

# Curriculum Vitae **Prof. Dr. Stefanie Dehnen**

\*31.05.1969 (Gelnhausen, Germany), female,  
married, four children (\*1994, \*1997, \*2000, \*2010)

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Position: Executive Director of the Institute of Nanotechnology and Professor (W3) of  
Information-Based Materials Design and Nanoscience and Inorganic Chemistry

Expertise: Synthesis, experimental and quantum chemical investigation of compounds with multinary, in particular multimetallic,  
cluster-based materials possessing potential as innovative catalysts, white-light emitters, or battery materials

Website: <https://www.int.kit.edu/dehnen.php>



## School and University Education

- 2004 Habilitation (Dr. rer. nat. habil.) and Venia Legendi (Priv. Doz.) in Inorganic Chemistry, Universität Karlsruhe (KIT),  
"Investigations on the chemistry of chalcogenostannate salts"
- 1996 Doctoral degree in Chemistry (Dr. rer. nat.), Universität Karlsruhe (KIT), "Experimental and theoretical investigations  
on sulfur-bridged and selenium-bridged copper clusters", thesis advisor: Prof. D. Fenske (*summa cum laude*)
- 1993 Diploma degree in Chemistry (Dipl. Chem.), Universität Karlsruhe (KIT), supervisor: Prof. D. Fenske (*with distinction*)
- 1988–1993 Studies in Chemistry, University of Karlsruhe (now KIT)
- 1988 Abitur, Grimmelschule Gelnhausen (1.0)

## Professional Experience

- 2021 Offer for a Professorship (W3) in Information-Based Materials Design and Nanoscience at Karlsruhe Institute of  
Technology, KIT (accepted 19.04.2022)
- 2014 Offer for a chair (W3) of Inorganic Chemistry at Universität zu Köln (declined)
- 2011 Offer for a chair (W3) of Supramolecular Chemistry at Georg-August-Universität Göttingen (declined)
- 2006–2022 Professor (W3) in Inorganic Chemistry at Philipps-Universität Marburg
- 2006 Offer for a professorship (W3) in Inorganic Chemistry at Philipps-Universität Marburg (accepted 07.07.2006)
- 2005 Offer for a professorship (W2) in Inorganic Chemistry at Philipps-Universität Marburg (accepted 21.12.2005)
- 2005 Offer for a chair of Inorganic Chemistry at Johannes-Kepler Universität Linz, Austria (declined)
- 2004–2005 Lecturer/Dozent at the Institut für Anorganische Chemie at Universität Karlsruhe (KIT)
- 1998–2004 Scientific Assistant at the Institut für Anorganische Chemie at Universität Karlsruhe (KIT)
- 1997 Postdoc at the chair of Theoretical Chemistry with Prof. R. Ahlrichs, Universität Karlsruhe (KIT), "Quantum chemical  
investigations on complexes of f-elements"

## Honors and Awards

- 2024 Leibniz Lecture by German Research Foundation (DFG) and Leopoldina – German National Academy of Sciences
- 2024– Elected Corresponding Member Abroad of the Austrian Academy of Sciences (OeAW)
- 2024– Honorary Fellow of the Chinese Chemical Society (CCS)
- 2024– Fellow of Chemistry Europe
- 2024 Lappert Prize Lecture awarded by the Royal Society of Chemistry (RSC)
- 2023 Alexander Todd-Hans Krebs Lectureship in Chemical Sciences from RSC and GDCh
- 2022 ERC Advanced Grant from the European Research Council
- 2022– Elected Full Member of Berlin-Brandenburg Academy of Sciences and Humanities
- 2022 Gottfried Wilhelm Leibniz Prize awarded by the German Research Foundation (DFG)
- 2020– Elected Full Member of Leopoldina – German National Academy of Sciences
- 2020 Alfred Stock Memorial Award by the German Chemical Society (Gesellschaft Deutscher Chemiker, GDCh)
- 2020 Margot Becke Lectureship at the University of Heidelberg
- 2019– Elected Full Member of the European Academy of Sciences (EurASc)
- 2018 Philipps-Universität Marburg Award for Promotion of Women in Science
- 2016– Elected Full Member of the Academy of Sciences and Literature, Mainz (Akademie der Wissenschaften und der  
Literatur Mainz)
- 2016– Elected Full Member of Göttingen Academy of Sciences and Humanities in Lower Saxony (Niedersächsische  
Akademie der Wissenschaften zu Göttingen)
- 2011 Teaching Award 2010 from JungChemikerForum and Fachschaft Chemie at Philipps-Universität Marburg (UMR)
- 2010– Member at *AcademiaNet – Internetportal für exzellente Wissenschaftlerinnen*

