* **138**, 11606-11615 (2016).
doi: 10.1021/jacs.6b04445
- 265 A. Vild, S. Teixeira, K. Kühn, G. Cuniberti, and V. Sencadas, *Orthogonal experimental design of titanium dioxide-Poly(methyl methacrylate) electrospun nanocomposite membranes for photocatalytic applications*, *J. Environmental Chem. Eng.* **4**, 3151-3158 (2016).
doi: 10.1016/j.jece.2016.06.029
- 264 A. Fediai, D. A. Ryndyk, and G. Cuniberti, *The modular approach enables a fully ab initio simulation of the contacts between 3D and 2D materials*, *J. Phys: Condens. Matter* **28**, 3935393 (2016).
doi: 10.1088/0953-8984/28/39/395303
- 263 L. Medrano Sandonas, D. Teich, R. Gutierrez, T. Lorenz, A. Pecchia, G. Seifert, and G. Cuniberti, *Anisotropic Thermoelectric Response in Two-Dimensional Puckered Structures*, *J. Phys. Chem. C* **120**, 18841-18849 (2016).
doi: 10.1021/acs.jpcc.6b04969
- 262 A. Fediai, D. A. Ryndyk, G. Seifert, S. Mothes, M. Schroter, M. Claus, and G. Cuniberti, *Impact of incomplete metal coverage on the electrical properties of metal-CNT contacts: A large-scale ab initio study*, *Applied Physics Letters* **109**, 103101 (2016).
doi: 10.1063/1.4962439
- 261 B. Ibarlucea, T. F. Akbar, K. Kim, T. Rim, C. K. Baek, A. Ascoli, R. Tetzlaff, L. Baraban, and G. Cuniberti, *Ultrasensitive detection of Ebola matrix protein in a memristor mode*, *Nano Research* **11**, 1057 (2016).
doi: 10.1007/s12274-017-1720-2
- 260 J. Schütt, B. Ibarlucea, R. Illing, F. Zörgiebel, S. Pregl, D. Nozaki, W. M. Weber, T. Mikolajick, L. Baraban, and G. Cuniberti, *Compact nanowire sensors probe microdroplets*, *Nano Letters* **16**, 4991 (2016).
doi: 10.1021/acs.nanolett.6b01707
- 259 E. Durán-Valdeiglesias, W. Zhang, A. Noury, C. Alonso-Ramos, T. H. C. Hoang, S. Serna, X. Le Roux, E. Cassan, N. Izard, F. Sarti, U. Torrini, F. Biccari, A. Vinattieri, M. Balestrieri, A. S. Keita, H. Yang, V. Bezugly, G. Cuniberti, A. Filoramo, M. Gurioli, and L. Vivien, *Integration of Carbon Nanotubes in Silicon Strip and Slot Waveguide Micro-Ring Resonators*, *IEEE Transactions on Nanotechnology* **15**, 583 (2016).
doi: 10.1109/TNANO.2016.2556225

- 258 N. A. Almeida, P. M. Martins, S. Teixeira, J. A. Lopes da Silva, V. Sencadas, K. Kühn, G. Cuniberti, S. Lanceros-Mendez, and P. A. Marques,
TiO₂/graphene oxide immobilized in P(VDF-TrFE) electrospun membranes with enhanced visible-light-induced photocatalytic performance,
J. Mat. Science **51**, 6974 (2016).
doi: 10.1007/s10853-016-9986-4
- 257 M. Medina-Sánchez, B. Ibarlucea, N. Pérez, D. D. Karnaushenko, S. M. Weiz, L. Baraban, G. Cuniberti, and O. G. Schmidt,
High-Performance Three-Dimensional Tubular Nanomembrane Sensor for DNA Detection,
Nano Letters **16**, 4288 (2016).
doi: 10.1021/acs.nanolett.6b01337
- 256 D. Nozaki, R. Bustos-Marín, C. J. Cattena, G. Cuniberti, and H. M. Pastawski,
An efficient coarse-grained approach for the electron transport through large molecular systems under dephasing environment,
European Phys. Journal B **89**, (2016).
doi: 10.1140/epjb/e2016-70013-y
- 255 S. Pregl, A. Heinzig, L. Baraban, G. Cuniberti, T. Mikolajick, and W. M. Weber,
Printable Parallel Arrays of Si Nanowire Schottky-Barrier-FETs with Tunable Polarity for Complementary Logic,
IEEE Transactions on Nanotechnology **15**, 2542525 (2016).
doi: 10.1109/TNANO.2016.2542525
- 254 M. Khazaei, D. Ye, A. Majumder, L. Baraban, J. Opitz, and G. Cuniberti,
Non-covalent modified multi-walled carbon nanotubes: dispersion capabilities and interactions with bacteria.,
Biomedical Physics & Engineering Express **2**, 055008 (2016).
doi: 10.1088/2057-1976/2/5/055008
- 253 J. Meyer, R. Ohmann, A. Nickel, C. Toher, R. Gresser, K. Leo, D. A. Ryndyk, F. Moresco, and G. Cuniberti,
Influence of organic ligands on the line shape of the Kondo resonance,
Physical Review B **93**, (2016).
doi: 10.1103/PhysRevB.93.155118
- 252 A. Fediai, D. A. Ryndyk, G. Seifert, S. Mothes, M. Claus, M. Schröter, and G. Cuniberti,
Towards an optimal contact metal for CNTFETs,
Nanoscale **8**, 10240 (2016).
doi: 10.1039/C6NR01012A
- 251 R. Illing, C. Burkart, D. Pfitzner, D. Jungmann, L. Baraban, and G. Cuniberti,
Ecotoxicity assessment using ciliate cells in millifluidic droplets,
Biomicrofluidics **10**, 024115 (2016).
doi: 10.1063/1.4944869
- 250 J. Krüger, N. Pavlíček, J. M. Alonso, D. Pérez, E. Guitián, T. Lehmann, G. Cuniberti, A. Gourdon, G. Meyer, L. Gross, F. Moresco, and D. Peña,
Tetracene Formation by On-Surface Reduction,
ACS Nano **10**, 4538-4542 (2016).
doi: 10.1021/acs.nano.6b00505
- 249 I. G. Gonzalez-Martinez, T. Gemming, R. Mendes, A. Bachmatiuk, V. Bezugly, J. Kunstmann, J. Eckert, G. Cuniberti, and M. H. Rummeli,
In-situ Quasi-Instantaneous e-beam Driven Catalyst-Free Formation Of Crystalline Aluminum Borate Nanowires,
Nature Scientific Reports **6**, (2016).
doi: 10.1038/srep22524

- 248 S. Teixeira, R. Gurke, H. Eckert, K. Kühn, J. Fauler, and G. Cuniberti, *Photocatalytic degradation of pharmaceuticals present in conventional treated wastewater by nanoparticle suspensions*, *J. Env. Chem. Eng.* **4**, 287-292 (2016).
doi: 10.1016/j.jece.2015.10.045
- 247 M. El Garah, S. Sinn, A. Dianat, A. Santana-Bonilla, R. Gutierrez, L. De Cola, G. Cuniberti, A. Ciesielski, and P. Samorì, *Discrete polygonal supramolecular architectures of isocytosine-based Pt(II) complexes at the solution/graphite interface*, *Chem. Comm.* **52**, 11163 (2016).
doi: 10.1039/c6cc05087e
- 246 M. Lorenz-Rothe, K. S. Schellhammer, T. Jägeler-Hoheisel, R. Meerheim, S. Kraner, M. P. Hein, C. Schünemann, M. L. Tietze, M. Hummert, F. Ortmann, G. Cuniberti, C. Körner, and K. Leo, *From Fluorine to Fluorene - A Route to Thermally Stable aza-BODIPYs for Organic Solar Cell Application*, *Adv. Elect. Mat.* **2**, (2016).
doi: 10.1002/aelm.201600152
- 245 A. R. Silva, P. M. Martins, S. Teixeira, S. A. Carabineiro, K. Kuehn, G. Cuniberti, M. M. Alves, S. Lanceros-Mendez, and L. Pereira, *Ciprofloxacin wastewater treated by UVA photocatalysis: contribution of irradiated TiO₂ and ZnO nanoparticles on the final toxicity as assessed by *Vibrio fischeri**, *RSC Advances* **6**, 95494 (2016).
doi: 10.1039/c6ra19202e
- 244 M. El Garah, A. Santana Bonilla, A. Ciesielski, A. Gualandi, L. Mengozzi, A. Fiorani, M. Iurlo, M. Marcaccio, R. Gutierrez, S. Rapino, M. Calvaresi, F. Zerbetto, G. Cuniberti, P. G. Cozzi, F. Paolucci, and P. Samorì, *Molecular design driving tetraporphyrin self-assembly on graphite: a joint STM, electrochemical and computational study*, *Nanoscale* **8**, 13678 (2016).
doi: 10.1039/c6nr03424a
- 243 I. G. Gonzalez-Martinez, A. Bachmatiuk, V. Bezugly, J. Kunstmann, T. Gemming, Z. Liu, G. Cuniberti, and M. H. Rummeli, *Electron-beam induced synthesis of nanostructures: a review*, *Nanoscale* **8**, 11340 (2016).
doi: 10.1039/c6nr01941b
- 242 M. Meyer, N. Van Binh, V. Calero, L. Baraban, G. Cuniberti, and J. A. Rogers, *Imperceptible sensorics for medical monitoring*, *IEEE-NANO 0* (2016).
doi: 10.1109/NANO.2015.7388873
- 241 H. N. Le, F. Babick, Klaus Kühn, M. T. Nguyen, M. Stintz, and G. Cuniberti, *Impact of ultrasonic dispersion on the photocatalytic activity of titania aggregates*, *Beilstein Journal of Nanotechnology* **6**, 2423 (2015).
doi: 10.3762/bjnano.6.250
- 240 A. Dianat, D. A. Ryndyk, and G. Cuniberti, *Contact-dependent mechanical properties of graphene nanoribbons: An ab initio study*, *Nanotechnology* **27**, 025702 (2015).
doi: 10.1088/0957-4484/27/2/025702

- 239 S. Kraner, J. Widmer, J. Benduhn, E. Hieckmann, T. Jägeler-Hoheisel, S. Ullbrich, D. Schütze, K. Sebastian Radke, G. Cuniberti, F. Ortmann, M. Lorenz-Rothe, R. Meerheim, D. Spoltore, K. Vandewal, C. Koerner, and K. Leo,
Influence of side groups on the performance of infrared absorbing aza-BODIPY organic solar cells,
Physica Status Solidi A **212**, 2747 (2015).
doi: 10.1002/pssa.201532385
- 238 T. Lehmann, D. A. Ryndyk, and G. Cuniberti,
Thermoelectric properties of nanocarbons: Atomistic modeling,
Phys. Status Solidi A **213**, 591 (2015).
doi: 10.1002/pssa.201532610
- 237 M. El Garah, A. Dianat, A. Cadeddu, R. Gutierrez, M. Cecchini, T. R. Cook, A. Ciesielski, P. J. Stang, G. Cuniberti, and P. Samorì,
Atomically Precise Prediction of 2D Self-Assembly of Weakly Bonded Nanostructures: STM Insight into Concentration-Dependent Architectures,
Small **12**, 343 (2015).
doi: 10.1002/smll.201502957
- 236 A. Kleshchonok, R. Gutierrez, C. Joachim, and G. Cuniberti,
Photoassisted transport in silicon dangling bond wires,
Applied Physics Letters **107**, 203109 (2015).
doi: 10.1063/1.4936182
- 235 H. Yu, J. Zhu, L. Yang, B. Dai, L. Baraban, G. Cuniberti, and J. Han,
Superhydrophobic carbon nanotube/silicon carbide nanowire nanocomposites,
Materials and Design **87**, 198 (2015).
doi: 10.1016/j.matdes.2015.08.025
- 234 L. M. Sandomas, G. Cuniberti, R. Gutierrez, A. Pecchia, A. Dianat,
Thermoelectric Properties of Functionalized Graphene Grain Boundaries,
J. Self-Assembly and Molecular Electronics **3**, 1 (2015).
doi: 10.13052/jsame2245-4551.2015007
- 233 A. Gang, N. Haustein, L. Baraban, W. Weber, T. Mikolajick, J. Thiele, and G. Cuniberti,
Microfluidic alignment and trapping of 1D nanostructures - a simple fabrication route for single-nanowire field effect transistors,
RSC Advances **5**, 94702 (2015).
doi: 10.1039/C5RA20414C
- 232 D. Nozaki, Lokamani, A. Santana-Bonilla, A. Dianat, R. Gutierrez, and G. Cuniberti,
Switchable switchable negative differential resistance induced by quantum interference effects in porphyrin-based molecular junctions,
The Journal of Physical Chemistry Letters **6**, 3950 (2015).
doi: 10.1021/acs.jpclett.5b01595
- 231 A. Kleshchonok, R. Gutierrez, C. Joachim, and G. Cuniberti,
Quantum interference based Boolean gates in dangling bond loops on Si(100):H surfaces,
Nature Scientific Reports **5**, 14136 (2015).
doi: 10.1038/srep14136
- 230 M. Claus, A. Fediai, S. Mothes, A. Pacheco, D. Ryndyk, S. Blawid, G. Cuniberti, and M. Schroter,
Multi-scale modeling of metal-CNT interfaces,
IEEE **0** (2015).
doi: 10.1109/IWCE.2015.7301946

- 229 A. Hess, Q. Roode-Gutzmer, C. Heubner, M. Schneider, A. Michaelis, M. Bobeth, and G. Cuniberti, *Determination of state of charge-dependent asymmetric Butler-Volmer kinetics for Li_xCoO_2 electrode using GITT measurements*, *J. Power Sources* **299**, 156 (2015).
doi: 10.1016/j.jpowsour.2015.07.080
- 228 H. Yang, V. Bezugly, J. Kunstmann, A. Filoramo, and G. Cuniberti, *Diameter-Selective Dispersion of Carbon Nanotubes via Polymers: A Competition between Adsorption and Bundling*, *ACS Nano* **9**, 9012 (2015).
doi: 10.1021/acs.nano.5b03051
- 227 R. Ohmann, J. Meyer, A. Nickel, J. Echeverria, M. Grisolia, C. Joachim, F. Moresco, and G. Cuniberti, *Supramolecular Rotor and Translator at Work: On-Surface Movement of Single Atoms*, *ACS Nano* **9**, 8 (2015).
doi: 10.1021/acs.nano.5b03131
- 226 T. Ghane, A. Kleshchonok, R. Gutierrez, and G. Cuniberti, *Modeling of solvent effects in the electrical response of π -*, *J. Phys. Chem. C* **119**, 20201 (2015).
doi: 10.1021/acs.jpcc.5b06867
- 225 D. Karnaushenko, L. Baraban, D. Ye, I. Uguz, R. G. Mendes, M. H. Rummeli, J. A. G. De Visser, O. G. Schmidt, G. Cuniberti, and D. Makarov, *Monitoring microbial metabolites using an inductively coupled resonance circuit*, *Nature Scientific Reports* **5**, 12878 (2015).
doi: 10.1038/srep12878
- 224 H. T. Quang, A. Bachmatiuk, A. Dianat, F. Ortmann, J. Zhao, J. H. Warner, J. Eckert, G. Cuniberti, and M. H. Rummeli, *In-situ Observations of Free-standing Graphene-like Mono- and Bi-layer ZnO Membranes*, *ACS Nano* **9**, 11408 (2015).
doi: 10.1021/acs.nano.5b05481
- 223 T. Lehmann, D. A. Ryndyk, and G. Cuniberti, *Enhanced thermoelectric figure of merit in polycrystalline carbon nanostructures*, *Physical Review B* **92**, 035418 (2015).
doi: 10.1103/PhysRevB.92.035418
- 222 A. Kleshchonok, R. Gutierrez, and G. Cuniberti, *Contact effects and quantum interference in engineered dangling bond loops on silicon surfaces*, *Nanoscale* **7**, 13967 (2015).
doi: 10.1039/C5NR01251A
- 221 Z. Liao, T. Zhang, M. Gall, A. Dianat, R. Rosenkranz, R. Jordan, G. Cuniberti, and E. Zschech, *Lateral damage in graphene carved by high energy focused gallium ion beams*, *Applied Physics Letters* **107**, 013108 (2015).
doi: 10.1063/1.4926647
- 220 A. Fediai, D. A. Ryndyk, and G. Cuniberti, *Electrical characteristics of the carbon nanotube field-effect transistors with extended contacts obtained within ab-initio based model*, *IEEE* **0** (2015).
doi: 10.1109/ELNANO.2015.7146888

- 219 D. Y. Jeon, S. Pregl, S. J. Park, L. Baraban, G. Cuniberti, T. Mikolajick, and W. M. Weber, *Scaling and graphical transport-map analysis of ambipolar Schottky-barrier thin-film transistors based on a parallel array of Si-nanowires*, *Nano Letters* **15**, 4578 (2015).
doi: 10.1021/acs.nanolett.5b01188
- 218 M. E. Garah, R. C. Perone, A. S. Bonilla, S. Haar, M. Campitiello, R. Gutierrez, G. Cuniberti, S. Masiero, A. Ciesielski, and P. Samorì, *Guanosine-based hydrogen-bonded 2D scaffolds: metal-free formation of G-quartet and G-ribbon architectures at the solid/liquid interface*, *Chemical Communication* **51**, 11677 (2015).
doi: 10.1039/c5cc03197d
- 217 L. Medrano Sandomas, R. Gutierrez, A. Dianat, and G. Cuniberti, *Engineering thermal rectification in MoS2 nanoribbons: a non-equilibrium molecular dynamics study*, *RSC Advances* **5**, 54345 (2015).
doi: 10.1039/C5RA05733G
- 216 F. Krujatz, R. Illing, T. Krautwer, J. Liao, K. Helbig, K. Goy, J. Opitz, G. Cuniberti, T. Bley, and J. Weber, *Light-field-characterization in a continuous hydrogen-producing photobioreactor by optical simulation and computational fluid dynamics*, *Biotechnology and Bioengineering* **112**, 2439 (2015).
doi: 10.1002/bit.25667
- 215 D. Nozaki, J. Kunstmann, F. Zörgiebel, and G. Cuniberti, *Influence of surface charge on the transport characteristics of nanowire-field effect transistors in liquid environments*, *Applied Physics Letters* **106**, 203104 (2015).
doi: 10.1063/1.4921401
- 214 D. Karnaushenko, B. Ibarlucea, S. Lee, G. Lin, L. Baraban, S. Pregl, M. Melzer, D. Makarov, W. M. Weber, T. Mikolajick, O. G. Schmidt, and G. Cuniberti, *Light Weight and Flexible High-Performance Diagnostic Platform*, *Advanced Healthcare Materials* **4**, 1517 (2015).
doi: 10.1002/adhm.201500128
- 213 A. Gang, G. Gabernet, L. D. Renner, L. Baraban, and G. Cuniberti, *A simple two-step silane-based (bio-) receptor molecule immobilization without additional binding site passivation*, *RSC Advances* **5**, 35631 (2015).
doi: 10.1039/c5ra04469c
- 212 A. Fediai, D. A. Ryndyk, and G. Cuniberti, *Electron transport in extended carbon-nanotube/metal contacts: Ab initio based Green function method*, *Physical Review B* **91**, 1933 (2015).
doi: 10.1103/PhysRevB.91.165404
- 211 F. Ortmann, K. S. Radke, A. Günther, D. Kasemann, K. Leo, and G. Cuniberti, *Materials Meets Concepts in Molecule-based Electronics*, *Adv. Funct. Mater* **25**, 1933 (2015).
doi: 10.1002/adfm.201402334
- 210 T. Ghane, D. Nozaki, A. Dianat, A. Vladyka, R. Gutierrez, J. P. Chinta, S. Yitzchaik, M. Calame, and G. Cuniberti, *Interplay Between Mechanical and Electronic Degrees of Freedom in Stacked Molecular Junctions: From Single Molecules to Mesoscopic Nanoparticle Networks*, *The Journal of Physical Chemistry C* **119**, 6344 (2015).
doi: 10.1021/jp512524z

