

Prof. Dr. rer. nat. habil. Michael Mehring

Professur Koordinationschemie, Institut für Chemie, Technische Universität Chemnitz

Date of birth: January 7, 1971
Place of birth: Hamm, Germany

Scientific Career

1990 – 95 Diploma Studies of Chemistry at TU Dortmund
1995 – 98 Doctoral Studies with Prof. Dr. K. Jurkschat, Professur Anorganische Chemie I, TU Dortmund
1998 – 99 Postdoctoral Studies with Prof. Dr. R.J.P. Corriu / Prof. Dr. A. Vioux, Université de Montpellier II, France
1999 – 05 Habilitation at Lehrstuhl für Anorganische Chemie I, TU Dortmund
2006 Privatdozent at TU Dortmund
Since 2006 Professor for Coordination Chemistry at TU Chemnitz
Since 2010 Faculty Board Member of the Faculty of Natural Sciences
2010 – 2012 Vice Director of the Institute of Chemistry
2010 – 2013 Dean of Study Affairs of the Bachelor and Master Program *Chemistry*
2012 – 2013 Vice-Dean of the Faculty of Natural Sciences
Since 2013 Dean of the Faculty of Natural Sciences
Since 2015 Member of the Extended Governing Board of the Centre of "Economy & Knowledge Transfer" at TU Chemnitz
Since 2015 Dean of Study Affairs of the International Master Program *Advanced Functional Materials*

Scientific Focus

Organometallic/Inorganic Chemistry including Precursors for Thin Film Formation; Organic-Inorganic Hybrid Materials, Photocatalysis, Metal Oxido Clusters, Nanoparticles, Metal oxides

Selected Scientific Activities

Since 2006 Reviewer for Diverse International Journals and Funding Organizations (DFG, Romanian Research Council, Hong Kong Research Government, Humboldt Foundation)
Since 2011 Advisory Board Member of the Journal "Main Group Metal Chemistry"
Since 2011 Vice-Coordinator of the DFG FOR 1497 "Twin Polymerisation"

Selection of Funding Projects

Since 2010 DFG-SPP 1415 "*Untersuchungen zur Selbstorganisation und Keimbildung metastabiler Bismutoxid-Modifikationen*" (PI)
Since 2011 DFG-FOR 1497 "Twin Polymerization" (Vice Coordinator, PI)
Since 2015 DFG-SPP 1807 "Heavy main group elements as dispersion energy donors - experimental and theoretical studies of bismuth compounds with bismuth- π -interactions as structure determining component" (PI)
Since 2016/17 Partner in projects with Prof. P. Andrews (Chief Investigator, Monash University, Melbourne, Australia): DAAD-PPP *Polymerisable bismuth precursors for antimicrobial organic-inorganic hybrid materials* and ARC Discovery Project DP160102498 *Novel Antimicrobial and Anti-Leishmanial Bismuth Compounds and Materials*

Scientific Achievements & Recognitions

1994 Grant - WASAG-foundation
1998 Distinction by the Fonds der Chemischen Industrie (for fast studies of chemistry)
1999 Distinction by TU Dortmund for the best PhD thesis
2009, 2011, 2012, 2013
& 2014 Distinction for good teaching practise awarded by the chemistry students of the faculty of natural sciences

Publication List (ten selected publications)