2005	State-of-Baden-Württemberg Teaching Award
2005	Heisenberg Fellowship from DFG
2005,07–10	Attendance to 11.,13.-16. GAFOS Symposium (Irvine, USA and Potsdam, Germany) upon invitation by Alexander von Humboldt Foundation and National Academy of Sciences (NAS)
2004	Wöhler Young Investigator Prize by GDCh
2003	Sponsorship from Dr. Otto Röhm-Gedächtnisstiftung
1998–2003	Margarete von Wrangell Habilitation Stipend (State of Baden-Württemberg)
1997	Feodor Lynen Research Fellowship from Alexander von Humboldt Foundation (AvH)
1995	Award for Best Students at Karlsruhe Universities in 1994
1994–1996	Dissertation Grant from Landesgraduierten-Förderung Baden-Württemberg
1991	Scholarship for attendance to Baden-Württemberg-Kolloquium

### Commission of Trust

2024–	Spokesperson of <i>Helmholtz Information Program</i> “Materials System Engineering”
2024–	President of the German Chemical Society (Gesellschaft Deutscher Chemiker, GDCh)
2024–	Deputy Chairperson of the Chemistry Section of Leopoldina – German National Academy of Sciences
2023–	Editor-in-Chief of <i>Inorganic Chemistry</i> (ACS)
2022–	Member of the Selection Committee of The Leopoldina Fellowship Program
2021–	Editorial Board Member of <i>Chemistry – A European Journal</i> (Wiley-VCH)
2021–	Advisory Board Member of <i>Natural Sciences</i> (Wiley-VCH)
2021–	National Advisory Board Member of NFDI4Chem, Chemistry Consortium in the NFDI
2021–	Advisory Board Member of the Max Planck Institute for Chemical Physics of Solids in Dresden
2021–	International Advisory Board Member of the <i>Canadian Journal of Chemistry</i> (CSP)
2020–	Editorial Advisory Board Member of <i>Chemical Reviews</i> (American Chemical Society, ACS)
2020–	Editorial Board Member of <i>Comptes Rendus Chimie</i> (French Académie des Sciences, Elsevier)
2020–	Member of the selection committee of Feodor Lynen Postdoctoral Fellowships (AvH)
2020–2021	Vice President of GDCh
2019–	Elected Member of the Board of GDCh
2019–2022	Spokesperson of the Wöhler Association for Inorganic Chemistry at GDCh
2018–	Member of the Board of Trustees of the Chemical Industry Fund (FCI)
2018–	Member of the committee of the Dioscuri Programme (Max-Planck-Gesellschaft, MPG)
2018–2022	Associate Editor of <i>Inorganic Chemistry</i> (ACS)
2017–2018	Editorial Advisory Board Member of <i>Inorganic Chemistry</i> (ACS)
2017–2023	Editorial Board Member of <i>Inorganic Chemistry Frontiers</i> (Royal Society of Chemistry, RSC)
2016–2024	Elected Member and Spokesperson of the Review Board (Fachkollegium) “Molecular Chemistry” at DFG
2016–2019	Jury member of “Starke Forschung Chemie” at Ministry of Innovation, Science and Research North Rhine-Westphalia
2016–2023	Faculty Advisory Board Member (Vice Spokesperson) of the Faculty of Chemistry and Geosciences at Friedrich-Schiller-Universität Jena
2014–2022	Elected Member of the Wöhler Association for Inorganic Chemistry at GDCh
2008–	Editorial Advisory Board Member of <i>Zeitschrift für Anorganische und Allgemeine Chemie</i> (Wiley-VCH)