- 209 R. Gutierrez, and G. Cuniberti,
Spin-dependent effects in helical molecular systems with Rashba-like spin-orbit interaction,
Acta Physica Polonica A, 127 (2015).
doi: 10.12693/APhysPolA.127.185
- 208 H. Eckert, M. Bobeth, S. Teixeira, K. Kühn, and G. Cuniberti,
Modeling of photocatalytic degradation of organic components in water by nanoparticle suspension,
Chemical Engineering Journal **261**, 67 (2015).
doi: 10.1016/j.cej.2014.05.147
- 207 B. Mortazavi, G. Cuniberti, and T. Rabczuk,
Mechanical properties and thermal conductivity of graphitic carbon nitride: A molecular dynamics study,
Computational Materials Science **99**, 285 (2015).
doi: 10.1016/j.commatsci.2014.12.036
- 206 A. Gang, N. Haustein, L. Baraban, and G. Cuniberti,
Multifunctional reversibly sealable microfluidic devices for patterned material deposition approaches,
RSC Advances **5**, 216 (2015).
doi: 10.1039/c4ra15785k
- 205 J. Meyer, A. Nickel, R. Ohmann, Lokamani, C. Toher, D. A. Ryndyk, Y. Garmshausen, S. Hecht, F. Moresco,
and G. Cuniberti,
Tuning the formation of discrete coordination nanostructures,
Chemical Communications **51**, 12621 (2015).
doi: 10.1039/c5cc02723c
- 204 E. Baek, S. Pregl, M. Shaygan, L. Römhildt, W. M. Weber, T. Mikolajick, D. A. Ryndyk, L. Baraban, and G.
Cuniberti,
Optoelectronic Switching of Nanowire-based Hybrid Organic/Oxide/Semiconductor Field-Effect Transistors,
Nano Research **8**, 1229 (2014).
doi: 10.1007/s12274-014-0608-7
- 203 G. Lin, D. Makarov, M. Medina-Sánchez, M. Guix, L. Baraban, G. Cuniberti, and O. G. Schmidt,
Magnetofluidic platform for multidimensional magnetic and optical barcoding of droplets,
Lab Chip **15**, 216 (2014).
doi: 10.1039/C4LC01160K
- 202 M. Shaygan, K. Davami, N. Kheirabi, C. K. Baek, G. Cuniberti, M. Meyyappan, and J. S. Lee,
Single-crystalline CdTe nanowire field effect transistors as nanowire-based photodetector,
Phys. Chem. Chem. Phys. **16**, 22687 (2014).
doi: 10.1039/c4cp03322a
- 201 M. Bartusch, M. Hetti, D. Pospiech, M. Riedel, J. Meyer, C. Toher, V. Neu, I. Gazuz, L. S. Shagolsem, J. U.
Sommer, R. D. Hund, C. Cherif, F. Moresco, G. Cuniberti, and B. Voit,
*Innovative Molecular Design for a Volume Oriented Component Diagnostic: Modified Magnetic Nanoparticles
on High Performance Yarns for Smart Textiles*,
Adv. Eng. Mater. **16**, 1276 (2014).
doi: 10.1002/adem.201400192
- 200 C. Schmädicke, M. Poetschke, L. D. Renner, L. Baraban, M. Bobeth, and G. Cuniberti,
Copper Nanowires Synthesis by Directed Electrochemical Nanowire Assembly,
RSC Advances, 4, 46363 (2014).
doi: 10.1039/C4RA04853A
- 199 D. Nozaki, S. M. Avdoshenko, H. Sevinçli, and G. Cuniberti,
Quantum interference in thermoelectric molecular junctions: A toy model perspective,
J. Appl. Phys. **116**, 074308 (2014).
doi: 10.1063/1.4893475

- 198 A. Bachmatiuk, A. Dianat, F. Ortmann, H. T. Quang, M. O. Cichocka, I. Gonzalez-Martinez, L. Fu, B. Rellinghaus, J. Eckert, G. Cuniberti, and M. H. Rummeli, *Graphene Coatings for the Mitigation of Electron Stimulated Desorption and Fullerene Cap Formation*, *Chem. Mater.* **26**, 4998 (2014).
doi: 10.1021/cm502043x
- 197 A. Fediai, D. Ryndyk, and G. Cuniberti, *Contact properties of ultrasmall carbon nanotube transistors from Ab-initio*, *IEEE 0* (2014).
doi: 10.1109/ELNANO.2014.6873948
- 196 M. Shaygan, N. Kheirabi, K. Davami, B. Mortazavi, J. S. Lee, G. Cuniberti, and M. Meyyappan, *Annealing effect on the thermal conductivity of thermoelectric ZnTe nanowires*, *Materials Letters* **135**, 87 (2014).
doi: 10.1016/j.matlet.2014.07.114
- 195 M. Claus, A. Fediai, S. Mothes, J. Knoch, D. Ryndyk, S. Blawid, G. Cuniberti, and M. Schroter, *Towards a multiscale modeling framework for metal-CNT interfaces*, *IEEE 0* (2014).
doi: 10.1109/IWCE.2014.6865837
- 194 A. Santana Bonilla, R. Gutierrez, L. Medrano Sandonas, D. Nozaki, A. P. Bramanti, and G. Cuniberti, *Structural distortions in molecular-based quantum cellular automata: a minimal model based study*, *Phys. Chem. Chem. Phys.* **16**, 17777 (2014).
doi: 10.1039/c4cp02458c
- 193 M. Shaygan, T. Gemming, V. Bezugly, G. Cuniberti, J. S. Lee, and M. Meyyappan, *In Situ Observation of Melting Behavior of ZnTe Nanowires*, *J. Phys. Chem. C* **118**, 15061 (2014).
doi: 10.1021/jp503312z
- 192 A. M. Guo, E. Díaz, C. Gaul, R. Gutierrez, F. Domínguez-Adame, G. Cuniberti, and Q. F. Sun, *Contact effects in spin transport along double-helical molecules*, *Physical Review B* **89**, 205434 (2014).
doi: 10.1103/PhysRevB.89.205434
- 191 R. Ohmann, C. Toher, J. Meyer, A. Nickel, F. Moresco, and G. Cuniberti, *Quantum coherence of bulk electrons on metals revealed by scanning tunneling spectroscopy*, *Physical Review B* **89**, 205433 (2014).
doi: 10.1103/PhysRevB.89.205433
- 190 A. Nerowski, M. Pötschke, U. Wiesenhütter, J. Nicolai, U. Cikalova, A. Dianat, A. Erbe, J. Opitz, M. Bobeth, L. Baraban, and G. Cuniberti, *Effect of Waveform of AC Voltage on Morphology and Crystallinity of Electrochemically Assembled Platinum Nanowires*, *Langmuir* **30**, 5655 (2014).
doi: 10.1021/la5002946
- 189 B. Mortazavi, and G. Cuniberti, *Atomistic modeling of mechanical properties of polycrystalline graphene*, *Nanotechnology* **25**, 215704 (2014).
doi: 10.1088/0957-4484/25/21/215704
- 188 B. Mortazavi, and G. Cuniberti, *Mechanical properties of polycrystalline boron-nitride nanosheets*, *RSC Adv.* **4**, 19137 (2014).
doi: 10.1039/c4ra01103a

- 187 J. Kunstmann, V. Bezugly, H. Rabbel, M. H. Rümmeli, and G. Cuniberti, *Unveiling the Atomic Structure of Single-Wall Boron Nanotubes*, *Adv. Funct. Mater.* **24**, 4127-4134 (2014).
doi: 10.1002/adfm.201304146
- 186 K. S. Radke, R. Scholz, F. Ortmann, K. Leo, and G. Cuniberti, *Dynamic Effects on the Charge Transport in an Organic Near-Infrared Absorber Material*, *J. Phys. Chem. C* **118**, 6537 (2014).
doi: 10.1021/jp408574d
- 185 K. Davami, M. Shaygan, N. Kheirabi, J. Zhao, D. A. Kovalenko, M. H. Rümmeli, J. Opitz, G. Cuniberti, J. S. Lee, and M. Meyyappan, *Synthesis and characterization of carbon nanowalls on different substrates by radio frequency plasma enhanced chemical vapor deposition*, *Carbon* **72**, 372 (2014).
doi: 10.1016/j.carbon.2014.02.025
- 184 R. Müller, M. Kampschulte, T. E. Khassawna, G. Schlewitz, B. Hürter, W. Böcker, M. Bobeth, A. C. Langheinrich, C. Heiss, A. Deutsch, and G. Cuniberti, *Change of mechanical vertebrae properties due to progressive osteoporosis: combined biomechanical and finite-element analysis within a rat model*, *Med. Biol. Eng. Comput.* **52**, 405-414 (2014).
doi: 10.1007/s11517-014-1140-3
- 183 I. G. Gonzalez-Martinez, S. M. Gorantla, A. Bachmatiuk, V. Bezugly, J. Zhao, T. Gemming, J. Kunstmann, J. Eckert, G. Cuniberti, and M. H. Rümmeli, *Room Temperature in Situ Growth of B/Box Nanowires and BO_x Nanotubes*, *Nano Letters* **14**, 799 (2014).
doi: 10.1021/nl404147r
- 182 D. Nozaki, J. Kunstmann, F. Zörgiebel, S. Pregl, L. Baraban, W. M. Weber, T. Mikolajick, and G. Cuniberti, *Ionic effect on the transport characteristics of nanowire-based FETs in liquid environment*, *Nano Res.* **7**, 380 (2014).
doi: 10.1007/s12274-013-0404-9
- 181 F. M. Zörgiebel, S. Pregl, L. Römhildt, J. Opitz, W. Weber, T. Mikolajick, L. Baraban, and G. Cuniberti, *Schottky barrier-based silicon nanowire pH sensor with live sensitivity control*, *Nano Research* **7**, 263 (2014).
doi: 10.1007/s12274-013-0393-8
- 180 B. Mortazavi, M. Pötschke, and G. Cuniberti, *Multiscale modeling of thermal conductivity of polycrystalline graphene sheets*, *Nanoscale* **6**, 3344 (2014).
doi: 10.1039/c3nr06388g
- 179 H. Sevinçli, T. Lehmann, D. A. Ryndyk, and G. Cuniberti, *Comparison of electron and phonon transport in disordered semiconductor carbon nanotubes*, *Journal of Computational Electronics* **12**, 4 (2013).
doi: 10.1007/s10825-013-0539-7
- 178 L. Römhildt, C. Pahlke, F. Zörgiebel, H. G. Braun, J. Opitz, L. Baraban, and G. Cuniberti, *Patterned Biochemical Functionalization Improves Aptamer-Based Detection of Unlabeled Thrombin in a Sandwich Assay*, *ACS Appl. Mater. Interfaces* **5**, 12029 (2013).
doi: 10.1021/am4038245

- 177 T. Lehmann, D. A. Ryndyk, and G. Cuniberti,
Combined effect of strain and defects on the conductance of graphene nanoribbons,
Physical Review B **88**, 12 (2013).
doi: 10.1103/PhysRevB.88.125420
- 176 A. Majumder, M. Khazaei, J. Opitz, E. Beyer, L. Baraban, and G. Cuniberti,
Bio-functionalization of Multi-walled Carbon Nanotubes,
Phys. Chem. Chem. Phys. **15**, 17158 (2013).
doi: 10.1039/C3CP51844B
- 175 G. Lin, L. Baraban, L. Han, D. Karnaushenko, D. Makarov, G. Cuniberti, and O. G. Schmidt,
Magnetoresistive Emulsion Analyzer,
Nature Scientific Reports **3**, 2548 (2013).
doi: 10.1038/srep02548
- 174 M. Poetschke, M. Bobeth, and G. Cuniberti,
Ion Fluxes and Electro-osmotic Fluid Flow in Electrolytes around a Metallic Nanowire Tip under Large Applied ac Voltage,
Langmuir **29**, 11525 (2013).
doi: 10.1021/la401928m
- 173 T. Kubař, R. Gutiérrez, U. Kleinekathöfer, G. Cuniberti, and M. Elstner,
Modeling charge transport in DNA using multi-scale methods,
Phys. Status Solidi B **0** (2013).
doi: 10.1002/pssb.201349148
- 172 L. Römhildt, A. Gang, L. Baraban, J. Opitz, and G. Cuniberti,
High yield formation of lipid bilayer shells around silicon nanowires in aqueous solution,
Nanotechnology **24**, 355601 (2013).
doi: 10.1088/0957-4484/24/35/355601
- 171 T. Mikolajick, A. Heinzig, J. Trommer, S. Pregl, M. Grube, G. Cuniberti, and W. M. Weber,
Silicon nanowires - a versatile technology platform,
Phys. Status Solidi RRL **7**, 793 (2013).
doi: 10.1002/pssr.201307247
- 170 V. Bezugly, H. Eckert, J. Kunstmann, F. Kemmerich, H. Meskine, and G. Cuniberti,
Quantification of curvature effects in boron and carbon nanotubes: Band structures and ballistic current,
Physical Review B **87**, 245409 (2013).
doi: 10.1103/PhysRevB.87.245409
- 169 R. Gutierrez, E. Díaz, C. Gaul, T. Brumme, F. Domínguez-Adame, and G. Cuniberti,
Modeling Spin Transport in Helical Fields: Derivation of an Effective Low-Dimensional Hamiltonian,
J. Phys. Chem. C **117**, 22276 (2013).
doi: 10.1021/jp401705x
- 168 A. Dianat, N. Seriani, M. Bobeth, and G. Cuniberti,
Effects of Al-doping on the properties of Li-Mn-Ni-O cathode materials for Li-ion batteries: an ab initio study,
J. Mater. Chem. A **1**, 9273 (2013).
doi: 10.1039/c3ta11598d
- 167 S. Pregl, W. M. Weber, D. Nozaki, J. Kunstmann, L. Baraban, J. Opitz, T. Mikolajick, and G. Cuniberti,
Parallel arrays of Schottky barrier nanowire field effect transistors: Nanoscopic effects for macroscopic current output,
Nano Research **6**, 381 (2013).
doi: 10.1007/s12274-013-0315-9

- 166 A. Nerowski, J. Opitz, L. Baraban, and G. Cuniberti, *Bottom-up synthesis of ultrathin straight platinum nanowires: Electric field impact*, *Nano Research* **6**, 303 (2013).
doi: 10.1007/s12274-013-0303-0
- 165 S. M. Avdoshenko, D. Nozaki, C. Gomes Da Rocha, J. W. González, M. H. Lee, R. Gutierrez, and G. Cuniberti, *Dynamic and Electronic Transport Properties of DNA Translocation through Graphene Nanopores*, *Nano Letters* **13**, 1969 (2013).
doi: 10.1021/nl304735k
- 164 I. Ibrahim, M. H. Rummeli, N. Ranjan, B. Büchner, and G. Cuniberti, *Spatial recognition of defects and tube type in carbon nanotube field effect transistors using electrostatic force microscopy*, *Nanotechnology* **24**, 235708 (2013).
doi: 10.1088/0957-4484/24/23/235708
- 163 K. Davami, J. Pohl, M. Shaygan, N. Kheirabi, H. Faryabi, G. Cuniberti, J. S. Lee, and M. Meyyappan, *Bandgap engineering of $Cd_xZn_{1-x}Te$ nanowires*, *Nanoscale* **5**, 932 (2013).
doi: 10.1039/C2NR33284A
- 162 D. Nozaki, H. Sevinçli, S. M. Avdoshenko, R. Gutierrez, and G. Cuniberti, *A parabolic model to control quantum interference in T-shaped molecular junctions*, *Physical Chemistry Chemical Physics* **19**, 13951 (2013).
doi: 10.1039/C3CP44578J
- 161 H. Sevinçli, C. Sevik, T. Çain, and G. Cuniberti, *A bottom-up route to enhance thermoelectric figures of merit in graphene nanoribbons*, *Nature Scientific Reports* **3**, 1228 (2013).
doi: 10.1038/srep01228
- 160 A. Barreiro, F. Börrnert, S. M. Avdoshenko, B. Rellinghaus, G. Cuniberti, M. H. Rummeli, and L. M. Vandersypen, *Understanding the catalyst-free transformation of amorphous carbon into graphene by current-induced annealing*, *Nature Scientific Reports* **3**, 1115 (2013).
doi: 10.1038/srep01115
- 159 L. Baraban, R. Streubel, D. Makarov, L. Han, D. Karnaushenko, O. G. Schmidt, and G. Cuniberti, *Fuel-Free Locomotion of Janus Motors: Magnetically Induced Thermophoresis*, *ACS Nano* **7**, 1360 (2013).
doi: 10.1021/nn305726m
- 158 L. Baraban, D. Makarov, O. G. Schmidt, G. Cuniberti, P. Leiderer, and A. Erbe, *Control over Janus micromotors by the strength of a magnetic field*, *Nanoscale* **5**, 1332 (2013).
doi: 10.1039/C2NR32662K
- 157 A. Nickel, R. Ohmann, J. Meyer, M. Grisolia, C. Joachim, F. Moresco, and G. Cuniberti, *Moving Nanostructures: Pulse-Induced Positioning of Supramolecular Assemblies*, *ACS Nano* **7**, 191 (2013).
doi: 10.1021/nn303708h
- 156 H. Kleemann, R. Gutierrez, S. Avdoshenko, G. Cuniberti, K. Leo, and B. Lüssem, *Reverse breakdown behavior in organic pin-diodes comprising C60 and pentacene: Experiment and theory*, *Organic Electronics* **14**, 193 (2013).
doi: 10.1016/j.orgel.2012.11.001

- 155 I. Gonzalez-Martinez, A. Bachmatiuk, S. Gorantla, J. Kunstmann, V. Bezugly, T. Gemming, B. Büchner, G. Cuniberti, and M. H. Rummeli,
Defect assisted thermal synthesis of crystalline aluminum borate nanowires,
Journal of Applied Physics **112**, 024308 (2012).
doi: 10.1063/1.4737115
- 154 I. Ibrahim, A. Bachmatiuk, D. Grimm, A. Popov, S. Makharza, M. Knupfer, B. Büchner, G. Cuniberti, and M. H. Rummeli,
Understanding High-Yield Catalyst-Free Growth of Horizontally Aligned Single-Walled Carbon Nanotubes Nucleated by Activated C60 Species,
ACS Nano **6**, 10825 (2012).
doi: 10.1021/nn304189y
- 153 R. G. Mendes, A. Bachmatiuk, B. Büchner, G. Cuniberti, and M. H. Rummeli,
Carbon nanostructures as multi-functional drug delivery platforms,
Journal of Materials Chemistry B **1**, 401 (2012).
doi: 10.1039/C2TB00085G
- 152 H. Kleemann, R. Gutierrez, S. Avdoshenko, G. Cuniberti, K. Leo, and B. Lüssem,
A Systematic and Comparative Study of Binary Metal Catalysts for Carbon Nanotube Fabrication Using CVD and Laser Evaporation,
Fullerenes, Nanotubes and Carbon Nanostructures **21**, 273 (2012).
doi: 10.1080/1536383X.2011.613540
- 151 M. H. Lee, G. Brancolini, R. Gutiérrez, R. Di Felice, and G. Cuniberti,
Probing charge transport in oxidatively damaged DNA sequences under the influence of structural fluctuations,
Journal of Physical Chemistry B **116**, 10977 (2012).
doi: 10.1021/jp2091544
- 150 A. Nickel, J. Meyer, R. Ohmann, H. P. J. De Rouville, G. Rapenne, F. Ample, C. Joachim, G. Cuniberti, and F. Moresco,
STM manipulation of a subphthalocyanine double-wheel molecule on Au(111),
Journal of Physics: Condensed Matter **24**, 404001 (2012).
doi: 10.1088/0953-8984/24/40/404001
- 149 T. Brumme, R. Gutierrez, and G. Cuniberti,
Vibrational heating in single-molecule switches: an energy-dependent density-of-states approach,
J. Phys.: Cond. Matter **24**, 394003 (2012).
doi: 10.1088/0953-8984/24/39/394003
- 148 C. Gollub, S. Avdoshenko, R. Gutierrez, Y. Berlin, and G. Cuniberti,
Charge migration in organic materials: Can propagating charges affect the key physical quantities controlling their motion?,
Israel Journal of Chemistry **52**, 452 (2012).
doi: 10.1002/ijch.201100092
- 147 D. Nozaki, C. Gomes Da Rocha, H. M. Pastawski, and G. Cuniberti,
Disorder and dephasing effects on electron transport through conjugated molecular wires in molecular junctions,
Physical Review B **85**, 155327 (2012).
doi: 10.1103/PhysRevB.85.155327
- 146 A. Nerowski, M. Poetschke, M. Bobeth, J. Opitz, and G. Cuniberti,
Dielectrophoretic growth of Platinum nanowires: Concentration and temperature dependence of the growth velocity,
Langmuir **28**, 7498 (2012).
doi: 10.1021/la300302n

- 145 D. Nozaki, S. M. Avdoshenko, H. Sevinçli, R. Gutierrez, and G. Cuniberti, *Prediction of quantum interference in molecular junctions using a parabolic diagram: Understanding the origin of Fano and anti- resonances*, *Journal of Physics* **427**, 012013 (2012).
doi: 10.1088/1742-6596/427/1/012013
- 144 B. Song, G. Cuniberti, S. Sanvito, and H. Fang, *Nucleobase adsorbed at graphene devices: Enhance bio-sensorics*, *Applied Physics Letters* **100**, 063101 (2012).
doi: 10.1063/1.3681579
- 143 R. Gutierrez, E. Díaz, R. Naaman, and G. Cuniberti, *Spin selective transport through helical molecular systems*, *Physical Review B: Rapid Communications* **85**, 081404 (2012).
doi: 10.1103/PhysRevB.85.081404
- 142 B. Grundkötter-Stock, V. Bezugly, J. Kunstmann, G. Cuniberti, T. Frauenheim, and T. A. Niehaus, *SCC-DFTB Parametrization for Boron and Boranes*, *Journal of Chemical Theory and Computation* **8**, 1153 (2012).
doi: 10.1021/ct200722n
- 141 V. Beiu, M. Calame, G. Cuniberti, C. Gamrat, Z. Konkoli, D. Vuillaume, G. Wendin, and S. Yitzchaik, *Aspects of computing with locally connected networks*, *AIP Conf. Proc.* **1479**, 1875 (2012).
doi: 10.1063/1.4756547
- 140 S. M. Avdoshenko, C. Gomes Da Rocha, and G. Cuniberti, *Nanoscale ear drum: Graphene based nanoscale sensors*, *Nanoscale* **4**, 3168 (2012).
doi: 10.1039/C2NR30097D
- 139 M. Dimitrakopoulou, S. Gorantla, J. Thomas, T. Gemming, G. Cuniberti, B. Büchner, and M. H. Rümmeli, *Understanding the growth of amorphous SiO_2 nanofibers and crystalline binary nanoparticles produced by laser ablation*, *Nanotechnology* **23**, 035601 (2011).
doi: 10.1088/0957-4484/23/3/035601
- 138 Y. Bardavid, I. Goykhman, D. Nozaki, G. Cuniberti, and S. Yitzchaik, *Dipole assisted photo-gated switch in spiropyran grafted polyaniline nanowires*, *Journal of Physical Chemistry C* **115**, 3123 (2011).
doi: 10.1021/jp110665j
- 137 C. Wu, W. Fan, M. Gelinsky, Y. Xiao, J. Chang, T. Friis, and G. Cuniberti, *In situ preparation and protein delivery of silicate-alginate composite microspheres with core-shell structure*, *Journal of the Royal Society Interface* **8**, 1804 (2011).
doi: 10.1098/rsif.2011.0201
- 136 H. Sevinçli, W. Li, N. Mingo, G. Cuniberti, and S. Roche, *Effects of domains in phonon conduction through hybrid boron nitride and graphene sheets*, *Physical Review B* **84**, 205444 (2011).
doi: 10.1103/PhysRevB.84.205444
- 135 S. M. Avdoshenko, I. N. Ioffe, G. Cuniberti, L. Dunsch, and A. A. Popov, *Organometallic complexes of graphene: Toward atomic spintronics using a graphene web*, *ACS Nano* **5**, 9939 (2011).
doi: 10.1021/nn203719a

