Curriculum Vitae

Stefan Mecking born October 16, 1966 in Aachen (German national)
father of three children born in 1999, 2004 and 2009
Web: www.chemie.uni-konstanz.de/mecking/
ORCID: 0000-0002-6618-6659. Researcher-ID: E-6991-2012.

Academic Education

2002	Habilitation for Macromolecular Chemistry, Albert-Ludwigs-Universität Freiburg
1994	Ph.D. in Technical Chemistry, RWTH Aachen (summa cum laude) Advisor: Prof. Dr. Wilhelm Keim
1986 – 1992	Studies of chemistry at RWTH Aachen (highest honors)
1975 – 1985	School education in Aachen, Chicago and Buchholz/Nordheide

Professional Experience

Since 2004	Full professor at the University of Konstanz, Chair of Chemical Materials Science
1998 – 2004	Habilitand/Privatdozent at Albert-Ludwigs-Universität Freiburg
1996 – 1998	Laboratory head and project leader at Hoechst Corporate Research, Frankfurt
1994 – 1996	Postdoctoral Feodor-Lynen-Fellow of the Alexander von Humboldt-Foundation at the University of North Carolina at Chapel Hill with Prof. Dr. Maurice Brookhart

Professional Activities

2016 – 2021	Vice-Speaker of the Collaborative Research Center SFB1214 ‘Anisotropic Particles as Builiding Blocks’
2014 – 2021	Board of the German Catalysis Society, Elected Member
2014 – 2016	Dean of the Faculty of Sciences of the University of Konstanz
2010 – 2014	Member of the Research Committee of the University of Konstanz
2006 – 2014	Elected member of the Academic Senate of the University of Konstanz
2005 – 2008	Head of the Board of Examiners for Chemistry of the University of Konstanz

Fellowships, Awards and other Honors

2019	ERC Advanced Grant
2019	Elected Visiting Fellow of Trinity College, University of Oxford (six months stay)
2008	Karl Ziegler-Giulio Natta-Lectureship by the Società Chimica Italiana
2003 – 2004	Lecturer-Stipend by the Association of the Chemical Industry e.V.
2003	BASF Catalysis Award
2003	DECHEMA Young Lecturer Award
2003	Hermann Schnell-Fellowship
2003	Otto Roelen-Medal of the DECHEMA and Celanese AG
2003	Offer of a tenured senior position (equivalent to associate professor, C3) by the Max-Planck-Institut für Kohlenforschung, Mülheim a.d. Ruhr
2003	Offer of a tenured associate professorship (C3) by the Technical University of Darmstadt
1994 – 1996	Feodor Lynen-Fellow of the Alexander von Humboldt-Foundation
1994	Borchers-Award of RWTH Aachen

Career Breaks

1985 – 1986	Compulsory military service (15 months)

Reviewer for science agencies and foundations (DFG, BMBF, ANR (France), NOW (Netherlands), JST (Japan), Alexander von Humboldt-Foundation) and journals (*J. Am. Chem. Soc., Angew. Chem., Macromolecules, ACS Catal., Organometallics, Nature Mater., Chem. Eur. J., Chem. Commun., Chem. Sci, Polym. Chem.* and others). Member of on-site evaluation panels (SFBs, CNRS).

Editorial advisory board of *Macromolecules* 2012 – 2015. EAB of *ACS Catalysis* since 2019.

Member of the German Chemical Society, American Chemical Society and DECHEMA

Major ongoing academic extramural collaborations with

Prof. Lucia Caporaso & Prof. Luigi Cavallo, University of Salerno and KAUST	on catalytic polymerization and carbonylation reaction mechanisms using DFT methods
Prof. Karen Winey, UPenn	on structural characterization of layered morphologies from polyethylene telechelics for ion conducting materials.
Prof. Theo Tervoort, ETH Zurich	on a novel processing concept for high performance ultra-high molecular weight polyethylenes
Prof. Holger Frauenrath, EPF Lausanne	on supramolecular PE-telechelic-based polymers

Teaching on all levels of B.Sc. and M.Sc. curricula for students of Chemistry, Life Science and Nanoscience. This comprises lectures and corresponding practical courses in: General and inorganic chemistry (1st year B.Sc., winter term), Polymer chemistry (2nd year, summer term), Industrial chemistry and renewable resources (M.Sc., winter term), Functional materials (M.Sc. summer term).

Supervision of graduate students and postdoctoral fellows. Supervisor of 50 PhD theses successfully completed, and 15 ongoing PhD theses (students co-supervised by associated junior group leaders not included). Host to 23 postdoctoral fellows to date. These alumni hold distinguished positions with major international chemical companies or academic institutions in Germany, France, Switzerland, Spain, the U.K., China, the Netherlands, India and the United States today (including 10 professorships). ~100 M.Sc. and B.Sc. theses have been carried out in the laboratory.

Current Major Grants

Project Title	*Funding source*	*Amount*[1]	*Period*	*Role of the PI*
Intelligent Non-Persistent Polyethylene-Like Materials	Carl Zeiss Foundation	€ 1.993.000	2021-2025	Speaker of consortium and project lead. Postdoc & PhD supervisor.
Degradable Polyolefins Enabled by Cataytic Methods	ERC	€ 2.498.000	2019-2024	Sole applicant and project lead. Postdoc and PhD supervisor.
Biorefining of Microalgae-Lipids to Industrial Key Chemicals via Integration of Extraction and Tandem-Catalysis (INTEXCAT)	BMBF	€ 927.000	2018-2022	Sole applicant and project lead. Postdoc and PhD supervisor.