### Institutional Responsibilities

2023–	Vice Spokesperson of the DFG Collaborative Research Center CRC/SFB 1573 “4f For Future”
2019–	Spokesperson of DFG Research Unit FOR 2824 “Amorphous Molecular Materials with Extreme Non-Linear Optical Properties”
2019–2022	Spokesperson of the International Structured Ph.D. Program “Compounds with Strongly Relativistic Elements: Knowledge–Use–Sustainability” (UMR, University of Helsinki, Aalto-University)
2013–2015	Executive Director of Scientific Center of Materials Science (WZMW) at Philipps-Universität Marburg (UMR)
2013–2015	Chairwoman of Marburg Division of GDCh
2012–2021	Vice Spokesperson of DFG Graduate School GRK 1782 “Functionalization of Semiconductors”
2008–2012	Vice Dean (2008–2011) and Dean (2011–2012) of the Department of Chemistry at UMR
2006–2022	Director of Scientific Center of Materials Science (WZMW) at UMR
2006–2022	Erasmus administrator (Inorganic Chemistry) of the Department of Chemistry at UMR
2006–2022	Member of the Faculty Council of the Department of Chemistry at UMR
2006–	Executive Director of Chemikum Marburg ( <a href="http://www.chemikum-marburg.de">http://www.chemikum-marburg.de</a> )

## Organization of Conferences

2024	Convenor for the theme "Nanochemistry/Materials" and member of the International Scientific Committee of the 9 <sup>th</sup> EuChemS Congress (ECC9) in Dublin, Ireland
2024	Chairperson of the "Gordon Research Conference on Atomically Precise Nanochemistry" in Galveston, Texas, USA
2023/24	Chairperson and Organization of the "Inorganic Chemistry Lectureship Award Symposium" at the ACS Fall Meeting in San Francisco, California, USA and at the ACS Fall Meeting in Denver, Colorado, USA
2019/23	International Advisory Board Member of "International Conference on the Coordination and Organometallic Chemistry of Germanium, Tin and Lead", GTL-16 in Saitama, Japan and GTL-17 in Wellington, New Zealand
2019/21/23	Advisory Board Member of GDCh Science Forum Chemistry (GDCh-Wissenschaftsforum; 2019 in Aachen, Germany; 2021 online; 2023 in Leipzig, Germany)
2017/19/21/23	Chairperson and Co-Organization of "Dialogue in Inorganic Chemistry" at GDCh Science Forum Chemistry at GDCh Science Forum Chemistry (2017 in Berlin, Germany; 2019 in Aachen, Germany; 2021 online; 2023 in Leipzig, Germany)
2022	Chairperson and Organization of the joint conference of the GDCh Divisions of Inorganic Chemistry ("Wöhlervereinigung") and of Solid-State Chemistry and Materials Research in Marburg, Germany
2022	Vice-Chairperson of the "Gordon Research Conference on Atomically Precise Nanochemistry" in Ventura, California, USA
2020	Chairperson and Organization of the "Online-Conference on Inorganic Chemistry" by the GDCh Divisions of Inorganic Chemistry ("Wöhlervereinigung") and of Solid-State Chemistry and Materials Research
2020	Organization of the "Power Hour" at the "2020 Inaugural Gordon Research Conference on Atomically Precise Nanochemistry" in Galveston, Texas, USA
2018	International Advisory Committee Member of "15 <sup>th</sup> Conference of Inorganic Ring Systems" (IRIS15) in Kyoto, Japan
2017	Chairperson and Organization of "Chemiedozententagung 2017" by GDCh and ADUC in Marburg, Germany
2015	National Advisory Committee, "14 <sup>th</sup> Conference of Inorganic Ring Systems" (IRIS14) in Regensburg, Germany
2008/09/10	Organization Committee Member of "German-American Frontiers of Science-Symposium" (GAFOS) by AvH Foundation and NAS in Berlin, Germany or Irvine, California, USA