- 134 E. Díaz, R. Gutierrez, and G. Cuniberti,
Heat transport and thermal rectification in molecular junctions: A minimal model approach,
Physical Review B **84**, 144302 (2011).
doi: 10.1103/PhysRevB.84.144302
- 133 C. Sevik, H. Sevinçli, G. Cuniberti, and T. Çan,
Phonon engineering in carbon nanotubes by controlling defect concentration,
Nano Letters **11**, 4971 (2011).
doi: 10.1021/nl2029333
- 132 T. Brumme, O. A. Neucheva, C. Toher, R. Gutiérrez, C. Weiss, R. Temirov, A. Greuling, M. Kaczmariski, M. Rohlfing, F. S. Tautz, and G. Cuniberti,
Dynamical bistability of single-molecule junctions: A combined experimental/theoretical study of PTCD A on Ag(111),
Physical Review B **84**, 115449 (2011).
doi: 10.1103/PhysRevB.84.115449
- 131 L. E. Foa Torres, H. L. Calvo, C. G. Rocha, and G. Cuniberti,
Enhancing single-parameter quantum charge pumping in carbon-based devices,
Applied Physics Letters **99**, 092102 (2011).
doi: 10.1063/1.3630025
- 130 M. H. Rummeli, C. G. Rocha, F. Ortmann, I. Ibrahim, H. Sevincli, F. Börrnert, J. Kunstmann, A. Bachmatiuk, M. Pötschke, M. Shiraishi, M. Meyyappan, B. Büchner, S. Roche, and G. Cuniberti,
Graphene: Piecing it Together,
Advanced Materials **23**, 4471 (2011).
doi: 10.1002/adma.201101855
- 129 I. Ibrahim, A. Bachmatiuk, M. H. Rummeli, U. Wolff, A. Popov, O. Boltalina, B. Büchner, and G. Cuniberti,
Growth of catalyst-assisted and catalyst-free horizontally aligned single wall carbon nanotubes,
physica status solidi B **248**, 2467 (2011).
doi: 10.1002/pssb.201100073
- 128 J. Meyer, A. Wadewitz, Lokamani, C. Toher, R. Gresser, K. Leo, M. Riede, F. Moresco, and G. Cuniberti,
Molecules for organic electronics studied one by one,
Physical Chemistry Chemical Physics **13**, 14421 (2011).
doi: 10.1039/C1CP20999J
- 127 I. Ibrahim, A. Bachmatiuk, F. Börrnert, J. Blüher, U. Wolff, J. H. Warner, B. Büchner, G. Cuniberti, and M. H. Rummeli,
Optimizing substrate surface and catalyst conditions for high yield chemical vapor deposition grown epitaxially aligned single-walled carbon nanotubes,
Carbon **49**, 5029 (2011).
doi: 10.1016/j.carbon.2011.07.020
- 126 D. Nozaki, J. Kunstmann, F. Zörgiebel, W. M. Weber, T. Mikolajick, and G. Cuniberti,
Multiscale Modeling of nanowire-based Schottky-barrier field-effect transistors for sensor applications,
Nanotechnology **22**, 325703 (2011).
doi: 10.1088/0957-4484/22/32/325703
- 125 A. A. Popov, S. Schiemenz, S. M. Avdoshenko, S. Yang, G. Cuniberti, and L. Dunsch,
The state of asymmetric nitride clusters in endohedral fullerenes as studied by ¹⁴N-NMR spectroscopy: Experiment and theory,
Journal of Physical Chemistry C **115**, 15257 (2011).
doi: 10.1021/jp204290f

- 124 A. A. Popov, S. M. Avdoshenko, G. Cuniberti, and L. Dunsch, *Dimerization of radical-anions: Nitride clusterfullerenes versus empty fullerenes*, *Journal of Physical Chemistry Letters* **2**, 1592 (2011).
doi: 10.1021/jz200586v
- 123 T. G. Gopakumar, T. Brumme, J. Kröger, C. Toher, G. Cuniberti, and R. Berndt, *Coverage-driven electronic decoupling of Fe-Phthalocyanine from a Ag(111) substrate*, *Journal of Physical Chemistry C* **115**, 12173 (2011).
doi: 10.1021/jp2038619
- 122 T. Kawai, M. Poetschke, Y. Miyamoto, C. G. Rocha, S. Roche, and G. Cuniberti, *Mechanically-induced transport switching effect in graphene-based nanojunctions*, *Physical Review B: Rapid Communications* **83**, 241405 (2011).
doi: 10.1103/PhysRevB.83.241405
- 121 C. G. Rocha, M. Pacheco, L. E. Foa Torres, G. Cuniberti, and A. Latgé, *Transport response of carbon-based resonant cavities under time-dependent potential and magnetic fields*, *Europhysics Letters* **94**, 47002 (2011).
doi: 10.1209/0295-5075/94/47002
- 120 V. Bezugly, J. Kunstmann, B. Grundkötter-Stock, T. Frauenheim, T. Niehaus, and G. Cuniberti, *Highly conductive Boron nanotubes: Transport properties, work functions, and Structural stabilities*, *ACS Nano* **5**, 4997 (2011).
doi: 10.1021/nn201099a
- 119 C. Wu, W. Fan, M. Gelinsky, Y. Xiao, P. Simon, R. Schulze, T. Doert, Y. Luo, and G. Cuniberti, *Bioactive SrO-SiO₂/SiO₂ glass with well-ordered mesopores: Characterization, physiochemistry and biological properties*, *Acta Biomaterialia* **7**, 1797 (2011).
doi: 10.1016/j.actbio.2010.12.018
- 118 M. H. Rummeli, A. Bachmatiuk, F. Börrnert, F. Schäffel, I. Ibrahim, K. Cendrowski, G. Simha-Martynkova, D. Plachá, E. Borowiak-Palen, G. Cuniberti, and B. Büchner, *Synthesis of carbon nanotubes with and without catalyst particles*, *Nanoscale Research Letters* **6**, 303 (2011).
doi: 10.1186/1556-276X-6-303
- 117 W. Li, H. Sevinçli, S. Roche, and G. Cuniberti, *Efficient linear scaling method for computing the thermal conductivity of disordered materials*, *Physical Review B* **84**, 155416 (2011).
doi: 10.1103/PhysRevB.83.155416
- 116 C. Toher, R. Temirov, A. Greuling, F. Pump, M. Kaczmariski, G. Cuniberti, M. Rohlfing, and F. S. Tautz, *Electrical transport through a mechanically gated molecular wire*, *Physical Review B* **83**, 155402 (2011).
doi: 10.1103/PhysRevB.83.155402
- 115 J. Haskins, A. Kinaci, C. Sevik, H. Sevinçli, G. Cuniberti, and T. Çağın, *Control of thermal and electronic transport in defect-engineered graphene nanoribbons*, *ACS Nano* **5**, 3779 (2011).
doi: 10.1021/nn200114p
- 114 C. Wu, Y. Luo, G. Cuniberti, Y. Xiao, and M. Gelinsky, *Three-dimensional printing of hierarchical and tough mesoporous bioactive glass scaffolds with a controllable pore architecture, excellent mechanical strength and mineralization ability*, *Acta Biomaterialia* **7**, 2644 (2011).
doi: 10.1016/j.actbio.2011.03.009

- 113 A. Scott, A. Dianat, F. Börrnert, A. Bachmatiuk, S. Zhang, J. H. Warner, E. Borowiak-Paleń, M. Knupfer, B. Büchner, G. Cuniberti, and M. H. Rummeli,
The catalytic potential of high-k dielectrics for graphene formation,
Applied Physics Letters **98**, 073110 (2011).
doi: 10.1063/1.3556639
- 112 T. Tanabe, K. Noda, S. Miyagi, N. Kurita, S. Tanaka, J. Setzler, W. Wenzel, E. B. Starikov, and G. Cuniberti,
Resonant neutral particle emission in collisions of electrons with protonated peptides with disulfide bonds at high energies,
Chemical Physics Letters **504**, 83 (2011).
doi: 10.1016/j.cplett.2011.01.058
- 111 E. Erdogan, I. Popov, C. G. Rocha, G. Cuniberti, S. Roche, and G. Seifert,
Engineering carbon chains from mechanically stretched graphene-based materials,
Physical Review B: Rapid Communications **83**, 041401 (2011).
doi: 10.1103/PhysRevB.83.041401
- 110 M. H. Lee, S. Avdoshenko, R. Gutierrez, and G. Cuniberti,
Charge migration through DNA molecules in the presence of mismatches,
Physical Review B **82**, 155455 (2010).
doi: 10.1103/PhysRevB.82.155455
- 109 H. Kleemann, R. Gutierrez, F. Lindner, S. Avdoshenko, P. D. Manrique, B. Lüssem, G. Cuniberti, and K. Leo,
Organic Zener Diodes: Tunneling across the gap in organic semiconductor materials,
Nano Letters **10**, 4929 (2010).
doi: 10.1021/nl102916n
- 108 N. V. Grib, D. A. Ryndyk, R. Gutiérrez, and G. Cuniberti,
Distance-dependent coherent charge transport in DNA: crossover from tunneling to free propagation,
Journal of Biophysical Chemistry **1**, 77 (2010).
doi: 10.4236/jbpc.2010.12010
- 107 W. Li, H. Sevinçli, G. Cuniberti, and S. Roche,
Phonon transport in large scale carbon-based disordered materials: Implementation of an efficient order-N and real-space Kubo methodology,
Physical Review B: Rapid Communications **82**, 041410 (2010).
doi: 10.1103/PhysRevB.82.041410
- 106 P. B. Woiczikowski, T. Kuba, R. Gutiérrez, G. Cuniberti, and M. Elstner,
Structural stability versus conformational sampling in biomolecular systems: Why is the charge transfer efficiency in G4-DNA better than in double-stranded DNA?,
Journal of Chemical Physics **133**, 035103 (2010).
doi: 10.1063/1.3460132
- 105 M. H. Rummeli, A. Bachmatiuk, A. Scott, F. Börrnert, J. H. Warner, V. Hoffman, J. H. Lin, G. Cuniberti, and B. Büchner,
Direct low-temperature nanographene CVD synthesis over a dielectric insulator,
ACS Nano **4**, 4206 (2010).
doi: 10.1021/nn100971s
- 104 D. Nozaki, H. M. Pastawski, and G. Cuniberti,
Controlling the conductance of molecular wires by defect engineering,
New Journal of Physics **12**, 063004 (2010).
doi: 10.1088/1367-2630/12/6/063004

- 103 D. Nozaki, H. Sevinçli, W. Li, R. Gutiérrez, and G. Cuniberti, *Engineering the figure of merit and thermopower in single-molecule devices connected to semiconducting electrodes*, *Physical Review B* **81**, 235406 (2010).
doi: 10.1103/PhysRevB.81.235406
- 102 M. W. Shinwari, M. J. Deen, E. B. Starikov, and G. Cuniberti, *Electrical conductance in biological molecules*, *Advanced Functional Materials* **20**, 1865 (2010).
doi: 10.1002/adfm.200902066
- 101 M. Poetschke, C. G. Rocha, L. E. Foa Torres, S. Roche, and G. Cuniberti, *Modeling graphene-based nanoelectromechanical devices*, *Physical Review B* **81**, 193404 (2010).
doi: 10.1103/PhysRevB.81.193404
- 100 F. Börrnert, S. Gorantla, A. Bachmatiuk, J. H. Warner, I. Ibrahim, J. Thomas, T. Gemming, J. Eckert, G. Cuniberti, B. Büchner, and M. H. Rummeli, **in situ* observations of self-repairing single-walled carbon nanotubes*, *Physical Review B: Rapid Communications* **81**, 201401 (2010).
doi: 10.1103/PhysRevB.81.201401
- 99 C. G. Rocha, L. E. Torres, and G. Cuniberti, *ac transport in graphene-based Fabry-Perot devices*, *Physical Review B* **81**, 115435 (2010).
doi: 10.1103/PhysRevB.81.115435
- 98 H. Sevinçli, and G. Cuniberti, *Enhanced thermoelectric figure of merit in edge disordered zigzag graphene nanoribbons*, *Physical Review B* **81**, 113401 (2010).
doi: 10.1103/PhysRevB.81.113401
- 97 R. Gutiérrez, R. Caetano, P. B. Woiczikowski, T. Kubar, M. Elstner, and G. Cuniberti, *Structural fluctuations and quantum transport through DNA molecular wires: a combined molecular dynamics and model Hamiltonian approach*, *New Journal of Physics* **12**, 023022 (2010).
doi: 10.1088/1367-2630/12/2/023022
- 96 S. Gorantla, S. Avdoshenko, F. Börrnert, A. Bachmatiuk, M. Dimitrakopoulou, F. Schäffel, R. Schönfelder, J. Thomas, T. Gemming, J. H. Warner, G. Cuniberti, J. Eckert, B. Büchner, and M. H. Rummeli, *Enhanced π - π interactions between a C_{60} fullerene and a buckle bend on a double-walled carbon nanotube*, *Nano Research* **3**, 92 (2010).
doi: 10.1007/s12274-010-1012-6
- 95 M. H. Rummeli, F. Schäffel, A. Bachmatiuk, D. Adebimpe, G. Trotter, F. Börrnert, A. Scott, E. Coric, M. Sparing, B. Rellinghaus, P. G. McCormick, G. Cuniberti, M. Knupfer, L. Schultz, and B. Büchner, *Investigating the outskirts of Fe and Co catalyst particles in alumina-supported catalytic CVD carbon nanotube growth*, *ACS Nano* **4**, 1146 (2010).
doi: 10.1021/nn9016108
- 94 N. Ranjan, M. Mertig, G. Cuniberti, and W. Pompe, *Dielectrophoretic growth of metallic nanowires and microwires: theory and experiments*, *Langmuir* **26**, 552 (2010).
doi: 10.1021/la902026e

- 93 S. Tetali, M. Zaka, R. Schönfelder, A. Bachmatiuk, F. Börrnert, I. Ibrahim, J. H. Lin, G. Cuniberti, J. H. Warner, B. Büchner, and M. H. Rummeli,
Unravelling the mechanisms behind mixed catalysts for the high yield production of single-walled carbon nanotubes,
ACS Nano **3**, 3839 (2009).
doi: 10.1021/nn9012548
- 92 D. Dulič, F. Pump, S. Campidelli, P. Lavie, G. Cuniberti, and A. Filoramo,
Controlled stability of molecular junctions,
Angewandte Chemie International Edition **48**, 8273 (2009).
doi: 10.1002/anie.200902168
- 91 D. Nozaki, and G. Cuniberti,
Silicon-based molecular switch junctions,
Nano Research **2**, 648 (2009).
doi: 10.1007/s12274-009-9067-y
- 90 R. Gutiérrez, R. A. Caetano, B. P. Woiczikowski, T. Kubar, M. Elstner, and G. Cuniberti,
Charge transport through bio-molecular wires in a solvent: Bridging molecular dynamics and model Hamiltonian approaches,
Physical Review Letters **102**, 208102 (2009).
doi: 10.1103/PhysRevLett.102.208102
- 89 E. B. Starikov, A. Quintilla, C. Nganou, K. H. Lee, G. Cuniberti, and W. Wenzel,
Single-molecule DNA conductance in water solutions: Role of DNA low-frequency dynamics,
Chemical Physics Letters **467**, 369 (2009).
doi: 10.1016/j.cplett.2008.11.001
- 88 S. Lakshmi, S. Roche, and G. Cuniberti,
Spin valve effect in zigzag graphene nanoribbons by defect engineering,
Physical Review B **80**, 193404 (2009).
doi: 10.1103/PhysRevB.80.193404
- 87 D. A. Ryndyk, R. Gutiérrez, B. Song, and G. Cuniberti,
Green function techniques in the treatment of quantum transport at the molecular scale,
Springer Series in Chemical Physics **93**, 213-335 (2009).
doi: 10.1007/978-3-642-02306-4_9
- 86 P. B. Woiczikowski, T. Kuba, R. Gutiérrez, R. A. Caetano, G. Cuniberti, and M. Elstner,
Combined DFT and Landauer approach for hole transfer in DNA along classical MD trajectories,
Journal of Chemical Physics **130**, 215104 (2009).
doi: 10.1063/1.3146905
- 85 E. B. Starikov, D. Hennig, H. Yamada, R. Gutierrez, B. Nordén, and G. Cuniberti,
Screw motion of DNA duplex during translocation through pore. I. introduction of the coarse-grained model,
Biophysical Reviews and Letters **4**, 209 (2009).
doi: 10.1142/S1793048009000995
- 84 E. B. Starikov, C. Nganou, K. H. Lee, G. Cuniberti, and W. Wenzel,
Single-molecule DNA conductance in water solutions: Role of explicit water-counterion sheath and chemical modification of nucleobases,
Biophysical Reviews and Letters **4**, 231 (2009).
doi: 10.1142/S1793048009001046
- 83 D. A. Ryndyk, E. Shapir, D. Porath, A. Calzolari, R. D. Felice, and G. Cuniberti,
STM spectroscopy of single DNA molecules,
ACS Nano **3**, 1651 (2009).
doi: 10.1021/nn800238g

- 82 G. Niebler, G. Cuniberti, and T. Novotný,
Analytical calculation of the excess current in the Octavio-Tinkham-Blonder-Klapwijk theory,
Superconductor Science and Technology **22**, 085016 (2009).
doi: 10.1088/0953-2048/22/8/085016
- 81 E. B. Starikov, G. Cuniberti, and S. Tanaka,
Conformation dependence of DNA exciton parentage,
Journal of Physical Chemistry B **113**, 10428 (2009).
doi: 10.1021/jp9035869
- 80 L. E. Foa Torres, and G. Cuniberti,
AC transport in carbon-based devices: challenges and perspectives,
Comptes Rendus Physique **10**, 297 (2009).
doi: 10.1016/j.crhy.2009.05.003
- 79 L. E. Foa Torres, and G. Cuniberti,
Controlling the conductance and noise of driven carbon-based Fabry-Perot devices,
Applied Physics Letters **94**, 222103 (2009).
doi: 10.1063/1.3147865
- 78 A. Cresti, N. Nemec, B. Biel, G. Niebler, F. Triozon, G. Cuniberti, and S. Roche,
Charge transport in disordered graphene-based low dimensional materials,
Nano Research **1**, 361 (2008).
doi: 10.1007/s12274-008-8043-2
- 77 M. Bystrzejewski, R. Schönfelder, G. Cuniberti, H. Lange, A. Huczko, T. Gemming, T. Pichler, B. Büchner, and M. Rummeli,
Exposing multiple roles of $H_{2i}/sub_{2i}O$ in high-temperature enhanced carbon nanotube synthesis,
Chemistry of Materials **20**, 6586 (2008).
doi: 10.1021/cm8020676
- 76 F. Pump, R. Temirov, O. Neucheva, S. Soubatch, S. Tautz, M. Rohlfing, and G. Cuniberti,
Quantum transport through STM-lifted single PTCDA molecules,
Applied Physics A: Materials Science & Processing **93**, 335 (2008).
doi: 10.1007/s00339-008-4837-z
- 75 B. Song, M. Elstner, and G. Cuniberti,
Anomalous conductance response of DNA wires under stretching,
Nano Letters **8**, 3217 (2008).
doi: 10.1021/nl801542g
- 74 J. Zimmermann, P. Pavone, and G. Cuniberti,
Vibrational modes and low-temperature thermal properties of graphene and carbon nanotubes: A minimal force-constant model,
Physical Review B **78**, 045410 (2008).
doi: 10.1103/PhysRevB.78.045410
- 73 D. A. Ryndyk, P. D'Amico, G. Cuniberti, and K. Richter,
Charge-memory polaron effect in molecular junctions,
Physical Review B **78**, 085409 (2008).
doi: 10.1103/PhysRevB.78.085409
- 72 P. D'Amico, D. A. Ryndyk, G. Cuniberti, and K. Richter,
Charge-memory effect in a polaron model: equation-of-motion method for Green functions,
New Journal of Physics **10**, 085002 (2008).
doi: 10.1088/1367-2630/10/8/085002

