D. Scheschkewitz

The author presented on this page has recently published his ***25th article*** *since 2000 in Angewandte Chemie:* "N-Heterocyclic Carbene Coordinated Neutral and Cationic Heavier Cyclopropylidenes": A. Jana, I. Omlor, V. Huch, H. S. Rzepa, D. Scheschkewitz, *Angew. Chem. Int. Ed.* **2014**, *53*, 9953–9956; *Angew. Chem.* **2013**, *126*, 10112–10116.

David Scheschkewitz

Date of birth:	July 13, 1971
Position:	Chair of General and Inorganic Chemistry, Saarland University
E-mail:	scheschkewitz@mx.uni-saarland.de
Homepage:	http://www.uni-saarland.de/fak8/scheschkewitz/index.html
Education:	**1996** Diploma in Chemistry, University of Oldenburg **1999** PhD with Prof. Dr. Armin Berndt, University of Marburg **2000–2003** Postdoctoral research with Prof. Guy Bertrand, Université Paul Sabatier, Toulouse, and University of California, Riverside **2002–2003** Postdoctoral research with Prof. Hansjörg Grützmacher, ETH Zurich **2004–2008** Habilitation mentored by Prof. Holger Braunschweig, University of Würzburg
Awards:	**2008** Lieseberg Prize, University of Heidelberg; Wöhler Young Investigator Award, Gesellschaft Deutscher Chemiker (German Chemical Society; GDCh); **2008–2011** Karl Winnacker Fellowship, Aventis Foundation; **2009** Carl Duisberg Memorial Prize, GDCh
Current research interests:	Introduction of (peripheral) functionality in unsaturated main-group compounds and their utilization for synthetic manipulation such as the construction of larger systems
Hobbies:	Reading, skiing, hiking

The best advice I have ever been given is … to be prepared for the unexpected.

The worst advice I have ever been given was … not to try something because it had been tried before.

The most exciting thing about my research is … the extremely versatile bonding modes observed in unsaturated main-group compounds.

I lose track of time when … I get completely immersed in writing a manuscript.

Guaranteed to make me laugh is … my wife, with the help of our children.

If I could go back in time and do any experiment, it would be … hitting a rock with a flint stone.

I can never resist … good cooking, in particular well-prepared seafood.

The downside of my job is … that sharing a vision requires a common passion.

My favorite author (fiction) is … currently Dmitry Glukhovsky, who has written the epic novel *FUTU.RE* on life in Europe of the year 2455.

In retrospect I would never again … look back to often.

My favorite piece of music is … *Ave Maria* by Franz Schubert (German version).

I like refereeing because … it helps to see things from different perspectives.

The most significant scientific advance of the last 100 years has been … the microprocessor.

If I could have dinner with three famous scientists from history, they would be … Robert Oppenheimer, Marie Curie, Frederic Stanley Kipping.

And I would ask them … whether reports of their deaths had been exaggerated (adapted from Mark Twain).

My favorite place on earth is … a sidewalk café on the river banks of the Garonne in Toulouse at sunset.

I chose chemistry as a career because … I thought it was the easiest way of bringing something new to the world.

If I were not a scientist, I would be … most likely an architect, bringing something new to the world on a different scale.

My best investment was … a bottle of nitric acid and a piece of sheet silver that helped me discover the benefits of a ventilated workplace at the age of 14.

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Has your approach to publishing your results changed since the start of your career?

I wrote my first paper as a corresponding author much more matter-of-factly than current manuscripts. Over the years, I have come to realize that a wider perspective is beneficial for both readers and all authors involved. Apart from a specific introduction to the field, most of our publications these days provide some context in terms of interesting properties as well as existing and potential applications of a new compound class. We now tend to refer not only to our genuine area of expertise, but aim to quote as many results from conceptually relevant fields such as material sciences or physics. This serves as a great source of inspiration for further inquiries—hopefully not only to us, but to the readers as well.

What do you think the future holds for your field of research?

The chemistry of heavier main-group elements in general will definitely continue to prosper. Most p-block metals and semimetals are comparatively abundant in nature. Many of them have semiconducting properties either as elements or in compounds. Although my group is increasingly interested in other elements such as phosphorus, germanium, and tin, we are particularly interested in silicon. The market for silicon-based products will continue to thrive so that new applications are guaranteed to emerge, not only concerning the well-established fields of elemental silicon and polysiloxanes. Silicon-based homogenous catalysts that are as potent as the best transition-metal systems will be developed; novel materials incorporating low-valent silicon are going to be available soon. But the most important discoveries will probably arise from serendipity, and it is to those that I am looking forward to the most.

My 5 top papers:

1. "A Silicon Analogue of Vinyllithium: Structural Characterization of a Disilenide": D. Scheschkewitz, *Angew. Chem. Int. Ed.* **2004**, *43*, 2965–2967; *Angew. Chem.* **2004**, *116*, 3025–3028.
   This paper not only reports the first structural characterization of a synthetically useful peripherally functionalized $\mathrm{Si{=}Si}$ bond, it also disclosed a very simple synthetic method that now routinely gives access to 100 g quantities of the title compound. This ready availability opened the door to a vast array of chemical transformations in which the $\mathrm{Si{=}Si}$ bond is retained.
2. "Two $\mathrm{Si{-}Si}$ Double Bonds Connected by a Phenylene Bridge": I. Bejan, D. Scheschkewitz, *Angew. Chem. Int. Ed.* **2007**, *46*, 5783–5786; *Angew. Chem.* **2007**, *119*, 5885–5888.
   π-Type conjugation between a carbon-based linking unit and $\mathrm{Si{=}Si}$ bonds was unequivocally demonstrated. In addition, the synthetic protocol for the transfer of intact $\mathrm{Si{=}Si}$ units turned out to be widely applicable in the meantime and thus promises to be established as a standard method in low-valent silicon chemistry.
3. "A Tricyclic Aromatic Isomer of Hexasilabenzene": K. Abersfelder, A. J. P. White, H. S. Rzepa, D. Scheschkewitz, *Science* **2010**, *327*, 564–566.
   The entirely surprising discovery of a new isomer of Si_6R_6 prompted us to propose a novel concept of aromaticity based on the cyclic delocalization of one pair each of n, σ, and π character, for which we coined the term "dismutational aromaticity". The simple design formalism starting from a conventional benzene analogue involves two intramolecular dismutations and is in principle applicable to any six-membered Hückel aromatic compound.
4. "Equilibrium between a cyclotrisilene and an isolable base adduct of a disilenyl silylene": M. J. Cowley, V. Huch, H. S. Rzepa, D. Scheschkewitz, *Nature Chem.* **2013**, *6*, 876–879.
   The reversible coordination of an N-heterocyclic carbene to an unsaturated main-group species raises the prospect of catalytic applications of such systems. The presence of both a $\mathrm{Si{=}Si}$ bond and a silylene functionality in the same molecule had not been previously observed. In particular, the design and synthesis of extended unsaturated silicon systems will benefit from these findings.
5. "NHC-Stabilized Silagermenylidene: A Heavier Analogue of Vinylidene": A. Jana, V. Huch, D. Scheschkewitz, *Angew. Chem. Int. Ed.* **2013**, *52*, 12179–12182; *Angew. Chem.* **2013**, *125*, 12401–12404.
   Vinylidene is the only electron-precise isomer of acetylene. This particularly reactive synthon has been tamed in the title compound by the use of the heavier congeners of carbon—silicon and germanium—as well as a coordinating base. The three potentially available functionalities in this kind of motif, namely lone pair of electrons, vacant orbital, and π bond, create vast opportunities for further manipulation.

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