## Early Career Support

2011–	8 Habilitands (Assistant Professors) – by now: 1 Professor (W2), 3 Associate Professors (Priv.-Doz.), 3 Emmy Noether Fellows (DFG), 3 Heisenberg Fellows (DFG), 4 Liebig Fellows (Chemical Industry Fonds), 1 YIGPrepPro Fellow (KIT)
2011–2021	Mentor in the programs ProProfessur and SciMento (State of Hessen) and in the mentoring program for graduate students at University of Rostock
2009–	Host to 7 Alexander von Humboldt Fellows (postdoctoral fellows or experienced researchers)
2006–	>20 Postdocs – by now: 2 Professors (tenured) in China, 1 Professor (tenured) in the UK >35 Dr. rer. nat. – by now: 1 Professor (tenured) in India, 1 Junior Professor (W1ttW2), 3 habilitation candidates, 2 lecturers (Akademischer Rat) at German Universities >45 Diploma/Master degrees
1999–2005	1 Postdoc; 2 Dr. rer. nat.; 3 Diploma degrees (as Assistant and Associate Professor at Universität Karlsruhe)

## Memberships

Gesellschaft Deutscher Chemiker (German Chemical Society, GDCh, 1994–), American Chemical Society (ACS, 2006–), Division for Inorganic Chemistry at GDCh (Wöhler-Vereinigung, 2010–), Association of German University Professors in Chemistry (ADUC, 2011–), German Society of Humboldtians (2016–), AG Phosphorchemie at GDCh (2019–), American Association for the Advancement of Science (2024–)

**Refereeing Activity** (Selection): Max-Planck-Gesellschaft (MPG); German Research Foundation (DFG); Alexander von Humboldt Foundation; Chemical Industry Fund; various international science foundations; all relevant scientific journals by Springer-Nature, AAAS ACS, RSC, Wiley-VCH, Cell Press, Elsevier.

## Scientific Output and Visibility (overview; as per 29.09.2024):

Publications	329 (>315 peer-reviewed; ISI Web of Science), e.g.: <i>Chem. Rev.</i> (1), <i>Chem. Soc. Rev.</i> (2), <i>Acc. Chem. Res.</i> (1) <i>Science</i> (1), <i>Nat. Chem.</i> (2), <i>Nat. Commun.</i> (2), <i>Angew. Chem. Int. Ed.</i> (39), <i>J. Am. Chem. Soc.</i> (12), <i>JACS Au</i> (2), <i>Chem. Sci.</i> (3), <i>Coord. Chem. Rev.</i> (3), <i>Adv. Funct. Mater.</i> (1), <i>Adv. Opt. Mater.</i> (1), <i>Chem. Mater.</i> (6), <i>Chem. Commun.</i> (16), <i>Comm. Chem.</i> (2), <i>Chem. Eur. J.</i> (34), <i>Inorg. Chem.</i> (40), <i>Dalton Trans.</i> (14), <i>Organometallics</i> (7) >10 Review articles; >5 Book chapters; 2 Patents
Citations	Total: >8300; average citation: >26 per item (ISI Web of Science)
H-index	52 (Google Scholar); 49 (ISI Web of Science)
Lectures	~250 invited lectures in 14 different countries across the globe, including ~170 invited lectures at research institutes worldwide (>25 lectures at GDCh colloquia in Germany) ~80 invited lectures at international conferences: >25 Plenary Lectures (EuChemS Conference, ACS Meeting, GDCh Science Forum Chemistry, Congresso Nazionale della SCI, ICCO, IRIS, ISOS, ICOC) or Keynotes, >30 other invited lectures (including Gordon Research Conferences, ACS Meetings, Pacificchem)