- 71 T. Kubař, P. Benjamin Woiczikowski, G. Cuniberti, and M. Elstner,
Efficient calculation of charge-transfer matrix elements for hole transfer in DNA,
The Journal of Physical Chemistry B **112**, 7937 (2008).
doi: 10.1021/jp801486d
- 70 N. Nemec, K. Richter, and G. Cuniberti,
Diffusion and localization in carbon nanotubes and graphene ribbons,
New Journal of Physics **10**, 065014 (2008).
doi: 10.1088/1367-2630/10/6/065014
- 69 N. Nemec, D. Tománek, and G. Cuniberti,
Modeling extended contacts to nanotube and graphene devices,
Physical Review B **77**, 125420 (2008).
doi: 10.1103/PhysRevB.77.125420
- 68 E. Shafir, H. Cohen, A. Calzolari, C. Cavazzoni, D. A. Ryndyk, G. Cuniberti, A. Kotlyar, R. Di Felice, and D. Porath,
Electronic structure of single DNA molecules resolved by transverse scanning tunneling spectroscopy,
Nature Materials **7**, 68 (2008).
doi: 10.1038/nmat2060
- 67 D. A. Ryndyk, and G. Cuniberti,
Nonequilibrium resonant spectroscopy of molecular vibrons,
Physical Review B **76**, 155430 (2007).
doi: 10.1103/PhysRevB.76.155430
- 66 B. Song, D. A. Ryndyk, and G. Cuniberti,
Molecular junctions in the Coulomb blockade regime: rectification and nesting,
Physical Review B **76**, 045408 (2007).
doi: 10.1103/PhysRevB.76.045408
- 65 F. Pump, and G. Cuniberti,
Rectification effects in coherent transport through single molecules,
Surface Science **601**, 4109 (2007).
doi: 10.1016/j.susc.2007.04.083
- 64 N. Nemec, and G. Cuniberti,
Hofstadter butterflies of bilayer graphene,
Physical Review B: Rapid Communications **75**, 201404 (2007).
doi: 10.1103/PhysRevB.75.201404
- 63 S. Krompiewski, and G. Cuniberti,
Ballistic magnetoresistance in small-size carbon nanotubes devices,
Journal of Magnetism and Magnetic Materials **310**, 2439 (2007).
doi: 10.1016/j.jmmm.2006.10.907
- 62 R. Gutierrez, and G. Cuniberti,
Effective models for charge transport in DNA nanowires,
NanoBioTechnology: BioInspired device and materials of the future Humana Press (2007).
doi: 10.1007/978-1-59745-218-2_6
- 61 G. Cuniberti, E. Maciá, A. Rodríguez, and R. A. Römer,
Tight-binding modeling of charge migration in DNA devices,
Charge migration in DNA: perspectives from Physics, Chemistry & Biology Springer (2007).
doi: 10.1007/978-3-540-72494-0_1

- 60 M. Del Valle, R. Gutiérrez, C. Tejedor, and G. Cuniberti,
Tuning the conductance of a molecular switch,
Nature Nanotechnology **2**, 176 (2007).
doi: 10.1038/nnano.2007.38
- 59 R. Gutiérrez, S. Mohapatra, H. Cohen, D. Porath, and G. Cuniberti,
Inelastic quantum transport in a ladder model: application to DNA conduction,
Physical Review B **74**, 235105 (2006).
doi: 10.1103/PhysRevB.74.235105
- 58 N. Nemec, and G. Cuniberti,
Hofstadter butterflies of carbon nanotubes: Pseudofractality of the magnetoelectronic spectrum,
Physical Review B **74**, 165411 (2006).
doi: 10.1103/PhysRevB.74.165411
- 57 M. Del Valle, C. Tejedor, and G. Cuniberti,
Scaling of the conductance in gold nanotubes,
Physical Review B **74**, 045408 (2006).
doi: 10.1103/PhysRevB.74.045408
- 56 D. A. Ryndyk, M. Hartung, and G. Cuniberti,
Nonequilibrium molecular vibrons: An approach based on the nonequilibrium Green function technique and the self-consistent Born approximation,
Physical Review B **73**, 045420 (2006).
doi: 10.1103/PhysRevB.73.045420
- 55 S. Krompiewski, N. Nemec, and G. Cuniberti,
Spin transport in disordered single-wall carbon nanotubes contacted to ferromagnetic leads,
physica status solidi (b) **243**, 179 (2006).
doi: 10.1002/pssb.200562410
- 54 R. Gutiérrez, D. Porath, and G. Cuniberti,
DNA conduction: the issue of static disorder, dynamic fluctuations and environmental effects,
Charge Transport in Disordered Solids Wiley (2006).
doi: 10.1002/0470095067.ch12
- 53 R. Bulla, R. Gutierrez, and G. Cuniberti,
Modeling molecular conduction in DNA wires: Charge transfer theories and dissipative quantum transport,
Modern methods for theoretical physical chemistry of biopolymers Elsevier (2006).
doi: 10.1016/b978-044452220-7/50083-6
- 52 N. Nemec, D. Tománek, and G. Cuniberti,
Contact dependence of carrier injection in carbon nanotubes: An ab initio study,
Physical Review Letters **96**, 076802 (2006).
doi: 10.1103/PhysRevLett.96.076802
- 51 G. Cuniberti, G. Fagas, and K. Richter,
Introducing Molecular Electronics: A brief overview,
Lecture Notes in Physics **680**, 1 (2005).
doi: 10.1007/3-540-31514-4_1
- 50 G. Cuniberti, G. Fagas, and K. Richter (Eds.),
Introducing Molecular Electronics (book),
Lecture Notes in Physics **680**, (2005).
doi: 10.1007/b101525

- 49 M. Gheorghe, R. Gutiérrez, N. Ranjan, A. Pecchia, A. Di Carlo, and G. Cuniberti,
Vibrational effects in the linear conductance of carbon nanotubes,
Europhysics Letters **71**, 438 (2005).
doi: 10.1209/epl/i2005-10091-5
- 48 R. Gutiérrez, S. Mandal, and G. Cuniberti,
Dissipative effects in the electronic transport through DNA molecular wires,
Physical Review B **71**, 235116 (2005).
doi: 10.1103/PhysRevB.71.235116
- 47 E. Shapir, J. Yi, H. Cohen, A. B. Kotlyar, G. Cuniberti, and D. Porath,
The puzzle of contrast inversion in DNA STM imaging (issue cover),
The Journal of Physical Chemistry B (letter section) **109**, 14270 (2005).
doi: 10.1021/jp052738e
- 46 R. Gutiérrez, S. Mandal, and G. Cuniberti,
Quantum transport through a DNA wire in a dissipative environment,
Nano Letters **5**, 1093 (2005).
doi: 10.1021/nl050623g
- 45 G. A. Klein, K. Kruse, G. Cuniberti, and F. Jülicher,
Filament depolymerization by motor molecules,
Physical Review Letters **94**, 108102 (2005).
doi: 10.1103/PhysRevLett.94.108102
- 44 M. Del Valle, C. Tejedor, and G. Cuniberti,
Defective transport properties of three-terminal carbon nanotube junctions,
Physical Review B **71**, 125306 (2005).
doi: 10.1103/PhysRevB.71.125306
- 43 R. Gutierrez, and G. Cuniberti,
Conductance of molecular wires: coherent and incoherent transport (invited paper),
Proc. of the International Society for Optical Engineering (SPIE) **0** (2005).
doi: 10.1117/12.613958
- 42 Y. Calev, H. Cohen, G. Cuniberti, A. Nitzan, and D. Porath,
Tight binding description of the STM image of molecular chains,
Israel Journal of Chemistry **44**, 133 (2004).
doi: 10.1560/QC44-R70P-CEY9-X2PC
- 41 L. Craco, and G. Cuniberti,
Description of unconventional electronic transport in mesoscopic structures,
Applied Physics Letters **85**, 3104 (2004).
doi: 10.1063/1.1799236
- 40 M. Albrecht, A. Schnurpfeil, and G. Cuniberti,
From a local Green function to molecular charge transport,
physica status solidi (b) **241**, 2179 (2004).
doi: 10.1002/pssb.200404780
- 39 R. Gutierrez, S. Mandal, and G. Cuniberti,
Dissipative effects in a DNA ladder model,
Proc. of the 4th IEEE Conference on Nanotechnology **0** (2004).
doi: 10.1109/NANO.2004.1392445

- 38 S. Krompiewski, R. Gutiérrez, and G. Cuniberti,
Giant magnetoresistance of multiwall carbon nanotubes: Modeling the tube/ferromagnetic-electrode burying contact,
Physical Review B **69**, 155423 (2004).
doi: 10.1103/PhysRevB.69.155423
- 37 D. Porath, G. Cuniberti, and R. Felice,
Charge transport in DNA-based devices,
Topics in Current Chemistry **237**, 183 (2004).
doi: 10.1007/b94477
- 36 L. Bruschi, G. Cuniberti, and M. Bertau,
Model evaluation for glycolytic oscillations in yeast biotransformations of xenobiotics,
Biophysical Chemistry **109**, 413 (2004).
doi: 10.1016/j.bpc.2003.12.004
- 35 J. Yi, and G. Cuniberti,
A three terminal ring interferometer logic gate,
Annals of the New York Academy of Sciences **1006**, 306 (2003).
doi: 10.1196/annals.1292.021
- 34 J. Yi, G. Cuniberti, and M. Porto,
Transmittance anomalies of a ring with lead-positional asymmetry,
The European Physical Journal B **33**, 221 (2003).
doi: 10.1140/epjb/e2003-00160-1
- 33 M. Thorwart, M. Grifoni, G. Cuniberti, H. W. Postma, and C. Dekker,
Correlated tunneling in intramolecular carbon nanotube quantum dots,
Physical Review Letters **89**, 196402 (2002).
doi: 10.1103/PhysRevLett.89.196402
- 32 G. Cuniberti, J. Yi, and M. Porto,
Pure-carbon ring transistor: Role of topology and structure,
Applied Physics Letters **81**, 850 (2002).
doi: 10.1063/1.1497195
- 31 G. Cuniberti, L. Craco, D. Porath, and C. Dekker,
Backbone-induced semiconducting behavior in short DNA wires,
Physical Review B: Rapid Communications **65**, 241314 (2002).
doi: 10.1103/PhysRevB.65.241314
- 30 G. Cuniberti, F. Großmann, and R. Gutiérrez,
The role of contacts in molecular electronics,
Advances in Solid State Physics **42**, 133 (2002).
doi: 10.1007/3-540-45618-x_11
- 29 R. Gutierrez, G. Fagas, G. Cuniberti, F. Grossmann, R. Schmidt, and K. Richter,
Theory of an all-carbon molecular switch,
Physical Review B **65**, 113410 (2002).
doi: 10.1103/PhysRevB.65.113410
- 28 G. Cuniberti, G. Fagas, and K. Richter,
Fingerprints of mesoscopic leads in the conductance of a molecular wire,
Chemical Physics **281**, 465 (2002).
doi: 10.1016/S0301-0104(02)00341-5

- 27 G. Cuniberti, R. Gutierrez, G. Fagas, F. Grossmann, K. Richter, and R. Schmidt,
Fullerene based devices for molecular electronics,
Physica E **12**, 749 (2002).
doi: 10.1016/S1386-9477(01)00469-6
- 26 G. Fagas, G. Cuniberti, and K. Richter,
Molecular wire-nanotube interfacial effects on electron transport,
Annals of the New York Academy of Sciences **960**, 216 (2002).
doi: 10.1111/j.1749-6632.2002.tb03036.x
- 25 L. Craco, and G. Cuniberti,
Effect of the lead dimensionality over transport properties in quantum dots,
Brazilian Journal of Physics **32**, 293 (2002).
doi: 10.1590/s0103-97332002000200011
- 24 G. Cuniberti, E. De Micheli, and G. A. Viano,
Reconstructing the thermal Green functions at real times from those at imaginary times,
Communications in Mathematical Physics **216**, 59 (2001).
doi: 10.1007/s002200000324
- 23 G. Cuniberti, and L. Matassini,
Liquid markets and market liquids,
The European Physical Journal B **20**, 561 (2001).
doi: 10.1007/s100510170240
- 22 G. Cuniberti, A. Valleriani, and J. Vega,
Effects of regulation in a self-organized market,
Quantitative Finance **1**, 332 (2001).
doi: 10.1088/1469-7688/1/3/304
- 21 G. Fagas, G. Cuniberti, and K. Richter,
Electron transport in nanotube-molecular wire hybrids,
Physical Review B **63**, 045416 (2001).
doi: 10.1103/PhysRevB.63.045416
- 20 G. Cuniberti, M. Porto, and H. E. Roman,
Asset-asset interactions and clustering in financial markets,
Physica A **299**, 262 (2001).
doi: 10.1016/S0378-4371(01)00304-1
- 19 H. J. Schulz, G. Cuniberti, and P. Pieri,
Fermi liquids and Luttinger liquids,
Solid State Sciences **131**, 1 (2000).
doi: 10.1007/978-3-662-04273-1_2
- 18 M. Raberto, G. Cuniberti, M. Riani, E. Scales, F. Mainardi, and G. Servizi,
Learning short-option valuation in the presence of rare events,
International Journal of Theoretical and Applied Finance **3**, 563 (2000).
doi: 10.1142/S0219024900000590
- 17 G. Cuniberti, A. Fechner, M. Sassetti, and B. Kramer,
Frequency scaling of photo-induced tunneling,
Europhysics Letters **48**, 66 (1999).
doi: 10.1209/epl/i1999-00115-8
- 16 M. Raberto, E. Scalas, G. Cuniberti, and M. Riani,
Volatility in the Italian stock market: an empirical study,
Physica A **269**, 148 (1999).
doi: 10.1016/S0378-4371(99)00089-8

- 15 G. Cuniberti, M. Raberto, and E. Scalas,
Correlations in the bond-future market,
Physica A **269**, 90 (1999).
doi: 10.1016/S0378-4371(99)00083-7
- 14 G. Cuniberti, M. Sassetti, and B. Kramer,
AC conductance of quantum wire with electron-electron interaction,
Physical Review B **57**, 1515 (1998).
doi: 10.1103/PhysRevB.57.1515
- 13 G. Cuniberti, M. Sassetti, and B. Kramer,
Sum rule for transport in a Luttinger liquid with long range interaction in presence of an impurity,
Europhysics Letters **37**, 421 (1997).
doi: 10.1209/ep1/i1997-00166-9
- 12 M. Sassetti, G. Cuniberti, and B. Kramer,
Coulomb blockade at a tunnel junction between two quantum wires with long range interaction,
Solid State Communications **101**, 915 (1997).
doi: 10.1016/S0038-1098(97)80018-X
- 11 G. Cuniberti, M. Sassetti, and B. Kramer,
AC conductance of one dimensional, long range correlated electrons,
Physica B **227**, 256 (1996).
doi: 10.1016/0921-4526(96)00414-0
- 10 Patent: "Controlling movements of objects in liquid medium, comprises covering surface of particles with magnetic material, subjecting external magnetic direct current field and external magnetic alternating current field in liquid medium"
R. Streubel, D. Makarov, O. G. Schmidt, L. Baraban and G. Cuniberti,
DE 102012213839 B4 (2017).
- 9 Patent: "Method for growing vertically oriented single-walled carbon nanotubes with the same electronic properties and for reproducing single-walled carbon nanotubes with the same electronic properties"
V. Bezugly, E. Bezugly, V. Khavrus, D. Krylov, G. Cuniberti,
DE 102014212077 A1 (2015),
CA 2953197 A1 (2015),
CN 106458598 A (2017),
EP 3172166 A (2017),
IN 201617041488 A1 (2017),
KR 20170020909 A (2017),
JP 2017528413 A (2015),
US 2017137935 A1 (2017),
WO 2015197729 A1 (2017).
- 8 Patent: "RFID transmission method, RFID receiver unit, RFID days means and RFID system"
M. Meyer, G. Cuniberti, Nguyen Van Binh, L. Baraban,
DE 102015106322 B4 (2017).
- 7 Patent: "Method for producing boron carbide"
V. Khavrus, V. Bezugly, E. Bezugly, G. Cuniberti,
DE 102015221997 A1 (2017).
- 6 Patent: "Measuring system for testing at least two gas sensors"
G. Cuniberti, C. Schmädicke, J. Voigt, L. Baraban,
DE 102014218205 B3 (2015) and WO 2016038042 A1 (2016).

- 5 Patent: "Nanostructure device and method for producing a nanostructure device"
M. Shaygan, V. Bezugly, L. Baraban, G. Cuniberti, M. Meyyappan,
DE 102015112330 A1 (2016).
- 4 Patent: "Reactor system for culturing microorganisms and the use thereof for biochemical photosynthetic processes"
N. Haufe, J. Weber, G. Hilpmann, R. Iling, F. Krujatz, K. Helbig, S. Grützner, R. Lange, T. Bley, G. Cuniberti, S. Thierfelder, M. Mertig,
DE 102014225349 B4 (2016).
- 3 Patent: "Microfluidic flow cell, method for the synthesis of biomolecules in a microfluidic flow cell and method for manufacturing a microfluidic flow cell"
J. Thiele, G. Cuniberti,
DE 102015113887 B3 (2016).
- 2 Patent: "Messsystem zum Testen von mindestens zwei Gassensoren"
G. Cuniberti, C. Schmädicke, L. Baraban, J. Voigt,
DE 102014218205 B3 (2014).
- 1 Patent: "New calicivirus binding peptide, useful for enriching, immobilizing, detecting and/or marking caliciviruses, and for treating viral infection, preferably calicivirus infection or norovirus infection"
C. Kühn, E. Boschke, J. Opitz, G. Cuniberti, T. Bley,
DE 102011118031 B4 (2013).

Abstracts in Conferences⁴

- 499 "Hofstadter's butterfly made labs accessible via 2D-COFs?"
CHEM2Dmat (09.2021; Online)
- 498 "Electronic and Thermal Transport in Black Phosphorene tuned by Grain Boundaries and Strain"
CHEM2Dmat (09.2021; Online)
- 497 "Charge Transport Characterization in 2D COFs"
CHEM2Dmat (09.2021; Online)
- 496 "SiNW-based FETs: sensors and neurotransistors"
CODEC 2019 (12.2019; Kolkata, India)
- 495 "SiNW-based transistors with intrinsic plasticity: from artificial synapses to neurotransistors"
ICECS 20219 (11.2019; Dresden, Germany)
- 494 "The missing sense"
nanoGAGLIATO (07.2019; Gagliato, Italy)
- 493 "Cross-scale description of crack propagation in carbon fibre microstructures"
(05.2018;)
- 492 "Sensing towards the quantum limit: The convergence of molecular detection and artificial perceptrons"
TNT 2018 (09.2018; Lecce, Italy)
- 491 "Silicon nanowire devices: from a biosensor to an artificial neuron"
NISE Seminar (04.2018; MPI of Microstructure Physics)
- 490 "Non-equilibrium dynamics of quantum heat transport in nanoscale devices"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2018; Berlin, Germany)

⁴This list might not be promptly updated and as a consequence rather incomplete!

