Stefan Hecht
born January 6, 1974, married, two adult daughters

Contact Information
Department of Chemistry & Center for the Science of Materials Berlin
Humboldt-Universität zu Berlin, Germany
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Education

Habilitation in Organic Chemistry, Freie Universität Berlin, Germany	June 2006
Ph.D. in Organic Chemistry, University of California, Berkeley, U.S.A.	August 2001
Diplom in Chemistry, Humboldt-Universität, Berlin, Germany	August 1997
Abitur, Alexander-von-Humboldt-Gymnasium, Berlin, Germany	June 1992

Professional Experience

Einstein Professor — since Oct 2022
Laboratory of Organic Chemistry and Functional Materials and
Founding Director of the Center for the Science of Materials Berlin (CSMB)
Humboldt-Universität zu Berlin

Scientific Director of the DWI – Leibniz Institute for Interactive Materials — 2019–2022
and Chair of Macromolecular Chemistry at RWTH Aachen University

Chair and Full Professor (W3) — 2006–2019
Laboratory of Organic Chemistry and Functional Materials
Humboldt-Universität zu Berlin

Group Leader (Associate Professor, non-tenured) — 2005–2006
Organic Polymer and Materials Chemistry
Max-Planck-Institut für Kohlenforschung, Mülheim an der Ruhr, Germany
Lecturer at Technische Universität Dortmund, Germany

Young Investigator (Assistant Professor, non-tenured) — 2001–2004
Organic Polymer and Materials Chemistry
Freie Universität Berlin, Germany

Ph.D. Research in Organic Polymer Chemistry — 1997–2001
University of California, Berkeley, U.S.A.
Thesis Advisor: Prof. Jean M. J. Fréchet

Diplom Studies and Research in Organic Photochemistry — 1992–1997
Humboldt-Universität zu Berlin, Germany & University of California, Berkeley, U.S.A.
Thesis Advisor: Prof. William G. Dauben; Mentor: Prof. Jürgen Bendig

Honors and Distinctions

Elected member of the European Academy of Sciences (EurASc)	2021
Fellow of the Max Planck School *Matter to Life*	2020
Elected member of the National Academy of Science and Engineering (acatech)	2020
Elected member of the Academia Europaea (AE)	2020
Visiting professorship, Nagoya University	2018
Visiting professorship, Weizman Institute of Science	2015
BASF Lectureship by the Department of Chemistry, UC Berkeley	2013
Starting Grant (Consolidator Phase) of the European Research Council	2012
Klung-Wilhelmy-Weberbank Prize in Chemistry	2010
Fellow of the Royal Society of Chemistry	2010
ADUC Young Investigator Award of the German Chemical Society	2005
Top 100 Young Innovator Award of MIT's Technology Review	2004
Sofja Kovalevskaja Award of the Alexander von Humboldt Foundation	2002
Fellow of the Studienstiftung des Deutschen Volkes	1994–1997
Jugend Forscht Young Chemist Award (federal, regional & environmental prize)	1993
Jugend Forscht Young Chemist Award (regional prize)	1991

General Research Interests and Areas of Expertise

Development of (photo)responsive macromolecular and supramolecular systems to (optically) control and drive chemical, physical, and biological processes to realize unprecedented material properties and achieve new device functions.

Synthesis, Macro- & Supramolecular Chemistry, Photo- & Electrochemistry, Interfaces & Surfaces

Mentoring and Advancing of Young Researchers

Over the years, 48 PhD students (36 graduated) and 39 Master/Diplom students (37 graduated) as well as 21 postdoctoral researchers and 16 guest scientists have been and currently are being supervised and mentored. Various coworkers have received prestigious doctoral and postdoctoral fellowships (3x FCI, 3x Studienstiftung, 10x AvH) and several PhD students were recognized for their outstanding dissertation work (2x Albert-Weller-Preis and Carl-Roth-Förderpreis of the GDCh, Studienstiftung Friedrich-Hirzebruch-Award, Fischer-Nernst-Preis by HU Berlin, Award for best PhD thesis in Berlin, several selections for Lindau Nobel Meeting).