### Top-Ten Papers (recent):

- (1) "Ion-Selective Assembly of Supertetrahedral Selenido Germanate Clusters for Alkali Metal Ion Capture and Separation"  
Z. Wu, F. Weigend, D. Fenske, T. Naumann, J. M. Gottfried, S. Dehnen,\* *J. Am. Chem. Soc.* **2023**, *145*, 3802–3811.
- (2) "φ-Aromaticity in prismatic {Bi<sub>6</sub>}-based clusters"  
B. Peerless, A. Schmidt, Y. Franzke,\* S. Dehnen,\* *Nat. Chem.* **2023**, *15*, 347–356. **Highlight:** *Nachr. Chem.* **2024**, *72*, 57.
- (3) "Reactive Solubilization of Heterometallic Clusters by Treatment of (TrBi<sub>3</sub>)<sup>2-</sup> Anions (Tr = Ga, In, Tl) with [Mn{N(SiMe<sub>3</sub>)<sub>2</sub>}<sub>2</sub>]"  
J. Rienmüller, A. Schmidt, N. J. Yutronkie, R. Clérac, C. G. Werncke,\* F. Weigend,\* S. Dehnen,\* *Angew. Chem. Int. Ed.* **2022**, *61*, e202210683. **Highlight:** *Nachr. Chem.* **2024**, *72*, 59.
- (4) "Ionochemical Access to Defined Oligomers of Supertetrahedral Selenido Germanate Clusters"  
Z. Wu, I. Nußbruch, S. Nier, S. Dehnen,\* *JACS Au* **2022**, *2*, 204–213 (Cover Image).
- (5) "Substantial π-aromaticity of the anionic heavy-metal cluster [Th@Bi<sub>12</sub>]<sup>4-</sup>"  
A. R. Eulenstein, Y. J. Franzke, N. Lichtenberger, R. J. Wilson, L. Deubner, F. Kraus, R. Clérac, F. Weigend,\* S. Dehnen,\* *Nat. Chem.* **2021**, *13*, 149–155. **Highlights:** *Nachr. Chem.* **2022**, *70*, 55; [www.chemie.de](http://www.chemie.de).
- (6) "Stabilizing a Metalloid {Zn<sub>12</sub>} Unit within a Polymetallide Environment in [K<sub>2</sub>Zn<sub>20</sub>Bi<sub>16</sub>]<sup>6-</sup>"  
A. R. Eulenstein, Y. J. Franzke, P. Bügel, W. Massa, F. Weigend,\* S. Dehnen,\* *Nat. Commun.* **2020**, *11*, 5122. **Highlight:** Featured in Nature Communications Editors' Highlights webpage.
- (7) "[{(PhSn)<sub>3</sub>SnS<sub>6</sub>}{(MCP)<sub>3</sub>S<sub>4</sub>}] (M = W, Mo): Minimal Molecular Models of the Covalent Attachment of Metal Chalcogenide Clusters on Doped Transition Metal Dichalcogenide (TMDC) Layers"  
E. Dornsiepen, F. Pieck, R. Tonner, S. Dehnen,\* *J. Am. Chem. Soc.* **2019**, *141*, 16494–16500.
- (8) "Vacancy-Controlled Na<sup>+</sup> Superior Conduction in Na<sub>11</sub>Sn<sub>2</sub>PS<sub>12</sub>"  
M. Duchardt, U. Ruschewitz, S. Adams, S. Dehnen,\* B. Roling,\* *Angew. Chem. Int. Ed.* **2018**, *129*, 1351–1355. **Highlight:** [www.chemie.de](http://www.chemie.de).
- (9) "A highly efficient directional molecular white-light emitter driven by a continuous wave laser diode"  
N. W. Rosemann, J. P. Eußner, A. Beyer, S. W. Koch, K. Volz, S. Dehnen,\* S. Chatterjee,\* *Science* **2016**, *352*, 1301–1304. **Highlights (selection):** Science, Spektrum.de, ScienceShots, Informationsdienst Wissenschaft, Deutschlandfunk, ScienceCodex, Welt der Physik, Innovations-Report, EurekAlert, Scientific American, Sci-News, Sputniknews, Opli, 2Physics, Photonik, ScienceDaily, Phys.Org, Analytica-World, Facebook.
- (10) "Understanding of multimetallic cluster growth"  
S. Mitzinger, L. Broeckert, W. Massa, F. Weigend,\* S. Dehnen,\* *Nat. Commun.* **2016**, *7*, 10480. **Highlights (selection):** Deutschlandfunk (ondemand-mp3 ab Minute 1:03), Science Daily, Phys.org, LABO Online, MyInforms, [www.chemie.de/news/156540](http://www.chemie.de/news/156540), [www.chemie.de/news/156540](http://www.chemie.de/news/156540), Informationsdienst Wissenschaft, EurekAlert!, Nanowerk, AlphaGalileo, Innovations Report, Nanotechnology Now.