- 489 "Time-dependent framework for energy and charge currents in nanoscale systems"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2018; Berlin, Germany)
- 488 "Nanoparticles for human and environmental health"
5th CQM annual meeting (02.2018; Funchal, Madeira, Portugal)
- 487 "Kolorimetrisches Sensorprinzip zur Detektion von Wert- und Schadstoffen in waessrigen Systemen"
13. Dresdner Sensorsymposium (12.2017; Hotel Elbflorenz, Dresden, Germany)
- 486 "Time-dependent phonon transport in molecular junctions: an auxiliary-mode approach"
ECME 2017 (09.2017; Dresden, Germany)
- 485 "Polaron relaxation in organic molecules: Novel insights from charge-transfer excitons and simulations"
ECME 2017 (09.2017; Dresden, Germany)
- 484 "Label-free classification of bactericide and bacteriostatic drug effects with nanowire sensors"
ECME 2017 (08.2017; Dresden, Germany)
- 483 "Diameter-selective dispersion of carbon nanotubes via polymers: a competition between adsorption and bundling"
ECME 2017 (08.2017; Dresden, Germany)
- 482 "Neuromorphic memory and emulation of synaptic behavior by Si nanowire transistors"
ECME 2017 (08.2017; Dresden, Germany)
- 481 "Doped Semiconducting Carbon Nanotubes for Flexible Thermoelectric Applications"
ECME 2017 (08.2017; Dresden, Germany)
- 480 "Flexible platform for gas- and bio-sensing based on nitrogen doped multi-walled carbon nanotubes"
ECME 2017 (08.2017; Dresden, Germany)
- 479 "Real-time in-flow impedance sensing of microparticles using gold nanowires"
ECME 2017 (08.2017; Dresden, Germany)
- 478 "Multiplexed sensing of steroids with silicon nanowire field effect transistors"
ECME 2017 (08.2017; Dresden, Germany)
- 477 "Highly efficient ammonia sensors based on modified single walled carbon nanotubes"
ECME 2017 (08.2017; Dresden, Germany)
- 476 "Investigations on the exciton binding energy in molecular triads for organic photovoltaics"
ECME 2017 (08.2017; Dresden, Germany)
- 475 "Imaging the electronic structure of long acenes generated on-surface"
ECME 2017 (08.2017; Dresden, Germany)
- 474 "Charge Transport in Polycrystalline Structures: A Case Study for C60"
ECME 2017 (08.2017; Dresden, Germany)
- 473 "Spin Transport in Helical Systems"
ECME 2017 (08.2017; Dresden, Germany)
- 472 "Molecular switches for dangling bond circuits"
ECME 2017 (08.2017; Dresden, Germany)
- 471 "Ullmann-coupling suppressed by an intramolecular reaction: Synthesis and characterization of diindenopyrene on Au(111)"
ECME 2017 (08.2017; Dresden, Germany)
- 470 "Donor-acceptor-donor molecules for on-surface polymerization"
ECME 2017 (08.2017; Dresden, Germany)

- 469 "Increased sensitivity for optical CuSO₄ detection in aqueous systems with biofunctionalization of gold nanoparticles with SslA protein of *Sporosarcina urea*"
EnFi 2017 (08.2017; Marburg, Dresden)
- 468 "Doped Single-Walled Carbon Nanotubes for Flexible Thermoelectric Applications"
TNT 2017 (06.2017; Dresden, Germany)
- 467 "Organic Semiconductors: Fundamentals and Applications"
TNT 2017 (06.2017; Dresden, Germany)
- 466 "Mechanics with single molecules: Manipulation with the STM tip"
TNT 2017 (06.2017; Dresden, Germany)
- 465 "Compact nanowire sensors probe emulsion droplets"
TNT 2017 (06.2017; Dresden, Germany)
- 464 "Ebola biosensing with a gate controlled memristor mode"
TNT 2017 (06.2017; Dresden, Germany)
- 463 "Ultrasmall nanoparticles for bioapplications: potential in droplets based microfluidics"
TNT 2017 (06.2017; Dresden, Germany)
- 462 "Phononics in two-dimensional materials"
TNT 2017 (06.2017; Dresden, Germany)
- 461 "Multiplexed sensing of steroids with silicon nanowire field effect transistors"
TNT 2017 (06.2017; Dresden, Germany)
- 460 "Multiplexed Synaptic Modulation and Memory in Ionic Film-coated Si Nanowire Transistors"
TNT 2017 (06.2017; Dresden, Germany)
- 459 "Dresden and the first Nanocar Race"
TNT 2017 (06.2017; Dresden, Germany)
- 458 "Sensing at the nanoscale"
TNT 2017 (06.2017; Dresden, Germany)
- 457 "From atom to system: Multi-scale simulations of nanoscale devices"
TNT 2017 (06.2017; Dresden, Germany)
- 456 "Titanium surface engineering using detonation nanodiamonds towards biomedical applications"
TNT 2017 (06.2017; Dresden, Germany)
- 455 " Monte Carlo simulations of 2D molecular self-assembly"
TNT 2017 (06.2017; Dresden, Germany)
- 454 "Imaging and manipulating different supramolecular assemblies of acetylbiphenyl with a four-probe scanning tunneling microscope"
TNT 2017 (06.2017; Dresden, Germany)
- 453 "Label-free detection of DNA sequences derived from avian influenza virus H5N1 using carbon nanotubes"
TNT 2017 (06.2017; Dresden, Germany)
- 452 " Density Functional Tight Binding Method for Plasmonics"
TNT 2017 (06.2017; Dresden, Germany)
- 451 "Development of reactive biohybrid-sensor-systems for the detection of environmentally relevant resources and pollutants in aqueous systems"
TNT 2017 (06.2017; Dresden, Germany)

- 450 "Imaging the electronic structure of long acenes generated on-surface"
TNT 2017 (06.2017; Dresden, Germany)
- 449 "Doped Single-Walled Carbon Nanotubes for Flexible Thermoelectric Applications"
TNT 2017 (06.2017; Dresden, Germany)
- 448 "Computational study of building blocks of 2D polymers confined on the surface of water"
TNT 2017 (06.2017; Dresden, Germany)
- 447 "Highly efficient ammonia sensors based on modified single walled carbon nanotubes"
TNT 2017 (06.2017; Dresden, Germany)
- 446 "Real-time in-flow impedance sensing of microparticles using gold nanowires"
TNT 2017 (06.2017; Dresden, Germany)
- 445 "Asymmetry as a key factor for increasing the functionality of a molecular logic gate"
TNT 2017 (06.2017; Dresden, Germany)
- 444 "Multifunctional biosensors for lab-on-a chip systems: electronics meets microfluidics"
NanoBioMed Sardinia 2017 (06.2017; Sassari, Italy)
- 443 "Optical penetration in a flow photocatalytic reactor"
E-MRS Spring Meeting 2017 (05.2017; Strasbourg, France)
- 442 "Exploiting quantum interference in atomic and molecular junctions"
International Focus Workshop: Many paths to interference: a journey between quantum dots and single molecule junctions (04.2017; Dresden, Germany)
- 441 "Gold nanoisland-decorated TiO₂ for enhanced photocatalysis"
MATERIAIS 2017 (04.2017; Aveiro, Portugal)
- 440 "Design and Application of NIR Absorbing Donator Materials for Efficient Organic Solar Cells"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2017; Dresden, Germany)
- 439 "Construction of Polycrystalline Morphologies: A Case Study for C₆₀ and Pentacene"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2017; Dresden, Germany)
- 438 "On some Fundamentals of Disorder Effects in Organic Semiconductors"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2017; Dresden, Germany)
- 437 "Competence-Based, Research-Related Lab Courses for Materials Modeling: The Case of Organic Photovoltaics"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2017; Dresden, Germany)
- 436 "Compact Nanowire Sensors Probe Microdroplets"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2017; Dresden, Germany)
- 435 "Multiplexed sensing of small molecules with silicon nanowire field effect transistors"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2017; Dresden, Germany)
- 434 "Auxiliary-mode approach to time-dependent phonon transport"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2017; Dresden, Germany)
- 433 "Tuning quantum electron and phonon transport in 2D materials by strain engineering: a Green function based study"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2017; Dresden, Germany)
- 432 "Multiscale Modeling of Ion-Sensitive Sensor Devices"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2017; Dresden, Germany)

- 431 "STM imaging and spectroscopy of diindeno-pyrene: theoretical modeling"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2017; Dresden, Germany)
- 430 "Biosensing with plasmonic gold nanorod arrays"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2017; Dresden, Germany)
- 429 "Donor-acceptor-donor molecules for on-surface polymerization"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2017; Dresden, Germany)
- 428 "On-surface indene-formation by methyl bromide cleavage"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2017; Dresden, Germany)
- 427 "Imaging the electronic structure of on-surface generated acenes"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2017; Dresden, Germany)
- 426 "Spin Transport in Helical Systems"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2017; Dresden, Germany)
- 425 "Electron transport through the helical systems: chiral magnetoresistance effect"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2017; Dresden, Germany)
- 424 "Light Weight and Flexible High-performance Sensor Platforms for Medical Diagnostics"
CIMTEC 2016 (06.2016; Perugia, Italy)
- 423 "Reinventing Computing or: Molecular electronics is dead, long live Molecular electronics"
Annual Conference of the Leipzig School of Natural Sciences (03.2016; Leipzig, Germany)
- 422 "Charge transfer energies for organic donor acceptor pairs"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2016; Regensburg, Germany)
- 421 "Compact nanosensors probe microdroplets"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2016; Regensburg, Germany)
- 420 "How Morphology Affects the Charge Transport: A Case Study for C60"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2016; Regensburg, Germany)
- 419 "Stacking different two-dimensional materials to fabricate a high mobility transistor"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2016; Regensburg, Germany)
- 418 "Strain engineering of thermal transport in 2D grain boundaries"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2016; Regensburg, Germany)
- 417 "Growing mechanism and tip-induced switching of acetylbiphenyl on Si(100)-(2x1):H"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2016; Regensburg, Germany)
- 416 "On-surface fabrication of acenes"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2016; Regensburg, Germany)
- 415 "Mechanically strained graphene nanojunctions"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2016; Regensburg, Germany)
- 414 "Quantitative ab initio simulations of nanocarbon-metal extended contacts"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2016; Regensburg, Germany)
- 413 "Molecular switches for dangling bond circuits"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2016; Regensburg, Germany)
- 412 "Switchable negative differential resistance induced by quantum interference effects in porphyrin-based molecular junctions"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2016; Regensburg, Germany)

- 411 "Electron transport through the helical molecules in the presence of spin-orbit coupling"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2016; Regensburg, Germany)
- 410 "Reinventing Computing or: Molecular electronics is dead, long live molecular electronics!"
Perspectives in Nano Information Processing - an international conference and workshop (12.2015; Jerusalem, Israel)
- 409 "Technologietransferpotentiale aus der Materialforschung an der TU Dresden am Beispiel innovativer Beschichtungen"
Workshop of BTS Bahntechnik Sachsen at TU Dresden (11.2015; Dresden, Germany)
- 408 "Molecular electronics: beyond charge transport"
MolSimEng 2015 (09.2015; Milan, Italy)
- 407 "Molecular electronics: beyond charge transport"
13th European Conference on Molecular Electronics - ECME 2015 (09.2015; Strasbourg, France)
- 406 "Imperceptible sensorics for medical monitoring"
15th International Conference on Nanotechnology - IEEE Nano 2015 (07.2015; Rome, Italy)
- 405 "Molecular electronics: Beyond charge transport"
The Batsheva de Rothschild Seminar on Molecular Electronics 2015. 40 years later (06.2015; Jerusalem, Israel)
- 404 "Reusability of nanocomposite materials on the degradation of water pollutants"
NEREUS COST ACTION ES1403 SUMMER SCHOOL Advanced Treatment Technologies and Contaminants of Emerging Concern (07.2017; Porto, Portugal)
- 403 "Solid-state NMR, DNP, and MD investigations of the organic/inorganic interface in silica biohybrids"
ENC 2017 (03.2017; Pacific Grove, CA, USA)
- 402 "Charge transport properties of boron nanotubes"
MS & MS & TT 2015 (10.2015; Pittsburgh, PA, USA)
- 401 "Multi-Scale Modeling of Metal-CNT Interfaces"
IWCE, 18th International Workshop on Computational Electronics (09. 2015; Purdue University, IN, USA)
- 400 "STM study of molecular n-dopants for organic electronics"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2015; Berlin, Germany)
- 399 "A chrysene derivative as a promising candidate for an on-surface chemical reaction studied by LT-STM/STS"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2015; Berlin, Germany)
- 398 "Molecular dynamics simulation of the interaction of polyamines with silica substrates"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2015; Berlin, Germany)
- 397 "Charged transfer in a dynamical Landau-Zener Model: Application in QCA"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2015; Berlin, Germany)
- 396 "Substrate-Induced doping of supported graphene: an ab initio study"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2015; Berlin, Germany)
- 395 "Thermal rectification in asymmetric MoS₂ nanoribbons: a non-equilibrium molecular dynamics study"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2015; Berlin, Germany)
- 394 "Enhanced thermoelectric figure of merit in polycrystalline carbon nanostructures"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2015; Berlin, Germany)
- 393 "A supramolecular motor at work: Rotation and translation of single atoms"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2015; Berlin, Germany)

- 392 "Quantum interference in thermoelectric molecular junctions: A toy model perspective"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2015; Berlin, Germany)
- 391 "Ab-initio model of extended CNT-metal contact"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2015; Berlin, Germany)
- 390 "Quantum interference in dangling bond loops"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2015; Berlin, Germany)
- 389 "Das Labor im Computer: die unendlichen Möglichkeiten des Designs von Bauteilen auf der atomaren Skala (**invited talk**)."
5. Dresdner Werkstoffsymposium (12.2014; Westin Bellevue, Dresden)
- 388 "Silicon Nanowires FETs for Biosensor Applications (**invited talk**)."
MAM - 14 , 7th International Symposium On Macro- and Supramolecular Architectures and Materials (11.2014; Johannesburg, South Africa)
- 387 "Multiscale modelling in Advanced Materials and Devices"
The 15th edition of Trends in Nanotechnology International Conference, TNT 2014 (10.2014; Barcelona, Spain)
- 386 "Electron Transport Approaches for Organic Semiconductors (**invited talk**)."
CECAM Charge transport in organic materials (04.2014; Bremen, Germany)
- 385 "Numerical simulation and in operando measurement of the local temperature evolution in a lithium ion battery cell"
17th International Meeting on Lithium Batteries 2014 (06.2014; Como, Italien)
- 384 "Investigation of the SOC dependence of electrochemical parameters for a lithium ion battery cell by simulation of GITT measurements"
14th Ulm ElectroChemical Talks 2014 (06.2014; Ulm, Germany)
- 383 "Unconventional Computing"
Capita Selected Lecture on Nanoscience and Nanotechnology (05.2014; Dresden, Germany)
- 382 "Modelling charge and spin transport in biomolecules (**invited talk**)."
Invited Seminar talk at Westfälische Wilhelms-Universität Münster (07.2014; Münster, Germany)
- 381 "A primer on Quantum Transport"
Lecture series at Federal University of Parana (09.2014; Parana, Brazil)
- 380 "Theory on spin transport through chiral molecules"
Volkswagen Foundation meeting on "Spintronic Components Based on Chiral Molecules" (11.2014; Weizmann Institute of Science, Rehovot, Israel)
- 379 "Versatile approaches for in-flow detection of magnetic objects"
IEEE International Magnetism Conference, INTERMAG Europe 2014 (05.2014; Dresden, Germany)
- 378 "Dynamics of bulk electrons on metals revealed by scanning tunneling spectroscopy"
2014 MRS Spring Meeting & Exhibit (04.2014; San Francisco, CA, USA)
- 377 "Improving the Optical Properties and Charge Transport Parameters of Near-Infrared Absorbers"
ICSM 2014 (07.2014; Turku, Finland)
- 376 "Atomically Thin Boron: Does it exist?"
The 18th International Symposium on Boron, Borides and Related Materials (ISBB 2014) (09.2014; Honolulu, Hawaii, USA)
- 375 "Room temperature in-situ synthesis of B/BO_x nanowires and BO_x nanotubes inside a Transmission Electron Microscope"
MS & T 2014 (10.2014; Pittsburgh, PA, USA)

- 374 "Boron nanotubes: thermal stability, charge transport and chemical functionalization (**invited talk**)."
MS & T 2014 (10.2014; Pittsburgh, PA, USA)
- 373 "Enhanced thermoelectric figure of merit in polycrystalline carbon nanostructures"
International CECAM Workshop on "High performance models for charge transport in large scale materials systems" (10.2014; Bremen, Germany)
- 372 "Quantum transport in nanodevices: orbital-to-continuum models (**invited talk**)."
International CECAM Workshop on "High performance models for charge transport in large scale materials systems" (10.2014; Bremen, Germany)
- 371 "Spin selective transport through helical molecular systems (**invited talk**)."
The European Conference PHYSICS OF MAGNETISM 2014 (PM14) (06.2014; Poznan, Poland)
- 370 "Charge transport and dynamical disorder in organic materials (**invited talk**)."
E-MRS 2014 Spring Meeting (05.2014; Lille, France)
- 369 "Light-induced electrical switching of porphyrin-covered silicon nanowire FETs (**invited talk**)."
SPIE Smart Structures/NDE 2014 (03.2014; San Diego, USA)
- 368 "Switching single molecules by STM voltage pulses on the Si(100) surface"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2014; Dresden, Germany)
- 367 "Polycrystalline graphene: mechanical, electrical and thermal properties"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (04.2014; Dresden, Germany)
- 366 "Improving the Charge Transport Parameters of Near-Infrared Absorbers"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (04.2014; Dresden, Germany)
- 365 "Atomic Force Microscopy: The qPlus sensor applied to molecules on metal surfaces"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (04.2014; Dresden, Germany)
- 364 "Interaction of a Kondo impurity with its molecular ligand"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (04.2014; Dresden, Germany)
- 363 "Limitations of signal to noise ratio in Schottky barrier FET based biosensors"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (04.2014; Dresden, Germany)
- 362 "Silicon nanowire based detection of blood proteins"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (04.2014; Dresden, Germany)
- 361 "Light-induced switching mechanism of porphyrin-coated Si nanowire field effect transistors"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (04.2014; Dresden, Germany)
- 360 "Magnetoresistive Emulsion Analyzer"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (04.2014; Dresden, Germany)
- 359 "Investigation of the antimicrobial activity of well-dispersed multiwalled carbon nanotubes (MWCNT)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (04.2014; Dresden, Germany)
- 358 "Unveiling the atomic structure of single-wall boron nanotubes"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (04.2014; Dresden, Germany)
- 357 "From metal to semiconductor: an ab initio study of chemically functionalized boron nanotubes"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (04.2014; Dresden, Germany)
- 356 "Large Fluctuation of Conductance in Oligo(phenylene ethynylene)-Based Molecular Junctions"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (04.2014; Dresden, Germany)
- 355 "A Simple Graphical Model to Predict and to Control of Quantum Interference in T-shaped Molecular Junctions"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (04.2014; Dresden, Germany)

- 354 "Electronic and Structural Properties of Functionalized Nanoparticle Networks: A Multi-Scale Approach"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (04.2014; Dresden, Germany)
- 353 "Influence of structural distortions on the polarization function in molecular-based quantum cellular automata: a minimal model approach"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (04.2014; Dresden, Germany)
- 352 "Large scale ab initio study of extended metal-CNT contacts"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (04.2014; Dresden, Germany)
- 351 "Electronic structure of photosensitive molecular switches: A first-principle investigation"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (04.2014; Dresden, Germany)
- 350 "A droplet based microfluidic device for single paramecia cell trapping and viability measurements"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (04.2014; Dresden, Germany)
- 349 "A bottom-up route to enhance the thermoelectric figure of merit in graphene nanoribbons"
Workshop "Modeling Single-Molecule Junctions: Novel Spectroscopies and Control" (10.2013; Berlin, Germany)
- 348 "Comparison of electron and phonon transport in disordered carbon nanostructures"
CECAM Workshop on Nanophononics (08.2013; Bremen, Germany)
- 347 "Moving Nanostructures: Pulse Induced Positioning of Supramolecular Assemblies"
International symposium on molecular machines and motors (06.2013; CEMES CNRS, Toulouse, France)
- 346 "Introduction to carbon-based nanomaterials and effect of strain and defects on the conductance of graphene nanoribbons"
Lecture series - ITCE, Prof. Eduardo Roman (06.2013; POSTECH, Pohang, Korea)
- 345 "Combined effect of strain and defects on the conductance of graphene nanoribbons"
Seminar talk - Chemistry department, Prof. Kwang Soo Kim (05.2013; POSTECH, Pohang, Korea)
- 344 "Combined effect of strain and defects on the conductance of graphene nanoribbons"
Building blocks for carbon-based electronics: From molecules to nanotubes (04.2013; Regensburg, Germany)
- 343 "Photocatalytical degradation of antibiotics in wastewater with nanoscaled TiO₂ and UVA"
nanoPT 2013 International Conference (02.2013; Porto, Portugal)
- 342 "Photoresponse properties of ZnTe nanowire photodetectors"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2013; Regensburg, Germany)
- 341 "Bandgap engineering in CdZnTe ternary alloy nanowires"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2013; Regensburg, Germany)
- 340 "Investigations of PEEB adsorbed on metallic surfaces"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2013; Regensburg, Germany)
- 339 "Quantification of curvature effects in boron and carbon nanotubes: large errors in the zone-folding method"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2013; Regensburg, Germany)
- 338 "The Impact of energetic disorder on the charge transport in organic molecular crystals"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2013; Regensburg, Germany)
- 337 "Curvature as a Mechanism for Biomolecule Localisation in Bacterial Cells"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2013; Regensburg, Germany)
- 336 "Combined effect of vacancies and strain on the conductance of graphene nanoribbons"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2013; Regensburg, Germany)

- 335 "Mechanical strain on graphene nanoribbons in contact with metal electrodes"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2013; Regensburg, Germany)
- 334 "Spin selective transport in chiral systems"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) (03.2013; Regensburg, Germany)
- 333 "Spin crossover effect in single aza-BODIPY molecule"
FJT 2012 (03.2012; Berlin)
- 332 "Electrically induced controlled manipulation of supramolecular structures"
Berlin Symposium on Surface Science: From Reciprocal to Real Space (03.2012; Berlin)
- 331 "Pulse induced manipulation of supramolecular nanostructures"
International Conference on Nanoscience and Technology (03.2012; Paris)
- 330 "Moving molecules and nanostructures by STM"
Berlin Symposium on Surface Science (09.2012; Berlin, Germany)
- 329 "STM controlled manipulation of single molecules and molecular structures"
Dresden-Japan Workshop on molecular scale and organic electronic materials (12.2012; Dresden, Germany)
- 328 "STM controlled manipulation of single molecules and molecular structures"
3rd European Nanomanipulation Workshop (04.2012; Madrid, Spain)
- 327 "Electronic structure of Ag(100) revisited by STS"
FJT 2012 (03.2012; Regensburg)
- 326 "Imaging and manipulation of molecular orbitals on metal surfaces with scanning tunneling microscopy"
Workshop: Imaging and manipulating molecular orbitals (09.2012; Berlin)
- 325 "Spatially mapping the Kondo resonance across a magnetic molecule by scanning tunneling spectroscopy"
European Conference on Surface Science (ECOSS 29th) (09.2012; Edinburgh, Schottland)
- 324 "Functional Silicon Nanowires Devices"
German-Japanese Workshop (12.2012; Germany)
- 323 "Functional Silicon Nanowires Devices"
Freie Universitaet Berlin, Berlin (12.2012; Germany)
- 322 "Silicon nanowires sensorics"
Fraunhofer Institute ENAS, Chemnitz (09.2012; Germany)
- 321 "Silicon nanowires based biosensorics"
Fraunhofer Institute IZFP, Dresden (09.2012; Germany)
- 320 "Magnetic Janus micromotors"
workshop Micro and nano motors: challenges and perspectives, Dresden (09.2012; Germany)
- 319 "Sensors based on silicon nanowires Schottky barrier FETs"
POSTECH, ITCE (IT Convergence Engineering), Pohang (09.2012; Korea)
- 318 "Diverse approaches of biodetection in fluidic channel"
Leibniz Institute for Solid State and materials research, Dresden (06.2012; Germany)
- 317 "Silicon nanowires based biosensorics"
Aj Najah University, Nablus (03.2012; Palestine)
- 316 "Phages as a tool in receptor development for biosensing"
Deutsche Biosensorsymposium 2013 (01.2013; Germany)
- 315 "Resistance of Conductive Adhesive Joints on non-noble Surface Finishes"
35th International Spring Seminar on Electronics Technology (ISSE) 2012 (05.2012; Bad Aussee, Austria)

