

# 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

Expertise: Inorganic and organoelement cluster syntheses, X-ray diffraction, spectroscopic characterization  
(NMR/IR/Raman/UV-visible), thermogravimetric analyses, molecular quantum chemistry

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), Dissertation on "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– Elected Corresponding Member Abroad of the Austrian Academy of Sciences (OeAW)
- 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 (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– President of the German Chemical Society (Gesellschaft Deutscher Chemiker, GDCh)
- 2023– Editor-in-Chief of *Inorganic Chemistry* (ACS)
- 2022– Member of the Selection Committee of The Leopoldina Fellowship Program
- 2021– Editorial Board Member of *Chemistry – A European Journal* (Wiley-VCH)
- 2021– Advisory Board Member of *Natural Sciences* (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 *Canadian Journal of Chemistry* (CSP)
- 2020– Editorial Advisory Board Member of *Chemical Reviews* (American Chemical Society, ACS)
- 2020– Editorial Board Member of *Comptes Rendus Chimie* (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 *Inorganic Chemistry* (ACS)
- 2017–2018 Editorial Advisory Board Member of *Inorganic Chemistry* (ACS)
- 2017–2023 Editorial Board Member of *Inorganic Chemistry Frontiers* (Royal Society of Chemistry, RSC)
- 2016– Elected Member and Spokesperson of the Review Board (Fachkollegium) “Molecular Chemistry” at DFG
- 2016– Jury member of the program “Starke Forschung Chemie” at the Ministry of Innovation, Science and Research North Rhine-Westphalia
- 2016– 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 *Zeitschrift für Anorganische und Allgemeine Chemie* (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 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 (Wissenschaftliches Zentrum für Materialwissenschaften, 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 (<http://www.chemikum-marburg.de>)

## 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          | Chairperson and Organization of the "Inorganic Chemistry Lectureship Award Symposium" at the ACS Fall Meeting in San Francisco, California, 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; 2019 in Aachen; 2021 online; 2023 in Leipzig)           |
| 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                        |
| 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–     | 6 habilitation candidates (now 1 professor (W2), 2 associate professors (Priv.-Doz.), 3 Emmy Noether Fellows)   |
| 2006–2022 | >15 Postdocs (by now 2 Professors (tenured) in China, 1 Professor (tenured) in the UK)<br>>30 Dr. rer. nat. (by now 1 Professor (tenured) in India, 1 Junior Professor (W1, tenure track), 3 habilitands candidates, and 2 lecturers (Akademischer Rat) at German Universities)<br>>40 Diploma/Master degrees at Philipps-Universität Marburg |
| 2020–2021 | Mentor at the ProProfessur program of the State of Hessen   |
| 2019–2021 | Mentor at the University of Rostock mentoring program for graduate students   |
| 2011–2013 | Mentor at the SciMento program of the State of Hessen   |
| 1999–2005 | 1 Postdoc; 2 Dr. rer. nat.; 3 Diploma degrees at Universität Karlsruhe  |

## Memberships

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

**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, Elsevier.

## Scientific Output and Visibility (overview; as per 30.10.2023):

|              |   |
|--------------|---|
| Publications | >310 (>300 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> (38), <i>J. Am. Chem. Soc.</i> (12), <i>Chem. Sci.</i> (2), <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> (33), <i>Inorg. Chem.</i> (40), <i>Dalton Trans.</i> (14), <i>Organometallics</i> (7)<br>>10 Review articles; >5 Book chapters; 2 Patents |
| Citations    | Total: >7800; average citation: >25 per item (ISI Web of Science)   |
| H-index      | 52 (Google Scholar); 48 (ISI Web of Science)  |
| Lectures     | ~240 invited lectures in 14 different countries across the globe, including<br>~170 invited lectures at research institutes worldwide (>25 lectures at GDCh colloquia in Germany)<br>~60 invited lectures at international conferences: >20 Plenary Lectures (including ICCS, GDCh Science Forum Chemistry, EuChemS Conference, Congresso Nazionale della SCI) or Keynotes, >30 other invited lectures (including Gordon Research Conferences, ACS Meetings, Pacifichem)  |

### 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.
- (3) "Ionothermal 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).
- (4) "Insights into Formation and Relationship of Multimetallic Clusters – On the Way Towards Bi-Rich Nanostructures"  
F. Pan,‡ S. Wei,‡ L. Guggolz, A. Eulenstein, F. Tambornino, S. Dehnen,\* *J. Am. Chem. Soc.* **2021**, *143*, 7176–7188.  
(‡ equal authorship)
- (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 (selection):** *Nachr. Chem.* **2021**, *69*, 36; Chemistry World, Informationsdienst Wissenschaft, Innovations Report, Jura Forum, 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.
- (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. Broeckaert, 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, www.chemie.de/news/156540, Informationsdienst Wissenschaft, EurekAlert!, Nanowerk, AlphaGalileo, Innovations Report, Nanotechnology Now.

### Most Important Review Articles (recent):

- (1) "Bismuth-Based Metal Clusters—From Molecular Aesthetics to Contemporary Materials Science"  
F. Pan, B. Peerless, D. Dehnen,\* *Acc. Chem. Res.* **2023**, *56*, 1018–1030.
- (2) "Charge Makes a Difference: Molecular Ionic Bismuth Compounds"  
J. Heine,\* B. Peerless, S. Dehnen,\* C. Lichtenberg,\* *Angew. Chem. Int. Ed.* **2023**, *62*, e202218771.
- (3) "Electronic structure and bonding in endohedral Zintl clusters"  
J. E. McGrady,\* F. Weigend,\* S. Dehnen,\* *Chem. Soc. Rev.* **2022**, *51*, 628–649.
- (4) "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.
- (5) "Intermetalloid 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.
- (6) "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.
- (7) "(Multi-)Metallic Cluster Growth"  
B. Weinert, S. Mitzinger, S. Dehnen,\* *Chem. Eur. J.* **2018**, *24*, 8470–8490.
- (8) "Synthesis of Crystalline Chalcogenides in Ionic Liquids"  
S. Santner, J. Heine, S. Dehnen,\* *Angew. Chem. Int. Ed.* **2016**, *55*, 886–904.