### Most Important Review Articles:

- (1) "Adamantane-Type Clusters: Compounds with a Ubiquitous Architecture but a Wide Variety of Compositions and Unexpected Materials Properties"  
N. Rinn, I. Rojas-León, B. Peerless, S. Gowrisankar, F. Ziese, N. W. Rosemann, W.-C. Pilgrim, S. Sanna, P. R. Schreiner, S. Dehnen,\* *Chem. Sci.* **2024**, *15*, 9438–9509. (Inside Front Cover)
- (2) "Bismuth-Based Metal Clusters—From Molecular Aesthetics to Contemporary Materials Science"  
F. Pan, B. Peerless, D. Dehnen,\* *Acc. Chem. Res.* **2023**, *56*, 1018–1030.
- (3) "Charge Makes a Difference: Molecular Ionic Bismuth Compounds"  
J. Heine,\* B. Peerless, S. Dehnen,\* C. Lichtenberg,\* *Angew. Chem. Int. Ed.* **2023**, *62*, e202218771.
- (4) "Electronic structure and bonding in endohedral Zintl clusters"  
J. E. McGrady,\* F. Weigend,\* S. Dehnen,\* *Chem. Soc. Rev.* **2022**, *51*, 628–649.
- (5) "Current Advances in Tin Cluster Chemistry"  
B. Peters, N. Lichtenberger, E. Dornsiepen, S. Dehnen,\* *Chem. Sci.* **2019**, *11*, 16–26 (Perspective Article). **Highlight:** Part of the 2019 Chemical Science HOT Article Collection.
- (6) "Intermetallic and Heterometallic Clusters Combining p-Block (Semi)Metals with d- or f-Block Metals"  
R. J. Wilson, N. Lichtenberger, B. Weinert, S. Dehnen,\* *Chem. Rev.* **2019**, *119*, 8506–8554.
- (7) "Coordination chemistry of organometallic or inorganic binary group 14/16 units towards transition metal atoms"  
E. Dornsiepen, E. Geringer, N. Rinn, S. Dehnen,\* *Coord. Chem. Rev.* **2019**, *380*, 136–169.
- (8) "(Multi-)Metallic Cluster Growth"  
B. Weinert, S. Mitzinger, S. Dehnen,\* *Chem. Eur. J.* **2018**, *24*, 8470–8490.
- (9) "Synthesis of Crystalline Chalcogenides in Ionic Liquids"  
S. Santner, J. Heine, S. Dehnen,\* *Angew. Chem. Int. Ed.* **2016**, *55*, 886–904.