- 314 "Atomic resolution studies of materials and interfaces: Transmission electron microscopy"
DGM workshop "Nano-scale Materials and Advanced Characterization Techniques" (12.2012; Dresden (Fraunhofer IZFP))
- 313 "Toward Atomic Spintronics via Organometallic Complexes of Graphene"
221st ECS Meeting (05.2012; Seattle, Washington)
- 312 "Change of Microscopic Elastic Properties of Vertebrae of Rats Due to Ovariectomy and Special Diet: Finite Element Analyses and Bone Growth Simulation"
Materials Science Engineering (MSE2012) (09.2012; Darmstadt)
- 311 "Development of Microscopic Elastic Properties of Rat Vertebrae During Osteoporosis: Finite Element Analysis and Bone Growth Simulation"
BIOTEC Forum "Bioinformatics and Computational Biology" (12.2012; Dresden)
- 310 "Nanopartikel-Materialien für die Wasserbehandlung"
3. Werkstoffsymposium Dresden (12.2012; Westin Bellevue, Dresden)
- 309 "Biosensing with Silicon Nanowire FETs: From Theory to experiments"
2nd SMINT workshop (06.2012; IFW Dresden)
- 308 "Thermoelectricity in Molecular Nanostructures: pros and pros"
MAM-12 (11.2012; Tamil Nadu, India)
- 307 "Computational Modelling of Nanostructured Materials"
Ehrenkolloquium for Prof. Dr. Jürgen Schreiber (11.2012; Fraunhofer Institut für Zerstörungsfreie Prüfverfahren (IZPF), Dresden)
- 306 "Pyroelektrische Oberflächen mit desinfizierender Wirkung"
Thementage Grenz- und Oberflächentechnik (09.2012; Leipzig)
- 305 "Prediction of quantum interference in molecular junctions using a parabolic diagram"
Progress in Nonequilibrium Green's Functions V (08.2012; Jyväskylä, Finland)
- 304 "Charge migration and heat phenomena in biomolecular systems: two sides of the same medal? (**invited talk**)"
Molecular Electronics in Jerusalem (07.2012; Jerusalem, Israel)
- 303 "DNA translocation through graphene nanopores and the sequencing problem: Modeling challenges and caveats (**invited talk**)"
DNA sequencing and detection with nanopores (06.2012; Pisa, Italy)
- 302 "Development of an aptasensor based on silicon nanowire Schottky-barrier FETs"
Biosensors 2012 (05.2012; Cancun, Mexico)
- 301 "Computing Raman and IR frequencies of nanostructures: prospects to sensor applications"
Biosensors 2012 (05.2012; Cancun, Mexico)
- 300 "STM controlled manipulation of single molecules and molecular structures"
3rd European Nanomanipulation Workshop (04.2012; Barcelona, Spain)
- 299 "Nucleobase adsorbed at graphene devices: enhance bio-sensorics (BP 13.12)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Condensed Matter Section (SKM) (03.2012; (H 1058) Berlin, Germany)
- 298 "Structure determination beyond crystallinity (CPP 3.6)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Condensed Matter Section (SKM) (03.2012; (ER 270) Berlin, Germany)

- 297 "Ab initio simulations in aza-bodipy derivatives: How energetic disorder affects the charge carrier mobility in 3D systems (CPP 31.10)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Condensed Matter Section (SKM) (03.2012; (C 130) Berlin, Germany)
- 296 "Chemical surface modifications for altering electrical characteristics of silicon nanowire Schottky-barrier FETs (HL 63.4)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Condensed Matter Section (SKM) (03.2012; (EW 015) Berlin, Germany)
- 295 "Multiscale modeling of silicon nanowire FETs for sensor applications (HL 65.2)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Condensed Matter Section (SKM) (03.2012; (ER 164) Berlin, Germany)
- 294 "Effect of pH value and ionic strength on transport characteristics of nanowire FETs (HL 65.3)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Condensed Matter Section (SKM) (03.2012; (ER 164) Berlin, Germany)
- 293 "Computing Raman and infrared frequencies of nanostructures (MM 2.5)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Condensed Matter Section (SKM) (03.2012; (TC 006) Berlin, Germany)
- 292 "Metallic nanowire growth from solution using dielectrophoresis (MM 46.3)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Condensed Matter Section (SKM) (03.2012; (H 1029) Berlin, Germany)
- 291 "Boron Nanotubes: Structural stability and electronic properties (MM 49.3)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Condensed Matter Section (SKM) (03.2012; (H 1029) Berlin, Germany)
- 290 "Organometallic opto-electronically active magnetic molecules on metallic surfaces (O 56.2)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Condensed Matter Section (SKM) (03.2012; (A 053) Berlin, Germany)
- 289 "Spin crossover effect in single aza-BODIPY molecule (O 58.22)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Condensed Matter Section (SKM) (03.2012; (Poster B) Berlin, Germany)
- 288 "Tuning the electronic structure and transport properties in carbon-based devices (TT 13.7)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Condensed Matter Section (SKM) (03.2012; (Poster B) Berlin, Germany)
- 287 "Influence of disorder and dephasing events on the electron transport through conjugated molecular wires in molecular junctions (TT 32.1)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Condensed Matter Section (SKM) (03.2012; (BH 334) Berlin, Germany)
- 286 "Electron transport through helical, biimidazole-based structures (TT 44.5)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Condensed Matter Section (SKM) (03.2012; (BH 334) Berlin, Germany)
- 285 "Surface functionalisation of Silicon surfaces for electrochemical Biosensing - a nanowire based aptasensor"
Smart Surfaces 2012 (03.2012; Dublin, Ireland)
- 284 "Dielectrophoretic Growth of Nanowires"
Dresden Barkhausen Award (02.2012; Dresden, Germany)
- 283 "Dielectrophoretic Growth of Nanowires"
Dresden Barkhausen Award (02.2012; Dresden, Germany)

- 282 "A novel approach to compute Raman spectra of Silicon nanowires"
Dresden Barkhausen Award (02.2012; Dresden, Germany)
- 281 "Organometallic optoelectronically-active magnetic molecules for logic and memory"
Architecture and Design of Molecule Logic Gates and Atom Circuits (01.2012; Barcelona, Spain)
- 280 "Dynamical bistability of a single PTCDA-STM junction: A combined experimental and theoretical study"
Architecture and Design of Molecule Logic Gates and Atom Circuits (01.2012; Barcelona, Spain)
- 279 "Charge migration and heat phenomena in biomolecular systems: two sides of the same medal? **(invited talk)**"
Simulation and Modeling of Emerging Electronics (12.2011; Hongkong, China)
- 278 "STM measurements on subphthalocyanine nanowheels"
Latest developments in Scanning Probe Techniques focused on Nanotechnology Simulation and Modeling of Emerging Electronics (11.2011; Bad Honnef, Germany)
- 277 "Sensing biomolecules with nanowires"
10. Dresdner Sensor-Symposium (12.2011; Dresden, Germany)
- 276 "LT-STM investigations on aza-BODIPY"
Latest developments in Scanning Probe Techniques focused on Nanotechnology Simulation and Modeling of Emerging Electronics (11.2011; Bad Honnef, Germany)
- 275 "Charge transport in organic semiconductors: Ab initio charge carrier propagation schemes"
Trends in Nanotechnology (11.2011; Teneriffe, Spain)
- 274 "Parallel arrays of Silicon-nanowire field effect transistors for nanoelectronics and biosensors"
Trends in Nanotechnology (11.2011; Teneriffe, Spain)
- 273 "Nanoporous impedimetric fibre sensor for the detection of acute inflammation in wounds"
Trends in Nanotechnology (11.2011; Teneriffe, Spain)
- 272 "Bio-sensing of arsenic by S-layer-modified gold nanoparticles"
Trends in Nanotechnology (11.2011; Teneriffe, Spain)
- 271 "SPM studies of organic solar cell components"
Latest developments in Scanning Probe Techniques focused on Nanotechnology Simulation and Modeling of Emerging Electronics (11.2011; Bad Honnef, Germany)
- 270 "Organometallic spin lattices"
Carbon-based Spintronics (10.2011; Dresden, Germany)
- 269 "Graphene edge magnetism for spintronics applications: Dream or reality?"
Carbon-based Spintronics (10.2011; Dresden, Germany)
- 268 "Graphene edge magnetism for spintronics applications: Dream or reality?"
Carbon-based Spintronics (10.2011; Dresden, Germany)
- 267 "Spin selective transport through helical molecular systems"
Carbon-based Spintronics (10.2011; Dresden, Germany)
- 266 "Opto-electronically active magnetic molecules on metallic surfaces"
Carbon-based Spintronics (10.2011; Dresden, Germany)
- 265 "Charge migration and heat phenomena in biomolecular systems: two sides of the same medal? **(invited talk)**"
Perspectives and challenges of simulations at bio-materials interfaces (10.2011; Bremen, Germany)
- 264 "Surface Functionalization and Receptor Development for Biosensors"
2nd International Conference on Bio-sensing Technology 2011 (10.2011; Amsterdam, Netherlands)

- 263 "Bio-sensing of arsenic by S-layer-modified gold nanoparticles"
Workshop Verhalten von Arsen in geologischen, hydrologischen und biologischen Systemen (09.2011; Leipzig, Germany)
- 262 "A Molecular Dynamics approach to compute Raman and Infrared spectra of Nanostructures "
Frontiers on Functional Interfaces (09.2011; Munich, Germany)
- 261 "Transport Properties of Boron Nanotubes"
17th International Symposium on Boron, Borides and Related Materials, (09.2011; Istanbul, Turkey)
- 260 "From molecular wires to organic semiconductors and back - some "don't ask, don't tell" of soft electronics **(invited talk)**"
Charge Transfer in Biosystems (07.2011; Obergurgl, Austria)
- 259 "Identification and immobilization of biological receptor molecules for biosensors"
International Conference on the Formation of Semiconductor Surfaces (07.2011; Prague, Czech Republic)
- 258 "Single Walled Carbon Nanotubes Alignment By Different Techniques"
NT11 International Conference on the Science and Application of Nanotubes (07.2011; Cambridge, UK)
- 257 "Silicon-nanowire field effect transistors as bio-sensors"
ELA 2011: Advances in Biodetection and Biosensors (06.2011; Hamburg, Germany)
- 256 "Design und Herstellung von Nano- und Biomaterialien: Realität und Phantasie **(invited talk)**"
DGM Tag (06.2011; Dresden, Germany)
- 255 "Charge migration in soft matter nanosystems: do we need the charge? **(invited talk)**"
National Spring Meeting 2011, ACS Division of Physical Chemistry (03.2011; Anaheim, CA, USA)
- 254 "Bio-chemical functionalization of silicon surfaces (CPP 19.11)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) und der Sektion AMOP (SAMOP) – DPG Spring Meeting of the Condensed Matter Section (SKM) and the Atomic, Molecular, Plasma Physics and Quantum Optics Section (SAMOP) (03.2011; (Poster area P2) Dresden, Germany)
- 253 "Electronic signatures of DNA with oxidative damage(8-oxoguanine) (TT 16.2)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) und der Sektion AMOP (SAMOP) – DPG Spring Meeting of the Condensed Matter Section (SKM) and the Atomic, Molecular, Plasma Physics and Quantum Optics Section (SAMOP) (03.2011; (HSZ 03) Dresden, Germany)
- 252 "Strong suppression of thermal conductivity in defected graphene nanoribbons: Order-N methodology and thermoelectric properties (DY 9.15, TT 8.15)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) und der Sektion AMOP (SAMOP) – DPG Spring Meeting of the Condensed Matter Section (SKM) and the Atomic, Molecular, Plasma Physics and Quantum Optics Section (SAMOP) (03.2011; (HSZ 304) Dresden, Germany)
- 251 "Identification and immobilization of biological receptor molecules for nanowire-based biosensing"
NanoBioEurope 2011 (06.2011; University of Cork, Ireland)
- 250 "Selection of phage displayed peptides for biosensor-based detection of viruses"
Advances in Biodetection and Biosensors (06.2011; Hamburg, Germany)
- 249 "The impact of dephasing effect on quantum transport: a case study for electron transport through organic molecular wires"
Autumn College on Non-Equilibrium Quantum Systems (05.2011; Buenos Aires, Argentina)
- 248 "From molecular wires to organic semiconductors and back - some "don't ask, don't tell" of soft electronics **(invited talk)**"
NanoSpain 2011 (04.2011; Bilbao, Spain)

- 247 "Silicon to nickel-silicide axial nanowire heterostructures as Bio-FETs (HL 5.8)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) und der Sektion AMOP (SAMOP) – DPG Spring Meeting of the Condensed Matter Section (SKM) and the Atomic, Molecular, Plasma Physics and Quantum Optics Section (SAMOP) (03.2011; (POT 06) Dresden, Germany)
- 246 "Self assembly of 1D-nanoparticles at interfaces using external fields (HL 20.2)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) und der Sektion AMOP (SAMOP) – DPG Spring Meeting of the Condensed Matter Section (SKM) and the Atomic, Molecular, Plasma Physics and Quantum Optics Section (SAMOP) (03.2011; (POT 06) Dresden, Germany)
- 245 "Metallic nanowire growth from solution using dielectrophoresis (MM 37.2)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) und der Sektion AMOP (SAMOP) – DPG Spring Meeting of the Condensed Matter Section (SKM) and the Atomic, Molecular, Plasma Physics and Quantum Optics Section (SAMOP) (03.2011; (IFW B) Dresden, Germany)
- 244 "Boron nanotubes: new players on the nano-field (MM 37.4)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) und der Sektion AMOP (SAMOP) – DPG Spring Meeting of the Condensed Matter Section (SKM) and the Atomic, Molecular, Plasma Physics and Quantum Optics Section (SAMOP) (03.2011; (IFW B) Dresden, Germany)
- 243 "Multiscale modeling of nanowire-based Schottky-barrier field-effect transistors for sensor applications (MM 39.6)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) und der Sektion AMOP (SAMOP) – DPG Spring Meeting of the Condensed Matter Section (SKM) and the Atomic, Molecular, Plasma Physics and Quantum Optics Section (SAMOP) (03.2011; (IFW A) Dresden, Germany)
- 242 "A molecular dynamics approach to simulate Raman and IR spectra in silicon nanowires (MM 39.7)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) und der Sektion AMOP (SAMOP) – DPG Spring Meeting of the Condensed Matter Section (SKM) and the Atomic, Molecular, Plasma Physics and Quantum Optics Section (SAMOP) (03.2011; (IFW A) Dresden, Germany)
- 241 "Opto-electronically active block copolymers on metallic surfaces (O 17.1)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) und der Sektion AMOP (SAMOP) – DPG Spring Meeting of the Condensed Matter Section (SKM) and the Atomic, Molecular, Plasma Physics and Quantum Optics Section (SAMOP) (03.2011; (TRE Phy) Dresden, Germany)
- 240 "STM-investigations on aza-BODIPYs at low temperatures (O 27.7)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) und der Sektion AMOP (SAMOP) – DPG Spring Meeting of the Condensed Matter Section (SKM) and the Atomic, Molecular, Plasma Physics and Quantum Optics Section (SAMOP) (03.2011; (PHY C213) Dresden, Germany)
- 239 "First STM measurements on a new class of nanowheels (O 36.11)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) und der Sektion AMOP (SAMOP) – DPG Spring Meeting of the Condensed Matter Section (SKM) and the Atomic, Molecular, Plasma Physics and Quantum Optics Section (SAMOP) (03.2011; (Poster area P4) Dresden, Germany)
- 238 "Investigations of Aza-Bodipy adsorbed on metallic surfaces (O 36.27)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) und der Sektion AMOP (SAMOP) – DPG Spring Meeting of the Condensed Matter Section (SKM) and the Atomic, Molecular, Plasma Physics and Quantum Optics Section (SAMOP) (03.2011; (Poster area P4) Dresden, Germany)
- 237 "Thermal conductivity behavior in double-stranded molecular systems (TT 16.1)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) und der Sektion AMOP (SAMOP) – DPG Spring Meeting of the Condensed Matter Section (SKM) and the Atomic, Molecular, Plasma Physics and Quantum Optics Section (SAMOP) (03.2011; (HSZ 03) Dresden, Germany)
- 236 "Highly controllable fabrication of horizontally aligned single walled carbon nanotubes (TT 21.2)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) und der Sektion AMOP (SAMOP) – DPG

Spring Meeting of the Condensed Matter Section (SKM) and the Atomic, Molecular, Plasma Physics and Quantum Optics Section (SAMOP) (03.2011; (HSZ 301) Dresden, Germany)

- 235 "Electronic Decoupling in Monolayer and Multilayer: Fe-Phthalocyanine on Ag(111) (O 49.5)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) und der Sektion AMOP (SAMOP) – DPG Spring Meeting of the Condensed Matter Section (SKM) and the Atomic, Molecular, Plasma Physics and Quantum Optics Section (SAMOP) (03.2011; (PHY C213) Dresden, Germany)
- 234 "Graphene edge magnetism for spintronics applications: Dream or Reality? (O 42.1)"
DPG Frühjahrstagung der Sektion Kondensierte Materie (SKM) und der Sektion AMOP (SAMOP) – DPG Spring Meeting of the Condensed Matter Section (SKM) and the Atomic, Molecular, Plasma Physics and Quantum Optics Section (SAMOP) (03.2011; (WIL B321) Dresden, Germany)
- 233 "Molecular Electronics: Far away, So Close! (**invited talk**)"
Workshop on Advanced Oxidation Processes for Water Treatment in Vietnam (01.2011; Hanoi, Vietnam)
- 232 "Chemical and physical application of pyroelectric LiNbO₃ and LiTaO₃ in contact with aqueous solutions"
Hercules-Workshop 2011 (02.2011; Grenoble, France)
- 231 "Investigating the effect of heat pre-treatment and catalyst mixtures on the yield of epitaxially horizontally aligned carbon nanotubes grown over st-cut quartz"
International Winterschool on Electronic Properties of Novel Materials (IWEPNM) (02.2011; Kirchberg, Austria)
- 230 "Solution-based nanowire growth"
Dresdner Werkstoffsymposium - Werkstoffe der Energietechnik (12.2010; Hotel The Westin Bellevue, Dresden, Germany)
- 229 "STM-experiments on aza-BODIPY"
ELECMOL 2010 (12.2010; Maison MINATEC, Grenoble, France)
- 228 "Transport Properties of Boron Nanotubes"
ELECMOL 2010 (12.2010; Maison MINATEC, Grenoble, France)
- 227 "Electron transport through a mechanically gated molecular junction"
ELECMOL 2010 (12.2010; Maison MINATEC, Grenoble, France)
- 226 "STM-experiments on aza-BODIPY"
1st International ECEMP Colloquium (12.2010; Dresden, Germany)
- 225 "Untersuchung der Eigenschaften von Bornanostrukturen im Hinblick auf die Nutzung in der Nanotechnologie"
Nachtreffen der Nachwuchsakademie Moderne Probleme der Materialwissenschaft und Werkstofftechnik (11.2010; Novotel, Aachen)
- 224 "Phonons in Nanowires: A Molecular Dynamics Approach"
Approximate Quantum-Methods: Advances, Challenges and Perspectives (9.2010; Bremen Center for Computational Materials Science)
- 223 "Multiscale modeling of silicon-nanowire-based Schottoky barrier FETs for the biosensor applications"
Approximate Quantum-Methods: Advances, Challenges and Perspectives (9.2010; Bremen Center for Computational Materials Science)
- 222 "The growth mechanism of carbon nanotubes within the cluster volume to surface area model"
Approximate Quantum-Methods: Advances, Challenges and Perspectives (9.2010; Bremen Center for Computational Materials Science)
- 221 "Ab initio based modeling of charge migration in organic semiconductor materials"
Nanofair 2010 (07.2010; International Congress Center, Dresden, Germany)