Research and innovation track record

Total 265 peer-reviewed publications (~100 in high-impact journals with IF > 12, listed here), > 150 thereof as the sole PI and single corresponding author. Publications receive ~1000 citations per year currently, total citations > 13000, h-index 60, highest cited research paper is cited > 1000×[a] (full list of publications cf. here). > 170 Invited lectures held at individual institutions and at conferences (full list here).

Ten Selected Publications

- N. S. Schunck, S. Mecking: In vivo Olefin Metathesis in Microalgae Upgrades Lipids to Building Blocks for Polymers and Chemicals.
  Angew. Chem. Int. Ed. **2022**, e202211285. 10.1002/anie.202211285
- M. Baur, F. Lin, T. O. Morgen, L. Odenwald, S. Mecking: Polyethylene Materials with In-Chain Ketones from Non-Alternating Catalytic Copolymerization.
  Science **2021**, *374*, 604 – 607. 10.1126/science.abi8183
- M. Häußler, M. Eck. D. Rothauer, S. Mecking: Closed-Loop Recycling of Polyethylene-Like Materials.
  Nature **2021**, *590*, 423–427. 10.1038/s41586-020-03149-9
- T. O. Morgen, M. Baur, I. Göttker-Schnetmann, S. Mecking: Photodegradable Branched Polyethylenes from Carbon Monoxide Copolymerization under Benign Conditions.
  Nature Commun. **2020**, *11*, 3693. 10.1038/s41467-020-17542-5
- M. Schnitte, A. Staiger, L. A. Casper, S. Mecking: Uniform Shape Monodisperse Single Chain Nanocrystals by Living Aqueous Catalytic Polymerization.
  Nature Commun. **2019**, *10*, 2592. 10.1038/s41467-019-10692-1
- P. Roesle, C. J. Dürr, H. M. Möller, L. Cavallo, L. Caporaso, S. Mecking: Mechanistic Features of Isomerizing Alkoxycarbonylation of Methyl Oleate.
  J. Am. Chem. Soc. **2012**, *134*, 17696–17703. 10.1021/ja307411p
- D. Quinzler, S. Mecking: Linear Semicrystalline Polyesters from Fatty Acids by Complete Feedstock Molecule Utilization.
  Angew. Chem. Int. Ed. **2010**, *49*, 4306–4308. 10.1002/anie.201001510
- D. Guironnet, P. Roesle, T. Rünzi, I. Göttker-Schnetmann, S. Mecking: Insertion Polymerization of Acrylate.
  J. Am. Chem. Soc. **2009**, *131*, 422–423. 10.1021/ja808017n
- I. Göttker gen. Schnetmann, B. Korthals, S. Mecking: Water-Soluble Salicylaldiminato Ni(II)-Methyl Complexes: Enhanced Dissociative Activation for Ethylene Polymerization with Unprecedented Nanoparticle Formation.
  J. Am. Chem. Soc. **2006**, *128*, 7708–7709. 10.1021/ja0619962
- S. Mecking, L. K. Johnson, L. Wang, M. Brookhart: Mechanistic Studies of the Palladium-Catalyzed Copolymerization of Ethylene and 1-Olefins with Methyl Acrylate.
  J. Am. Chem. Soc. **1998**, *120*, 888–899. 10.1021/ja964144i

Research monographs (5 examples)**.**

- S. Mecking, M. Schnitte: Neutral Nickel(II) Catalysts: from Hyperbranched Oligomers to Nanocrystal-Based Materials. *Acc. Chem. Res.* **2020**, *53*, 2738 – 2752. doi
- F. Stempfle, P. Ortmann, S. Mecking: Long-Chain Aliphatic Polymers to Bridge the Gap between Semicrystalline Polyolefins and Traditional Polycondensates.
  Chem. Rev. **2016**, *116*, 4597–4641. doi
- M. C. Baier, M. A. Zuideveld, S. Mecking: Post-Metallocenes in the Industrial Production of Polyolefins. *Angew. Chem. Int. Ed.* **2014**, *53*, 9722–9744. doi
- J. Pecher, S. Mecking: Nanoparticles of Conjugated Polymers.
  Chem. Rev. **2010**, *110*, 6260–6279. doi

a) according to Web of Science.

- S. Mecking: Nature or Petrochemistry? – Biologically Degradable Materials. *Angew. Chem Int. Ed.* **2004**, *43*, 1078–1085. doi

Contributions to the early careers of young researchers. Examples of the successful track records of alumni comprise Zhongbao Jian (full prof. CAS Changchun), Ye Liu (prof. CAS Dalian), Abder Amgoune (full prof. ULyon), Damien Guironnet (prof. UIUC), Cyril Aymonier (Directeur de Recherche, Bordeaux), Vincent Monteil (DdR, Lyon) and industrial research positions with leading companies like BASF, Bosch, Clariant, Covestro, DSM, Dow, EMS, Henkel, Lanxess, Linde, Kuraray or SABIC (full list: here). Mentorship to stipends attracted in competitive procedures, comprising 13 Alexander von Humboldt Postdoctoral Research Fellowships and 3 Marie Curie Fellowships.

Leadership in industrial innovation. Pioneering development of hybrid polymerization catalysts based on early and late transition metal centers (US Pats 6262196 B1 and 6384144 B1, EP 963385 B1) at Hoechst Corporate Research. Further development culminated in the first industrial application of late transition metal catalysts for polyolefin production (practised on a multi-thousand ton scale today). Founder and CEO of startup hyperpolymers 2001–2007. Research cooperations with major companies in Germany, Europe and the United States (Altana, BASF, BYK, Goodyear, Lanxess, SABIC, Solvay). Inventor of ~40 granted international patents.