1. Mehring, M.: From molecules to bismuth oxide-based materials: Potential Homo- and heterometallic precursors and model compounds. *Coord. Chem. Rev.* 251 (2007), p. 974–1006. DOI: 10.1016/j.ccr.2006.06.005
2. Schlesinger, M.; Schulze, S.; Hietschold, M.; Mehring, M.: Evaluation of synthetic methods for microporous metal-organic frameworks exemplified by the competitive formation of $[\text{Cu}_2(\text{btc})_3(\text{H}_2\text{O})_3]$ and $[\text{Cu}_2(\text{btc})(\text{OH})(\text{H}_2\text{O})]$. *Micropor. Mesopor. Mat.* 132 (2010) p. 121-127. DOI: 10.1016/j.micromeso.2010.02.008
3. Böttger-Hiller, F.; Lungwitz, R.; Seifert, A.; Hietschold, M.; Schlesinger, M.; Mehring, M.; Spange, S.: Nanoscale Tungsten Trioxide Synthesized by In Situ Twin Polymerization *Angew. Chem. Int. Ed.* 48 (2009) p. 8878-8881. DOI: 10.1002/anie.200903636
4. Miersch, L.; Schlesinger, M.; Troff, R.W.; Schalley, C.A.; Ruffer, T.; Lang, H.; Zahn, D.; Mehring, M.: Hydrolysis of a Basic Bismuth Nitrate – Formation and Stability of Novel Bismuth Oxido Clusters. *Chem. Eur. J.* 17 (2011) p. 6985-6990. DOI: 10.1002/chem.201100673
5. Miersch, L.; Ruffer, T.; Mehring, M.: Organic–inorganic hybrid materials starting from the novel nanoscaled bismuth oxido methacrylate cluster $[\text{Bi}_{38}\text{O}_{45}(\text{OMc})_{24}(\text{DMSO})_9] \cdot 2\text{DMSO} \cdot 7\text{H}_2\text{O}$. *Chem. Commun.* 47 (2011) p. 6353-6355. DOI: 10.1039/C1CC11299F
6. Leonhardt, C.; Brumm, S.; Seifert, A.; Cox, G.; Lange, A.; Ruffer, T.; Schaarschmidt, D.; Lang, H.; Jöhrmann, N.; Hietschold, M.; Simon, F.; Mehring, M.: Tin Oxide Nanoparticles and $\text{SnO}_2/\text{SiO}_2$ Hybrid Materials by Twin Polymerization Using Tin(IV) Alkoxides. *ChemPlusChem.* 78 (2013) p. 1400-1412. DOI: 10.1002/cplu.201200242
7. Schlesinger, M.; Schulze, S.; Hietschold, M.; Mehring, M.: Metastable $\beta\text{-Bi}_2\text{O}_3$ nanoparticles with High Photocatalytic Activity from Polynuclear Bismuth Oxido Clusters. *Dalton Trans.* 42 (2013) p. 1047-1056. DOI: 10.1039/C2DT32119J
8. Kitschke, P.; Auer, A.A.; Löschner, T.; Seifert, A.; Spange, S.; Ruffer, T.; Lang, H.; Mehring, M.: Microporous Carbon and Mesoporous Silica by use of Twin Polymerization - An integrated Experimental and Theoretical Approach on Precursor Reactivity *ChemPlusChem* 7 (2014) p. 1009-1023. DOI: 10.1002/cplu.201402029
9. Büchter, B.; Seidel, F.; Fritzsche, R.; Toader, I.; Buschbeck, R.; Jakob, A.; Schulze, S.; Freitag, H.; Lang, H.; Hietschold, M.; Zahn, D.R.T.; Mehring, M.: Ultrasonic spray coating and flash lamp annealing of silicon nanoparticle dispersions for silicon thin film formation *J. Mat. Sci.* 23 (2014) p. 7979-7990. DOI: 10.1007/s10853-014-8505-8
10. Kitschke, P.; Walter, M.; Ruffer, T.; Seifert, A.; Speck, F.; Seyller, T.; Spange, S.; Lang, H.; Auer, A. A.; Kovalenko M. V.; Mehring, M.: Porous Ge@C materials via Twin polymerization of germanium(II) salicyl alcoholates for Li-ion batteries *J. Mater. Chem. A* 4 (2016), p. 2705-2719. DOI: 10.1039/C5TA09891B

Selected Patent

1. US20130069021A1: Tin oxide-containing polymer composite materials. BASF SE, A. Lange, G. Cox, K. Leitner, H. Wolf, M. Mehring, C. Leonhardt (date of publication 21.03.2013) (see also WO2013042034A1 and EP2759008A1)