- 220 "Hole transport characteristics of pentacene studied with Green functions and real-time propagation"
Nanofair 2010 (07.2010; International Congress Center, Dresden, Germany)
- 219 "Molecular switches in silicon-organic molecule interface"
Nanofair 2010 (07.2010; International Congress Center, Dresden, Germany)
- 218 "Enhanced thermoelectric figure of merit in disordered carbon systems"
Nanofair 2010 (07.2010; International Congress Center, Dresden, Germany)
- 217 "Charge transport and dynamics in biomolecular systems"
Nanofair 2010 (07.2010; International Congress Center, Dresden, Germany)
- 216 "Patterned deposition of yeast cells for whole cell-biosensors using nanoplotting technology"
Nanofair 2010 (07.2010; International Congress Center, Dresden, Germany)
- 215 "Charge migration in soft matter nanosystems: do we need the charge? **(invited talk)**"
13th Asian Workshop on First-Principle Electronic Structure Calculations (11.2010; Pohang, Korea)
- 214 "Charge migration in soft matter nanosystems: do we need the charge? **(invited talk)**"
SWOCS II: Symposium / Workshop of Computational Sciences II (10.2010; Pohang, Korea)
- 213 "The growth mechanism of carbon nanotubes within the cluster volume to surface area model"
Nanofair 2010 (07.2010; Dresden, Germany)
- 212 "Phonon transport in large scale carbon based disordered materials **(invited talk)**"
Nanoelectronics 2010 - Concepts, Theory and Modeling (05.2010; Bremen, Germany)
- 211 "Phonon transport in large scale carbon based disordered materials **(invited talk)**"
Quantum transport and dynamics in materials and biosystems: From molecular mechanisms to mesoscopic functionality (05.2010; Dublin, Ireland)
- 210 "Dynamical bi-stability in single-molecule junctions: the case of PTCDA on Ag(111)"
DPG-Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Section Condensed Matter (SKM) (03.2010; (H 21) Regensburg, Germany)
- 209 "Controlling the conductance of molecular wires by defect engineering: a divide et impera approach"
DPG-Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Section Condensed Matter (SKM) (03.2010; (H 20) Regensburg, Germany)
- 208 "Charge transfer characteristics of dsDNA with base mismatch in a solvent"
DPG-Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Section Condensed Matter (SKM) (03.2010; (H 21) Regensburg, Germany)
- 207 "Engineering the thermopower in semiconductor-molecule junctions: towards high thermoelectric efficiency at the nanoscale"
DPG-Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Section Condensed Matter (SKM) (03.2010; (H 8) Regensburg, Germany)
- 206 "Hole transport characteristics of pentacene studied with Green functions and real-time propagation"
DPG-Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Section Condensed Matter (SKM) (03.2010; (H 37) Regensburg, Germany)
- 205 "Hole transport characteristics of pentacene studied with Green functions and real-time propagation"
DPG-Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Section Condensed Matter (SKM) (03.2010; (H 37) Regensburg, Germany)
- 204 "Order-N method for calculating thermal transport at the mesoscaleze"
DPG-Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Section Condensed Matter (SKM) (03.2010; (H 8) Regensburg, Germany)

- 203 "Ab initio based modeling of charge transport in organic semiconductors"
DPG-Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Section Condensed Matter (SKM) (03.2010; (H 37) Regensburg, Germany)
- 202 "An ab initio study of graphenen nanoribbons doped with boron clusters"
DPG-Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Section Condensed Matter (SKM) (03.2010; (H 31) Regensburg, Germany)
- 201 "Bonding in boron: building high-pressure phases from boron sheets"
DPG-Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Section Condensed Matter (SKM) (03.2010; (H 5) Regensburg, Germany)
- 200 "Understanding the growth mechanism of carbon nanotubes via the "cluster volume to surface area" model"
DPG-Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Section Condensed Matter (SKM) (03.2010; (H 16) Regensburg, Germany)
- 199 "Controlling the kink angle of intramolecular carbon nanotube junctions: A combined experimental and theoretical study"
DPG-Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Section Condensed Matter (SKM) (03.2010; (H 16) Regensburg, Germany)
- 198 "Exact master equation for nano-systems: applications to charge transport through DNA oligomers"
DPG-Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Section Condensed Matter (SKM) (03.2010; (H 21) Regensburg, Germany)
- 197 "Atomistic control and stability of molecular junctions: μ ab initio/ μ structure prediction via transport observables"
DPG-Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Section Condensed Matter (SKM) (03.2010; (H 21) Regensburg, Germany)
- 196 "Investigating electron correlation effects in transport in molecular junctions"
DPG-Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Section Condensed Matter (SKM) (03.2010; (H 21) Regensburg, Germany)
- 195 "Investigating Electron Correlation Effects in Transport in Molecular Junctions"
DPG-Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Section Condensed Matter (SKM) (03.2010; (H 21) Regensburg, Germany)
- 194 "Dynamical properties of charge transport in organic systems"
DPG-Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Section Condensed Matter (SKM) (03.2010; (H 20) Regensburg, Germany)
- 193 "Functionalizing graphene by embedded boron clusters"
APS March Meeting 2010 (03.2010; (Ballroom 252) Portland, Oregon, USA)
- 192 "Bonding in boron: building high-pressure phases from boron sheets"
APS March Meeting 2010 (03.2010; (B 114) Portland, Oregon, USA)
- 191 "Understanding the growth mechanism of carbon nanotubes via the "cluster volume to surface area" model"
APS March Meeting 2010 (03.2010; (C 120 - 122) Portland, Oregon, USA)
- 190 "Controlling the kink angle of intramolecular carbon nanotube junctions: A combined experimental and theoretical study"
APS March Meeting 2010 (03.2010; (Ballroom 252) Portland, Oregon, USA)
- 189 "Thermoelectric figure of merit in graphene nanoribbons"
451. WE-Heraeus-Seminar on "Nanostructured Thermoelectric Materials" (02.2010; Bad Honnef, Germany)
- 188 "Study phonon transport by using Kubo method"
NanoICT School 2009 (10.2009; San Sebastian, Spain)

- 187 "Effect of edge disorder on electron and phonon transport through graphene nanoribbons"
Science and Applications of Graphene and Nanotubes 2009 (10.2009; Coma-ruga, Spain)
- 186 "Quantum Master Equation for the study of electronic transport in organic systems"
NanoICT School 2009 (10.2009; San Sebastian, Spain)
- 185 "Modeling switching in STM molecular junctions"
NanoICT School 2009 (10.2009; San Sebastian, Spain)
- 184 "Interplay of mechanical and electrical degrees of freedom in STM based molecular junctions (**invited talk**)"
International CECAM-Workshop Quantum Transport on the Molecular Scale (09.2009; Bremen, Germany)
- 183 "Unraveling electron correlation effects in molecular wires by precise comparison to ab-initio theory"
International CECAM-Workshop Quantum Transport on the Molecular Scale (09.2009; Bremen, Germany)
- 182 "Modeling switching in STM molecular junctions"
International CECAM-Workshop Quantum Transport on the Molecular Scale (09.2009; Bremen, Germany)
- 181 "Electronic Properties of DNA CNT molecular junctions"
International CECAM-Workshop Quantum Transport on the Molecular Scale (09.2009; Bremen, Germany)
- 180 "Effect of Edge Disorder on the Electron and Phonon Transport through Graphene Nanoribbons"
Thermoelectric Transport: Progress in First Principles and Other Approaches, and the Interplay with Experiment (09.2009; Barcelona, Spain)
- 179 "Effect of Edge Disorder on the Electron and Phonon Transport through Graphene Nanoribbons"
Thermoelectric Transport: Progress in First Principles and Other Approaches, and the Interplay with Experiment (07.2009; Lausanne, Switzerland)
- 178 "Heat conduction in disordered semiconductor carbon nanostructures"
Thermoelectric Transport: Progress in First Principles and Other Approaches, and the Interplay with Experiment (07.2009; Lausanne, Switzerland)
- 177 "Charge migration in DNA based nanodevices (two lectures) (**invited talk**)"
Wilhelm and Else Heraeus Summer School 2009: Quantum and Classical Simulation of Biological Systems and their Interaction with Technical Materials (06.2009; Bremen, Germany)
- 176 "Structurally modified carbon-based nanostructures for molecular electronics"
DAAD-Scholarship Holders' Meeting (07.2009; Leipzig, Germany)
- 175 "Functionalizing graphene by embedded boron clusters (HL 25.1)"
DPG-Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Section Condensed Matter (SKM) (03.2009; (POT 51) Dresden, Germany)
- 174 "Formation of dendritic metallic nanowires (MM 26.2)"
DPG-Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Section Condensed Matter (SKM) (03.2009; (IFW B) Dresden, Germany)
- 173 "Spin-Polarized Conductance in a Single Magnetic Atom? (TT 37.2)"
DPG-Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Section Condensed Matter (SKM) (03.2009; (HSZ 105) Dresden, Germany)
- 172 "Control of the Conductance in Molecular Switch Junctions (TT 23.11)"
DPG-Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Section Condensed Matter (SKM) (03.2009; (HSZ 105) Dresden, Germany)
- 171 "Interplay of Mechanical and Electrical Degrees of Freedom in Molecular Junctions (TT 23.10)"
DPG-Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Section Condensed Matter (SKM) (03.2009; (HSZ 105) Dresden, Germany)

- 170 "Phthalocyanine based molecular switches (TT 23.9)"
DPG-Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Section Condensed Matter (SKM) (03.2009; (HSZ 105) Dresden, Germany)
- 169 "Charge-memory polaron effect in molecular junctions (TT 23.5)"
DPG-Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Section Condensed Matter (SKM) (03.2009; (HSZ 105) Dresden, Germany)
- 168 "Screw motion of a DNA duplex during translocation through a nanopore: A coarse-grained model (TT 23.4)"
DPG-Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Section Condensed Matter (SKM) (03.2009; (HSZ 105) Dresden, Germany)
- 167 "Conductance of DNA molecular wires: bridging molecular dynamics and model Hamiltonians (TT 23.3)"
DPG-Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Section Condensed Matter (SKM) (03.2009; (HSZ 105) Dresden, Germany)
- 166 "Control of the conductance and noise of driven carbon-based Fabry-Perot devices (TT 21.3)"
DPG-Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Section Condensed Matter (SKM) (03.2009; (HSZ 304) Dresden, Germany)
- 165 "Time dependent charge and spin transport in graphene nanoribbons (TT 8.2) "
DPG-Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Section Condensed Matter (SKM) (03.2009; (P1B) Dresden, Germany)
- 164 "Many-Body Effects in Quantum Heat Transport Through Nanostructures (TT 2.10) "
DPG-Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Section Condensed Matter (SKM) (03.2009; (HSZ 301) Dresden, Germany)
- 163 "Electrostatic force microscopy measurement of carbon nanotube field-effect transistors (HL 1.9)"
DPG-Frühjahrstagung der Sektion Kondensierte Materie (SKM) – DPG Spring Meeting of the Section Condensed Matter (SKM) (03.2009; (BEY 81) Dresden, Germany)
- 162 "Control of the conductance and noise of driven carbon-based devices (**invited talk**)"
Nonequilibrium Nanostructures (12.2008; Dresden, Germany)
- 161 "Interplay of Mechanical and Electrical Degrees of Freedom in Molecular Junctions"
Max Bergmann Symposium 2008 (11.2008; Max Bergmann Center, Dresden, Germany)
- 160 "Electromechanical Interplay of Carbon Based Nanostructures"
Max Bergmann Symposium 2008 (11.2008; Max Bergmann Center, Dresden, Germany)
- 159 "Molecular switch junctions in silicon-organic molecule interface"
Max Bergmann Symposium 2008 (11.2008; Max Bergmann Center, Dresden, Germany)
- 158 "Bridging molecular dynamics and model Hamiltonians: charge transport through bio-molecular wires in a solvent"
Max Bergmann Symposium 2008 (11.2008; Max Bergmann Center, Dresden, Germany)
- 157 "Control of the conductance and noise of driven carbon-based Fabry-Perot devices: Manifestation of the quantum wagon-wheel effect"
Max Bergmann Symposium 2008 (11.2008; Max Bergmann Center, Dresden, Germany)
- 156 "Moletronics (**invited talk**)"
Bottom-Up and Top-Down Nanotechnology (10.2008; Leuven, Belgium)
- 155 "Charge, phonon, and spin transport in graphene-based materials"
Round Table Meeting Graphene (10.2008; Kloster Banz, Germany)
- 154 "Single-molecule electronics: Conductance mechanisms (**invited talk**) "
9th Student MINERVA Symposium Molecules as Sensors (09.2008; Tsfat, Israel)

- 153 "Modeling molecular junctions: Pitfalls and caveats in understanding quantum transport at the molecular scale **(invited talk)**"
4th HANDAI Nano-Science Symposium (09.2008; Osaka, Japan)
- 152 "Control of the conductance and noise of driven carbon-based devices **(invited talk)**"
6th International Workshop on Disordered Systems (09.2008; La Falda, Argentina)
- 151 "Charge transport through ac driven carbon-based nanostructures: scrutinizing the conductance and noise **(invited talk)**"
25th European Conference on Surface Science, ECOSS 25 (07.2008; Liverpool, United Kingdom)
- 150 "Molecular switch junctions: robust control of the conductance"
Functional Hybrid Materials Design (06.2008; Bremen, Germany)
- 149 "Tunable transport by controlling the structure of an STM molecular junction"
Functional Hybrid Materials Design (06.2008; Bremen, Germany)
- 148 "Dynamical effects in the conductance properties of short DNA molecular wire: a combined study using molecular dynamics and model Hamiltonians (TT 14.3)"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2008 – German Physical Society, Spring Meeting 2008 (02.2008; (TUB H3010) Berlin, Germany)
- 147 "Switching response of DNA conduction under stretching (TT 14.4)"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2008 – German Physical Society, Spring Meeting 2008 (02.2008; (TUB H3010) Berlin, Germany)
- 146 "Charge-memory effect in molecular junctions (TT 14.13)"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2008 – German Physical Society, Spring Meeting 2008 (02.2008; (TUB H3010) Berlin, Germany)
- 145 "Diffusion and localization in carbon nanotubes and graphene ribbons (TT 21.2)"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2008 – German Physical Society, Spring Meeting 2008 (02.2008; (EB 202) Berlin, Germany)
- 144 "Scrutinizing the conductance and noise of ac driven carbon-based nanostructures (TT 21.10)"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2008 – German Physical Society, Spring Meeting 2008 (02.2008; (EB 202) Berlin, Germany)
- 143 "Tunable transport by controlling the structure of an STM molecular junction (TT 22.41)"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2008 – German Physical Society, Spring Meeting 2008 (02.2008; (Poster B) Berlin, Germany)
- 142 "Dynamical effects in the conductance properties of short DNA molecular wires: a combined study using molecular dynamics and model Hamiltonians (TT 22.42)"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2008 – German Physical Society, Spring Meeting 2008 (02.2008; (Poster B) Berlin, Germany)
- 141 "Shot noise in graphene three terminal ballistic devices (TT 22.58)"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2008 – German Physical Society, Spring Meeting 2008 (02.2008; (Poster B) Berlin, Germany)
- 140 "Tuning the conductance of a molecular switch **(invited talk)**"
KIAS workshop on Molecular and Nanoelectronics (11.2007; Seoul, South Korea)
- 139 "Conduction properties of DNA molecular wires"
2nd EU FET-Cluster Meeting (11.2007; Las Palmas de Gran Canaria, Spain)
- 138 "Molecular junctions in the Coulomb blockade regime: rectification and nesting"
New frontiers in quantum impurity physics: from nano-structures to molecular devices (08.2007; Dresden, Germany)

- 137 "Conduction of DNA wires: merging DFT and model hamiltonian description (**invited talk**)"
EC IST-FET 029192-2 Workshop: DNA-based nanoelectronic devices (05.2007; Jerusalem, Israel)
- 136 "Electron transport in quantum dots in the spin blockade regime (TT 23.11)"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2007 – German Physical Society, Spring Meeting 2007 (03.2007; Regensburg, Germany)
- 135 "Tuning the conductance of a molecular switch"
International Conference on Electronic Properties of Two-dimensional Systems (EP2DS 17) and Modulated Semiconductor Structures (MSS 13) (07.2007; Genova, Italy)
- 134 "Rectification effects in quantum transport through single aromatic molecules (TT 28.39)"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2007 – German Physical Society, Spring Meeting 2007 (03.2007; Regensburg, Germany)
- 133 "Conduction properties of DNA wires: Hamiltonian model approaches"
Workshop on computer simulations of soft matter and biosystems (03.2007; Heidelberg, Germany)
- 132 "Nonequilibrium resonant spectroscopy of molecular vibrons (TT 6.2)"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2007 – German Physical Society, Spring Meeting 2007 (03.2007; Regensburg, Germany)
- 131 "Tuning the conductance of a molecular switch (**invited talk**)"
International workshop on molecular switching at surfaces (09.2007; Berlin-Zeuthen, Germany)
- 130 "Single-molecule electronics: Conductance mechanisms (**invited talk**)"
Energy flow dynamics in biomaterial systems (10.2007; Paris, France)
- 129 "Single-molecule electronics: Conductance mechanisms (**invited talk**)"
Middle East Frontiers of Science and Engineering (FOSE07) (03.2007; Sevilla, Spain)
- 128 "Tuning the conductance of a molecular switch"
Trends in Nanoscience 2007 (02.2007; Kloster Irsee, Germany)
- 127 "Molecular junctions in the Coulomb blockade regime: rectification and nesting"
384. WE-Heraeus Seminar: Nonequilibrium transport of strongly correlated systems (towards simulation of novel devices) (01.2007; Bad Honnef, Germany)
- 126 "Contact dependence of carrier injection in carbon nanotubes (**invited talk**)"
2nd Spanish Molecular electronics Symposium - SMS2007 (01.2007; Toulouse, France)
- 125 "Hofstadter butterflies of carbon nanotubes and graphitic structures (TT 27.6 switched with HL 49.3)"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2007 – German Physical Society, Spring Meeting 2007 (03.2007; Regensburg, Germany)
- 124 "Effects of defects and disorder in graphene nanoribbons (HL 49.3 switched with TT 27.6)"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2007 – German Physical Society, Spring Meeting 2007 (03.2007; Regensburg, Germany)
- 123 "Fabry-Perot interference in graphene ribbons (HL 49.1 switched with TT 27.3)"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2007 – German Physical Society, Spring Meeting 2007 (03.2007; Regensburg, Germany)
- 122 "Tuning the conductance of a molecular switch"
gDFTB workshop (12.2006; Bremen, Germany)
- 121 "Effects of chemical substitution on quantum transport through single aromatic molecules"
gDFTB workshop (12.2006; Bremen, Germany)
- 120 "Single-molecule electronics: conductance mechanisms (**invited talk**)"
Japan-Germany joint workshop on Nanoelectronics (10.2006; Tokyo, Japan)

- 119 "Effects of chemical substitution on quantum transport through single aromatic molecules"
Third International Summer School of the DFG-Center for Functional Nanostructures (CFN) (09.2006; Bad Herrenalb, Germany)
- 118 "Single-molecule electronics: conductance mechanisms (**invited talk**)"
24th European Conference on Surface Science, ECOSS 24 (09.2006; Paris, France)
- 117 "Extended contacts to carbon nanotube devices: The role of the geometry and quality of the electrodes"
Summer school on nanotubes (07.2006; Cargese, Corsica)
- 116 "Econophysics: A many-body perspective (**invited talk**)"
Physics meets Economy: Ulmer Symposium Wirtschaftsphysik 2006 (06.2006; Ulm, Germany)
- 115 "Extended contacts to carbon nanotube devices: The role of the geometry and quality of the electrodes"
Nanotube'06 (06.2006; Nagano, Japan)
- 114 "Signatures of dissipative and vibron-assisted transport in DNA molecular wires (**invited talk**)"
Charge migration in DNA: Physics, Chemistry and Biology Perspectives (06.2006; Winnipeg, Canada)
- 113 "Effects of chemical substitution on quantum transport through single aromatic molecules (TT 26.38 Wed 14:30 P1)"
371th Wilhelm Heinrich und Else Heraeus Seminar on "Quantum Transport at the Molecular Scale" (05.2006; Bad Honnef, Germany)
- 112 "Nonequilibrium molecular vibrons"
371th Wilhelm Heinrich und Else Heraeus Seminar on "Quantum Transport at the Molecular Scale" (05.2006; Bad Honnef, Germany)
- 111 "Signatures of vibron-assisted transport in DNA molecular wires"
371th Wilhelm Heinrich und Else Heraeus Seminar on "Quantum Transport at the Molecular Scale" (05.2006; Bad Honnef, Germany)
- 110 "Single-molecule electronics: Conductance mechanisms (**invited Hauptvortrag**)"
Deutsche Physikalische Gesellschaft, AMOP Frühjahrstagung 2006 – German Physical Society, Spring Meeting 2006 (03.2006; Frankfurt, Germany)
- 109 "Signatures of vibron-assisted transport in DNA molecular wires (TT 26.37 Wed 14:30 P1)"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2006 – German Physical Society, Spring Meeting 2006 (03.2006; Dresden, Germany)
- 108 "Hofstadter butterfly of carbon nanotubes (TT 26.36 Wed 14:30 P1)"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2006 – German Physical Society, Spring Meeting 2006 (03.2006; Dresden, Germany)
- 107 "Contact dependence of carrier injection in carbon nanotubes: An *ab initio* study (TT 9.7 Mon 15:30 HSZ 304)"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2006 – German Physical Society, Spring Meeting 2006 (03.2006; Dresden, Germany)
- 106 "Scaling law for the conductance of gold nanotubes (TT 9.8 Mon 15:45 HSZ 304)"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2006 – German Physical Society, Spring Meeting 2006 (03.2006; Dresden, Germany)
- 105 "Nonequilibrium excitations of molecular vibrons (TT 9.10 Mon 16:30 HSZ 304)"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2006 – German Physical Society, Spring Meeting 2006 (03.2006; Dresden, Germany)
- 104 "Effects of chemical substitution on quantum transport through single aromatic molecules (TT 26.38 Wed 14:30 P1)"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2006 – German Physical Society, Spring Meeting 2006 (03.2006; Dresden, Germany)