Key Scientific Contributions and Discoveries during Independent Academic Career

Nanotube synthesis by intramolecular crosslinking of helical foldamers	*Angew. Chem.* 2003
Creation of first photoswitchable helical foldamer	*Angew. Chem.* 2006
First report of electric field induced azobenzene isomerization (w/ L.Grill)	*J. Am. Chem. Soc.* 2006
Pioneering discovery of on-surface polymerization (w/ L.Grill)	*Nat. Nanotech.* 2007
Design of photoswitchable general base catalyst	*Angew. Chem.* 2008
Foldamer design based on backbones derived by click chemistry	*Angew. Chem.* 2008
Generation of switching lattices to create nanosize patterns (w/ L.Grill)	*Nat. Nanotech.* 2008
Synthesis & characterization of individual molecular wire (w/ L.Grill)	*Science* 2009
Development of hierarchical & templated on-surface polymerization (w/ L.Grill)	*Nat. Chem.* 2012
Creation of photoswitchable organic thin-film transistors (w/ P.Samorí)	*Nat. Chem.* 2012
Design of thermally stable, all-visible azobenzene photoswitches	*J. Am. Chem. Soc.* 2012
First report of light-driven dynamic covalent bond making & breaking	*Angew. Chem.* 2014
Preparation of flexible donor-acceptor molecular wires (w/ L.Grill)	*Nat. Commun.* 2015
Design of fatigue-resistant diarylethene photoswitches	*J. Am. Chem. Soc.* 2015
Morphology control in photoswitchable thin-film transistors (w/ P.Samorí)	*Nat. Commun.* 2015
Realization of high density & flexible optical memories (w/ P.Samorí)	*Nat. Nanotech.* 2016
Local control over thermal healing of dynamic polymer networks	*Nat. Commun.* 2016
Light-controlled self-healing & mending of dynamic polysiloxane networks	*Angew. Chem.* 2016
Creation of chaotic oscillators driven by sunlight (w/ A.P.H.J.Schenning)	*Nat. Commun.* 2016
Discovery of (photo)redoxcatalytic isomerization of azobenzenes	*J. Am. Chem. Soc.* 2017
Development of light-activatable sensitive amine detection materials	*Angew. Chem.* 2017
Development of photoswitchable (co)polymerization catalysis	*Nat. Catal.* 2018
Realization of light-driven reversible molecular trap	*Nat. Chem.* 2018
Realization of optical light emitting transistors (w/ P.Samorí)	*Nat. Nanotech.* 2019
Development of single photon NIR photoswitches	*J. Am. Chem. Soc.* 2020
Development of cooperative switching chains	*Angew. Chem.* 2020
Realization of long-range molecular motion (w/ L.Grill)	*Science* 2020
Development of xolography as new linear volumetric 3D printing technology	*Nature* 2020
Accelerated switch discovery by light-driven selection in dynamic libraries	*J. Am. Chem. Soc.* 2021

Publications

246 published/accepted peer-reviewed publications
48 non-refereed publications including 8 contributed book chapters
Editor (w/ I. Huc) of: "*Foldamers: Structure, Properties, and Application*", Wiley-VCH, 2007.
Special issue editor *Adv. Mater.* (2013, 2020), *Adv. Opt. Mater.* (2016), *Beilstein J. Org. Chem.* (2019)

Citations (according to Google Scholar; ORCID 0000-0002-6124-0222)
total: >23000 H-Index: 75

Invited Lectures and Keynotes

>290 invited lectures and keynotes at (inter)national conferences and research institutions
>10 public science lectures (during the "Year of Chemistry" 2003 and the "Year of Light" 2015)

Professional Functions

Current

Associate Editor of *Journal of Organic Chemistry* by the ACS (since 2018)
Editorial Board Member of *Advanced Science* (since 2014)
Member of the Selection Committee for Humboldt Research Fellowships by the Alexander von Humboldt Foundation (since 2023)
Member of the Scientific Advisory Committee of the Helmholtz Center Berlin (since 2023)
Member of the Scientific Advisory Board of the MPI for Microstructure Physics (since 2021)
Member of the Executive Board of Humboldt-Universitäts-Gesellschaft (since 2014)
Founder of xolo GmbH, commercializing xolography for volumetric 3D printing (since 2019)

Past

Interim-Dean of the merged Faculty of Mathematics and Natural Sciences (2014–2015)
Dean of the Faculty of Mathematics and Natural Sciences I (2012–2014)
Vice Dean of the Faculty of Mathematics and Natural Sciences I (two terms: 2008–2012)
Member of Academic Senate at Humboldt-Universität zu Berlin (two terms: 2014–2017)
Member of Standing Advisory Committee at Humboldt-Universität zu Berlin (2012–2015)
Member of Task Force & Forum Excellence at Humboldt-Universität zu Berlin (2011/2012)
Member of Academic Council at Humboldt-Universität zu Berlin (2010–2019)
Member of the Strategy Board of RWTH Aachen University (2020-2022)
Editorial Board Member of *Polymer Chemistry* (2010–2012) and *ChemSystemsChem* (2019-2022)
Mentor (Vertrauensdozent) of the Studienstiftung des Deutschen Volkes (2007–2019)
Organizer of various international scientific meetings (e.g. Sino-German Frontiers of Chemistry Symposium 2010, Polydays 2012, 7th International Symposium on Photochromism (ISOP) 2013, ERC Grantees Symposium 2014, 21st Lecture Conference of the GDCh's Liebig Vereinigung (ORCHEM) 2018, 14th International Symposium on Functional π-Electron Systems (Fπ-14) 2019), GDCh Division of Macromolecular Chemistry Meeting 2022, GRC Artificial Molecular Motors and Switches 2023
Evaluator of academic research institutions (University of Copenhagen)
Reviewer for funding agencies (ERC, DFG, AvH, NWO, FWO, SNF, FWÖ, DNRF, SFI, JST, NSF, ACS)
Reviewer/opponent in numerous national and international PhD thesis defenses

Scientific Affiliations

Elected member of the European Academy of the Sciences (EurASc)
Fellow of the Max Planck School *Matter to Life* (2020-2022)
Elected member of the National Academy of Science and Engineering (acatech)
Elected member of the Academia Europaea (AE)
Fellow of the Royal Society of Chemistry (RSC)
Member of the American Chemical Society (ACS)
Member of the German Chemical Society (GDCh)
Member of the European Photochemistry Association (EPA)
Member of the Berlin-Brandenburg Association for Polymer Research (BVP)
Founding Member of the Integrative Research Institute for the Sciences (IRIS) Adlershof

as of February 22, 2023