

## Hansjörg Grützmacher

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Date of Birth: March 24, 1959, Nationality: German

### Education:

- 1987 - 1992: Habilitation at the University of Heidelberg (topic: Low coordinated tin and phosphorus compounds).
- 1986 -1987: Chargé de recherche at the C.N.R.S. Toulouse, Laboratoire de Chimie de Coordination (with Dir. Dr. G. Bertrand).
- 1978 - 1986: Studies, Master, and PhD in chemistry in Göttingen, Germany (with Prof.Dr. H.W. Roesky).

### Professional Career:

- 2025 to present: Professor of Chemistry at the School of Chemistry, Sun-Yat-Sen University, Guangzhou**
- 2023 - 2025: Distinguished professor of chemistry at the Sun-Yat-Sen University, Lehn-Institute of Functional Materials, Guangzhou.
- 2001 - 2024: Full-professor at the Department of Chemistry and Applied Biosciences of the ETH Zürich.
- 1995 - 2001: Extra-ordinary professor of Inorganic Chemistry at the ETH Zürich.
- 1992 - 1995: Professor of Inorganic and Analytical Chemistry at the University of Freiburg.

### Visiting professorships:

- 2002- 2006: Professeur chargé de cours at the Ecole Polytechnique, Paris-Palaiseau.
- 2004, 2005: Visiting professor at the Université des Antilles et de la Guyane.
- 2010: Visiting professor at the ICCOM-CNR, Florence, Italy
- 2012-2017: Visiting professor at the Sun Yat-Sen University, China

### Research interests:

(i) phosphorus radicals; (ii) structures and reactivity of low coordinated phosphorus compounds and metal phosphides; (iii) main group element based photo-initiators; iv) transition metal olefin and amine/amido complexes; v) redox chemistry of main group element compounds and organometallics; (iv) catalytic hydrogenation and dehydrogenation reactions promoted by transition metal complexes.

### 10 Major Publications:

1. A first stable aminyl radical metal complex, T. Büttner, J. Geier, G. Frison, J. Harmer, C. Calle, A. Schweiger, H. Grützmacher, *Science*, **2005**, 307, 235 - 238.
2. A Biologically Inspired Organometallic Fuel Cell (OMFC) that Converts Renewable Alcohols into Energy and Chemicals, S. P. Annen, V. Bambagioni, M. Bevilacqua, J. Filippi, A. Marchionni, W. Oberhauser, H. Schönberg, F. Vizza, C. Bianchini, H. Grützmacher, *Angew. Chem.* **2010**, 7387–7391; *Angew. Chem. Int. Ed. Engl.* **2010**, 7229–7233.
3. Phosphination of Carbon Monoxide: A Simple Synthesis of Sodium Phosphaethynolate (NaOCP), F. F. Puschmann, D. Stein, D. Heift, C. Hendriksen, Z. A. Ga, H.-F. Grützmacher, H. Grützmacher *Angew. Chem., Int. Ed.*, **2011**, 50, 8420-8423.
4. A Homogeneous Transition Metal Complex for the Clean Hydrogen Production from Methanol / Water Mixtures, R. E. Rodríguez-Lugo, M. Trincado, M. Vogt, F. Tewes, G. Santiso-Quinones, H. Grützmacher, *Nature Chemistry*, **2013**, 5, 342-347
5. Homogeneously Catalysed Conversion of Aqueous Formaldehyde to H<sub>2</sub> and Carbonate, M. Trincado, V. Sinha, R. Rodriguez-Lugo, B. Pribanic, B. de Bruin, H. Grützmacher, *Nat. Commun.*, **2017**, NCOMMS-16-22952C.
6. N-Heterocyclic Carbene Stabilized Dicarbondiphosphides: Strong Neutral Four-Membered Heterocyclic 6  $\pi$ -Electron Donors, Z. Li, X. Chen, L. Liu, M. Scharnhölz, H. Grützmacher, *Angew. Chem. Int. Ed.*, **2020**, 59, 4288-4293.
7. In vitro Implementation of Photopolymerizable Hydrogels as a Potential Treatment of Intracranial Aneurysms, O. Poupard, A. Schmocker, R. Conti, C. Moser, K. M. Nuss, H. Grützmacher, P. J. Mosimann, D. P. Pioletti, *Frontiers in Bioengineering and Biotechnology*, **2020**, 8, <https://doi.org/10.3389/fbioe.2020.00261>.

8. A Room-Temperature Stable Distonic Radical Cation, X. Chen, L. L. Liu, S. Liu, H. Grützmacher, Z. Li, *Angew. Chem. Int. Ed.*, **2020**, 59, 23830-23835.
9. 313. A Germapyramidane Switches Between 3D Cluster and 2D Cyclic Structures in Single-Electron Steps, P. Coburger, F. Masero, J. Böskén, V. Mougél, H. Grützmacher, *Angewandte Chemie. Int. Ed.*, 2022, 61, e202211749.
10. The Chemistry of the Cyaphide Ion, T. Görlich, P. Coburger, E. Yang, J. Goicoechea, H. Grützmacher, C. Müller, *Angew. Chem. Int. Ed.* **2023**, 62, e202217749.

**Selected Awards and Honors:**

- 1993:** Carl Duisberg Medal of the German Chemical Society;
- 2006:** Kohler Lecturer at the University of California, Riverside;
- 2007:** Sandmeyer Award of the Swiss Chemical Society;
- 2009:** Xerox lecture at the University of British Columbia,
- 2011:** Egon Wiberg lecture at the Ludwig-Maximilian-University in Munich,
- 2012:** R. J. P. Williams lecture, Oxford.
- 2013:** Hofmann Distinguished Lecture, Imperial College London.
- 2014:** Curator of the *Angewandte Chemie*.
- 2017:** Wilhelm Klemm Award of the German Chemical Society.
- 2021:** Honorary doctoral degree of Budapest University of Technology and Economics.
- 2022:** Charles P. Casey lecture at the University of Wisconsin, Madison, USA;  
Demarçay lecture Ecole Polytechnique Paris Palaiseau.
- 2023:** Nomination to Distinguished Professor of Chemistry at the Lehn Institute of Functional Materials at the Sun-Yat-Sen University, China.

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