- 103 "Quantum transport through single azobenzene molecules: contact effects (TT 26.39 Wed 14:30 P1)"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2006 – German Physical Society, Spring Meeting 2006 (03.2006; Dresden, Germany)
- 102 "STM spectroscopy and STM imaging of linear molecules (TT 26.40 Wed 14:30 P1)"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2006 – German Physical Society, Spring Meeting 2006 (03.2006; Dresden, Germany)
- 101 "Contact dependence of carrier injection in carbon nanotubes: An *ab initio* study"
International Winterschool on Electronic Properties of Novel Materials 2006 (03.2006; Kirchberg, Austria)
- 100 "dissipative effects in the quantum transport of DNA molecular nanowires"
Second meeting on Molecular Electronics Elecmol'05 (12.2005; Grenoble, France)
- 99 "Vibrational effects on the linear conductance of carbon nanotubes"
Second meeting on Molecular Electronics Elecmol'05 (12.2005; Grenoble, France)
- 98 "Magnetic band structure of carbon nanotubes (**invited talk**)"
The first review meeting on large-scale simulations for nanocarbons and DDS using the Earth Simulator (11.2005; Tokyo and Yokohama, Japan)
- 97 "Quantum transport in DNA wires: Influence of a dissipative environment (**invited talk**)"
EC IST-FET 38951 Workshop: DNA-based nanowires (10.2005; Modena, Italy)
- 96 "STM imaging and inelastic spectroscopy of linear molecules"
EC IST-FET 38951 Workshop: DNA-based nanowires (10.2005; Modena, Italy)
- 95 "A ladder model for DNA wires: Signatures of phonon-assisted transport"
EC IST-FET 38951 Workshop: DNA-based nanowires (10.2005; Modena, Italy)
- 94 "Conductance mechanisms in unimolecular nanodevices (**invited talk**)"
einstein heute (185. Jahreskongress der Akademie der Naturwissenschaften Schweiz SCNAT und Jahreskongress Schweizerischen Physikalischen Gesellschaft) (07.2005; Bern, Switzerland)
- 93 "Spin transport in disordered single-wall carbon nanotubes contacted to ferromagnetic leads"
The European Conference: "Physics of Magnetism 05" (PM05) (06.2005; Poznan, Poland)
- 92 "Conductance mechanisms in unimolecular nanodevices (**invited talk**)"
International conference on quantum transport, 2005 (07.2005; Bologna, Italy)
- 91 "Contact dependence of carrier injection in carbon nanotubes: an *ab initio* study"
CCTN'05: Computational Challenges and Tools for Carbon Nanotubes and Nanotube'05 (06.2005; Gothenburg, Sweden)
- 90 "Scaling law for the conductance of gold nanotubes"
CCTN'05: Computational Challenges and Tools for Carbon Nanotubes and Nanotube'05 (06.2005; Gothenburg, Sweden)
- 89 "Defective transport properties of three-terminal carbon nanotube junctions"
CCTN'05: Computational Challenges and Tools for Carbon Nanotubes and Nanotube'05 (06.2005; Gothenburg, Sweden)
- 88 "Magnetoresistance and contacts effects in carbon nanotubes (**invited talk**)"
CCTN'05: Computational Challenges and Tools for Carbon Nanotubes and Nanotube'05 (06.2005; Gothenburg, Sweden)
- 87 "Magnetoresistance of disordered carbon nanotubes"
CCTN'05: Computational Challenges and Tools for Carbon Nanotubes and Nanotube'05 (06.2005; Gothenburg, Sweden)

- 86 "Carrier transport through DNA (**invited talk**)"
SPIE conference "Microtechnologies for the new millenium 2005" – (Symposium Nanotechnology II) (05.2005; Sevilla, Spain)
- 85 "Spin transport in disordered single-wall carbon nanotubes"
International Workshop on "Spin Phenomena in Reduced Dimensions" (03.2005; Regensburg, Germany)
- 84 "Magnetoeconductance in disordered carbon-nanotubes (TT 33.10 Di 16:30 TU H3027)"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2005 – German Physical Society, Spring Meeting 2005 (03.2005; Berlin, Germany)
- 83 "Electron-phonon coupling mechanisms in molecular electron transport (TT 33.6 Di 15:15 TU H3027)"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2005 – German Physical Society, Spring Meeting 2005 (03.2005; Berlin, Germany)
- 82 "Dissipative effects in the electronic transport through DNA molecular wires (TT 33.3 Di 14:30 TU H3027)"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2005 – German Physical Society, Spring Meeting 2005 (03.2005; Berlin, Germany)
- 81 "Spin transport in disordered single-wall carbon nanotubes (TT 8.1 Fr 14:00 Poster TU C)"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2005 – German Physical Society, Spring Meeting 2005 (03.2005; Berlin, Germany)
- 80 "Vibrational effects on the linear conductance of carbon nanotubes (TT 8.2 Fr 14:00 Poster TU C)"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2005 – German Physical Society, Spring Meeting 2005 (03.2005; Berlin, Germany)
- 79 "Quantum transport in DNA wires: Influence of a dissipative environment (**invited talk**)"
TransDNA: Transport in and Computing with DNA (02.2005; University of Warwick, UK)
- 78 "Quantum transport in DNA wires in an aqueous buffer"
5th FET Workshop: "DNA based nanowires" (01.2005; Madrid, Spain)
- 77 "STM Characterization of Single DNA Molecules: Morphology and Image Contrast Dependence"
Trends in Nanotechnology (TNT2004) (09.2004; Segovia, Spain)
- 76 "Quantum transport in DNA wires: Influence of a dissipative environment"
4th FET Workshop: "DNA based nanowires" (08.2004; Lausanne, Switzerland)
- 75 "Dissipative effects in a DNA ladder model"
IEEE-NANO 2004 (08.2004; Munich)
- 74 "The puzzle of contrast inversion in DNA STM imaging (**invited talk**)"
From Solid State To BioPhysics II: Role of Inhomogeneities in Solid, Soft and Bio-Matter (06.2004; Cavtat, Dubrovnik, Croatia)
- 73 "Electron transport in carbon nanotube-metal systems: contact effects"
Nanostructured systems: Basic Properties and Technology (05.2004; Bedlewo, Poland)
- 72 "SPM and charge transport measurements of various DNA and DNA-based molecules"
International Symposium: DNA-based molecular electronics (05.2004; Jena, Germany)
- 71 "Filament depolymerization by motor molecules"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2004 – German Physical Society, Spring Meeting 2004 (03.2004; Regensburg, Germany)
- 70 "Vibrational effects in the conductance through a molecular bridge"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2004 – German Physical Society, Spring Meeting 2004 (03.2004; Regensburg, Germany)

- 69 "Electron transport in carbon nanotube-metal systems: contact effects"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2004 – German Physical Society, Spring Meeting 2004 – (Symposium Organic and Hybrid Systems for Future Electronics) (03.2004; Regensburg, Germany)
- 68 "Quantum transport through carbon-based nanojunctions"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2004 – German Physical Society, Spring Meeting 2004 – (Symposium Organic and Hybrid Systems for Future Electronics) (03.2004; Regensburg, Germany)
- 67 "Quantum transport in multiterminal nanotube junctions"
Advances in Molecular Electronics: From molecular materials to single molecule devices (02.2004; Dresden, Germany)
- 66 "Charge and spin transport in carbon-based molecular devices (**invited talk**)"
Advances in Molecular Electronics: From molecular materials to single molecule devices (02.2004; Dresden, Germany)
- 65 "Vibrational effects in the conductance through a molecular bridge"
Advances in Molecular Electronics: From molecular materials to single molecule devices (02.2004; Dresden, Germany)
- 64 "The influence of the contacts on the electronic transport of finite size carbon nanotubes contacted by metallic electrodes"
Advances in Molecular Electronics: From molecular materials to single molecule devices (02.2004; Dresden, Germany)
- 63 "Filaments depolymerization by motor molecules"
Motion, sensation and self-organization in living cells (10.2003; Dresden, Germany)
- 62 "AC-response of a carbon nanotube-junction"
4th Wilhelm and Else Heraeus Summer School: Fundamentals of Quantum Information Processing (07.2003; Wittenberg, Germany)
- 61 "Transport in bio-molecular systems"
Nachwuchsgruppen an Universitäten, 5. Kolloquium (07.2003; Fürstenwalde/Spree, Germany)
- 60 "M-DNA and STM topography"
2nd FET Workshop: "DNA based nanowires" (06.2003; Madrid, Spain)
- 59 "AC-response of a carbon nanotube Y-junction"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2003 – German Physical Society, Spring Meeting 2003 – (Symposium Computational Nanoscience: From Materials to Biology) (03.2003; Dresden, Germany)
- 58 "Obtaining band structures and transport properties from a local Green function"
Korrelationstage 2003 (02.2003; Dresden, Germany)
- 57 "Backbone-induced semiconducting behavior in short DNA wires"
1st FET Workshop: "DNA based nanowires" (02.2003; Tel Aviv, Israel)
- 56 "Electron transport through pure carbon devices and DNA wires"
6th Engineering Foundation Conference on Molecular-scale Electronics (12.2002; Key West (FL), USA)
- 55 "Correlated tunneling through a quantum dot on an individual carbon nanotube"
Electron Interference and Decoherence in Nanostructures (11.2002; Dresden, Germany)
- 54 "Scattering theory and transport (**invited lecture**)"
School and Workshop on Nanotubes and Nanostructures 2002 (10.2002; Frascati, Italy)
- 53 "Band structures of carbon nanotubes (**invited lecture**)"
School and Workshop on Nanotubes and Nanostructures 2002 (10.2002; Frascati, Italy)

- 52 "A pure-carbon ring transistor: The role of topology and structure"
Topology in Condensed Matter Physics (05.2002; Dresden, Germany)
- 51 "Elektronik mit Molekülen: Ist kleiner wirklich besser?"
Workshop on "Quantum dynamical concepts: from diatomics to biomolecules" (04.2002; Dresden, Germany)
- 50 "Molecular ring transistors: Topology and structure"
Workshop on "Quantum dynamical concepts: from diatomics to biomolecules" (04.2002; Dresden, Germany)
- 49 "Transmission, scattering phases, and persistent currents in open rings"
The 19th General Conference of the Condensed Matter Division of the European Physical Society (04.2002; Brighton, U.K.)
- 48 "Charge transport through pure carbon devices and DNA wires (**invited Hauptvortrag**)"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2002 – German Physical Society, Spring Meeting 2002 – (Symposium Quantum Transport at Molecular Scale) (03.2002; Regensburg, Germany)
- 47 "Transmittance anomalies of a ring with broken inversion-symmetry"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2002 – German Physical Society, Spring Meeting 2002 – (Symposium Quantum Transport at Molecular Scale) (03.2002; Regensburg, Germany)
- 46 "Electrical transport in carbon-based molecular junctions"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 2002 – German Physical Society, Spring Meeting 2002 (03.2002; Regensburg, Germany)
- 45 "The nanoring saga"
Rindberg Meeting (12.2001; Schloss Ringberg, München, Germany)
- 44 "Charge transport in nanotube-molecular wire hybrids"
Nano-physics and Bio-electronics: a new odyssey (08.2001; Dresden, Germany)
- 43 "Fullerene based devices for molecular electronics"
14th International Conference on the Electronic Properties of Two-Dimensional Systems (EP2DS-14) (07.2001; Prague, Czech Republic)
- 42 "Coevolution of lymphocytes and mutating antigen in shape space"
1st International MTBio-Workshop on Function and Regulation of Cellular Systems: Experiments and Models (06.2001; Dresden, Germany)
- 41 "Effect of the lead dimensionality over transport properties in quantum dots"
10th Brazilian Workshop on Semiconductor Physics (04.2001; Guarujá, SP, Brazil)
- 40 "Fingerprints of mesoscopic leads on the conductance through a molecular wire"
Symposium on "Electron transport on the molecular scale" (02.2001; Dresden, Germany)
- 39 "Electron transport across molecular wires connected to nanotube electrodes"
Symposium on "Electron transport on the molecular scale" (02.2001; Dresden, Germany)
- 38 "On clustering and interactions in a financial market"
NATO Advanced Research Workshop on Application of Physics in Economic Modelling (02.2001; Prague, Czech Republic)
- 37 "Electron transport in nanotube-molecular wire hybrids"
Condensed Matter & Materials Physics Conference 2000 (12.2000; Bristol, UK)
- 36 "Electron transport in nanotube-molecular wire hybrids"
Molecular Electronics 2000 (12.2000; Kailua-Kona, Hawaii, USA)
- 35 "Electron transport in nanotube-molecular wire hybrids (**invited talk**)"
Workshop: Nanostrukturierte Funktionselemente in makroskopischen Systemen (11.2000; Weissig, Sächsische Schweiz, Germany)

- 34 "The role of mesoscopic leads on conductance through a molecular wire"
Nichtgleichgewichtsprozesse in neuen Materialien (11.2000; Dresden, Germany)
- 33 "Conductance of a molecular wire attached to nanotube electrodes: coupling effects"
Nanotubes & Nanostructures 2000 (10.2000; S. Margherita di Pula-Cagliari, Italy)
- 32 "Long range interaction in nanostructures. A one dimensional quantum dot coupled to quantum wires of interacting electrons"
Nanotubes & Nanostructures 2000 (10.2000; S.Margherita di Pula-Cagliari, Italy)
- 31 "Electron transport in nanotube-molecular wire hybrids"
COST-P5 Workshop: Mesoscopic Electronics (09.2000; Papiernicka, Slovakia)
- 30 "Electron transport in molecular wire-nanotube hybrids"
XXIV International School of Theoretical Physics: "Transport Phenomena from Quantum to Classical Regimes" (09.2000; Ustron, Poland)
- 29 "Biomolecular electronics: first steps towards molecular-device-based computing"
DNA and Chromosomes: physical and biological approaches (08.2000; Cargese, France)
- 28 "Liquid markets and market liquids: collective and single-asset dynamics in financial markets"
Applications of Physics in Financial Analysis (07.2000; Liège, Belgium)
- 27 "Contact effects on electron transport through molecular junctions"
236th Wilhelm Heinrich und Else Heraeus Seminar on "Interacting Electrons in Nanostructures" (06.2000; Bad Honnef, Germany)
- 26 "Electronic transport in biological systems (**invited talk**)"
Schloßmann Seminar on Mathematical Models in Biology, Chemistry and Physics (05.2000; Bad Lausick, Germany)
- 25 "Long-ranged interactions in a double barrier quantum wire"
COST-P5 Workshop: Quantum Dots, Nanoparticles and Carbon Nanotubes (04.2000; Delft, The Netherlands)
- 24 "Quantum wires coupled to quantum dots: Effects of long-range interaction"
American Physical Society Spring Meeting 2000 (03.2000; Minneapolis, USA)
- 23 "Influence of regulation on a SOC model for biological speciation"
Theory in Immunology (10.1999; Bielefeld, Germany)
- 22 "Correlated electron transport in 1d"
225th International Wilhelm Heinrich und Else Heraeus Seminar on "Electron Transport in Reduced Dimensions - Concepts and Reality" (10.1999; Bad Honnef, Bonn, Germany)
- 21 "Photo-induced tunneling in quantum wires"
2nd Euroconference on Trends in Optical Nonlinear Dynamics. Physical Problems and Applications (10.1999; Münster, Germany)
- 20 "Nonlinear AC transport (**invited talk**)"
2nd TMR Net-Workshop: "Quantum Transport in the Frequency and Time Domains" (09.1999; Genova, Italy)
- 19 "Local fields of 1d electron systems"
2nd TMR Net-Workshop: "Quantum Transport in the Frequency and Time Domains" (09.1999; Genova, Italy)
- 18 "Frequency scaling and mode locking of photo-induced tunneling"
Exotic States in Quantum Nanostructures (08.1999; Cumberland Lodge, Windsor, UK)
- 17 "Self-consistency in nonlinear transport"
219th International Wilhelm Heinrich und Else Heraeus Workshop on "Interactions and Quantum Transport Properties of Lower Dimensional Systems" (07.1999; Hamburg, Germany)

- 16 "Photo-induced transport and self-consistency in a quantum wire"
LOCALIZATION 1999: Disorder and Interaction in Transport Phenomena (07-08.1999; Hamburg, Germany)
- 15 "Anomalous Tien-Gordon scaling in an ac-driven 1d tunnel junction"
7th International Specialist Workshop on Nonlinear Dynamics of Electronic Systems (07.1999; Island of Bornholm, Denmark)
- 14 "Learning short-options valuation in presence of rare events"
Applications of Physics in Financial Analysis (07.1999; Trinity College Dublin, Ireland)
- 13 "Effects of regulation in a self-organized market"
Workshop on Economics with Heterogeneous Interacting Agents (06.1999; Genova, Italy)
- 12 "Transport in onedimensional interacting electron systems"
Phase Coherent Dynamics of Hybrid Nanostructures (05.1999; Bad Herrenalb, Germany)
- 11 "The effect of long range interactions and non local driving fields on time dependent transport in a quantum wire with a barrier"
International Workshop: From Mesoscopic to Microscopic Quantum Transport; New Trends in Theory and Experiment (11.1998; Dresden, Germany)
- 10 "Prior information in the bond future market: a possibility for arbitrage?"
Workshop on Econophysics and Statistical Finance (09.1998; Palermo, Italy)
- 9 "Volatility in the Italian stock market: an empirical study"
International Workshop on Econophysics and Statistical Finance (09.1998; Palermo, Italy)
- 8 "Non linear AC transport in a quantum wire"
1st TMR Net-Workshop: "Quantum Transport in the Frequency and Time Domains" (07.1998; Schloss Ringberg, München, Germany)
- 7 "Frequency dependent transport in a quantum wire"
II INFM Meeting: "Congresso Nazionale di Fisica della Materia" (06.1998; Rimini, Italy)
- 6 "AC transport in a quantum wire"
184th Wilhelm Heinrich und Else Heraeus Seminar on "Ac and Time Dependent Quantum Transport" (10.1997; Bad Honnef, Germany)
- 5 "AC conductance of a Luttinger liquid with interaction of finite range and an impurity"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 1997 – German Physical Society, Spring Meeting 1997 (03.1997; Münster, Germany)
- 4 "Tunneling through an impurity in a Luttinger liquid with an interaction potential of finite range"
Deutsche Physikalische Gesellschaft, AKF Frühjahrstagung 1997 – German Physical Society, Spring Meeting 1997 (03.1997; Münster, Germany)
- 3 "AC transport of one dimensional interacting electrons"
Edgar Lüscher Seminar "New Trends in Solid State Physics" (02.1997; Serneus (Davos), Switzerland)
- 2 "Frequency dependent transport of one dimensional correlated electrons"
NATO ASI "Mesoscopic Electron Transport" (06.1996; Curacao, Netherlands Antilles)
- 1 "Frequency dependent conductance of one dimensional correlated electron systems"
III International Symposium on "New Phenomena in Mesoscopic Structures" (12.1995; Maui, Hawaii, USA)

Ph.D. Thesis

G. Cuniberti,

Electronic transport in interacting quantum wires,

Ph.D. Thesis. Università di Genova. (January 1998).

National Journals

G. Cuniberti, M. Grifoni, and A. Morpurgo,
Il problema non è il cervello in fuga (The problem is not the brain drain),
Genuense Athenaeum, (30.04.2007).

G. Cuniberti,
Molecular-scale electronics,
Scientific report of the Max Planck Institute for Physics of Complex Systems 2000-2002, pages 140-145 (2003).

G. Cuniberti, M. Raberto, E. Scalas, and G. Susinno,
Econofisica: una scienza emergente (Econophysics: an emerging science),
Scienza & Business, anno III, n.1-2 (2001).

G. Cuniberti, M. Raberto, M. Riani, and E. Scalas,
Econofisica (Econophysics),
Bollettino trimestrale INFM n. 37 (September 1998).

References

Prof. Markus J. Buehler
Department of Civil and Environmental Engineering
Massachusetts Institute of Technology
Cambridge, MA, USA
e-mail: mbuehler@mit.edu

Prof. Donhee Ham
School of Engineering and Applied Sciences
Harvard University
Cambridge, MA, USA
e-mail: donhee@seas.harvard.edu

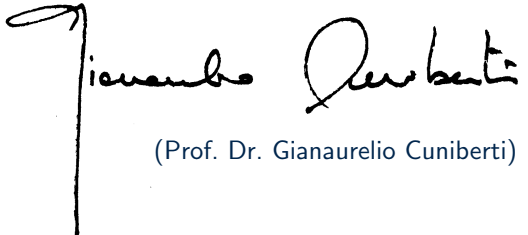
Prof. Abraham Nitzan
Department of Chemistry
University of Pennsylvania
Philadelphia (PA), USA
e-mail: anitzan@sas.upenn.edu

Prof. Nicola Marzari
Materials Science and Engineering
EPFL
Lausanne, Switzerland
e-mail: nicola.marzari@epfl.ch

Prof. Giorgio Metta
Scientific Director
Istituto Italiano di Tecnologia (IIT)
16163 Genova, Italy
e-mail: giorgio.metta@iit.it

Prof. Yoon-Ha Jeong
Dept. of Electronics and Electrical Engineering
POSTECH
Pohang, Korea
e-mail: yhjeong@postech.ac.kr

Dresden, April 10, 2025



(Prof. Dr. Gianaurelio Cuniberti)