Scientific CV

Personal Data

Name/Title:	PD Dr. rer. nat., Dr. rer. medic. Michael Hirtz, Dipl.-Phys.
Office Address:	Hermann-von-Helmholtz-Platz 1 76344 Eggenstein-Leopoldshafen
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Email:	michael.hirtz@kit.edu
Date/Place of Birth:	07.03.1979 in Coesfeld, Germany
Nationality:	German

Academic Education

10/1999-03/2005	Diploma in Physics (Grade 1,6) at the Westfälischen Wilhelms-Universität (WWU) Münster, Thesis Title: „Selbstorganisierte Musterbildung von DPPC auf Plasma- und RCA-behandeltem Silizium“
06/2005-03/2008	PhD (Dr. rer. medic.) in the Poliklinik für Kieferorthopädie of the University Hospital Münster (UKM), Thesis title: „Computergestützte Zahnbogenformberechnungen zur Verbesserung der Ergebnisqualität in der Orthodontie“ (magna cum laude)
06/2005-10/2009	PhD (Dr. rer. nat.) at the Physical Institute of the WWU Münster, Thesis Title: „Surface Structuring by Bottom-Up and Top-Down Approaches” (magna cum laude)
since 07/2017	Habilitation (PD) and venia legendi in Physics at the WWU Münster

Work Experience

02/2002-03/2005	„Studentische Hilfskraft“ in the Poliklinik für Kieferorthopädie of the University Hospital Münster (UKM)
08/2003-10/2003	Internship in the field of simulation programming at the Gesellschaft für Schwerionenforschung mbH, Darmstadt
04/2005-05/2005	Internship at the Jilin-University, Changchun, China
06/2005-11/2005	„Wissenschaftliche Hilfskraft“ at the Physical Institute of the WWU Münster
12/2005-12/2009	„Wissenschaftlicher Mitarbeiter“ at the Physical Institute of the WWU Münster
since 08/2007	Author for Römmp Online (Thieme Chemistry), field Nanobiotechnology
since 01/2010	„Wissenschaftlicher Mitarbeiter“ and leader of the DPN group of AG Fuchs at the Institute of Nanotechnology (INT), Karlsruhe Institute of Technology (KIT)
since 01/2013	Founding Journal Editor “Nanofabrication” (De Gruyter Open)
02-04/2013	Visiting Fellow at Nanyang Technological University Singapore
03-04/2014	Research Visit at Northwestern University, Department of Materials Science and Engineering
02/2015-03/2016	YIN-Speaker Transdisciplinary Committee
since 07/2016	KIT Associate Fellow (Teaching and Permission for PhD Committees)
since 03/2017	Editorial Board Member Scientific Reports, Springer Nature

Language Skills

German (native tongue), English (fluent), Chinese (basic)

Scientific CV

Grants and Awards

- CeNTech-Day Award 2009 for the project „Structuring Polymer Brushes by LB- and AFM-Lithography"
- KIT STUB Grant (Start-Up Budget) 2011, project „Substrate-independent and multiplexed Dip-Pen Nanolithography with Azide Inks on reactive Coatings for Bio-Applications"
- Invitation to the DFG NSF Research Conference 2011 "Bioinspired Design and Engineering of Novel Functional Materials", 22-25.3.2011, New York. Talk: "Writing Bio-Molecules via Dip-Pen Nanolithography - Towards a general Toolbox for the Immobilization of bioactive Molecules on Surfaces"
- Tan Chin Tuan Exchange Fellowship at Nanyang Technological University Singapore (2013)
- DAAD PPP Exchange with Taiwan at National Taiwan University (Project-ID 56193375) (2013)
- Coordinator and Scientific Supervisor for Marie Curie Actions (in call FP7-PEOPLE-2012-IEF) Grant for Project "DPNLipidMembranes" (2013-2015)
- "Best Talk given by a Young Scientist" Prize at the 17th Heiligenstädter Colloquium on "Technical Systems for the Life Sciences" (2014)
- Member of the Karlsruhe Young Investigator Network (YIN) since 2014, Alumnus since 2016
- Partner in ERC Proof of Concept Grant 2014 project "CTC-Capture" (2015-2016)
- DFG Project "Funktionalisierte optomechanische Schaltkreise aus Diamant für Infrarotspektroskopie und Gassensorik" (HI 1724/3-1) 2015-2018
- Partner in ERC Proof of Concept Grant 2016 project "CTCapture2.0" (2017-2018)
- Helmholtz-Enterprise Grant for start-up project "µyPrint" (2018)
- "High-End Foreign Talent" of Shanxi Province, China (2018)

Publications in peer-review journals

I have authored and co-authored over 70 articles[1] in journals with peer review and presented my work regularly on national and international conferences in posters and talks. According to Google Scholar[2] my I received 1668 citations, an h-index of 27 and an i10-index of 46 (as of 13.10.2018). Following five selected recent publications:

J. Atwater, D. S. Mattes, B. Streit, C. von Bojničić-Kninski, F. F. Loeffler, F. Breitling, H. Fuchs, M. Hirtz:
"Combinatorial Synthesis of Macromolecular Arrays by Microchannel Cantilever Spotting (µCS)"
Advanced Materials **2018**, 30, 1801632

R. Kumar, S. Weigel, R. Meyer, C. M. Niemeyer, H. Fuchs, M. Hirtz:
"Multi-Color Polymer Pen Lithography for Oligonucleotide Arrays"
Chemical Communications **2016**, 52, 12310-12313.

A. Urtizberea, M. Hirtz:
"A Diffusive Ink Transport Model for Lipid Dip-Pen Nanolithography"
Nanoscale **2015**, *7*, 15618–15634.

F. Brinkmann, M. Hirtz, A. Haller, T. M. Gorges, M. J. Vellekoop, S. Riethdorf, V. Müller, K. Pantel, H. Fuchs:
"A Versatile Microarray Platform for Capturing Rare Cells"
Scientific Reports **2015**, *5*, 15342.

M. Hirtz, A. Oikonomou, T. Georgiou, H. Fuchs, A. Vijayaraghavan:
"Multiplexed Biomimetic Lipid Membranes on Graphene by Dip-pen Nanolithography"
Nature Communications **2013**, 4, 2591.

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[1] Complete list on ResearcherID: http://www.researcherid.com/rid/C-8821-2011

[2] https://scholar.google.de/citations?user=Wy00YA4AAAAJ