

• PERSONAL INFORMATION



Family name, First name: Reiser, Oliver
Research ID: B-7743-2008; orcid.org/0000-0003-1430-573X
Publications (journals): 182; Citations 6205; Citations / article 34.1; H Index 44
Publications (book chapters): 43
Patents: 6
Nationality: German
Date of birth: 11.08.1962
URL for web site: http://www-oc.chemie.uni-regensburg.de/reiser/index_e.html

• EDUCATION

1989 Dr. rer. nat. (PhD) in Chemistry, University of Hamburg, Germany
1986 Diplom (MSc.), University of Hamburg

• CURRENT POSITION(S)

1997 – today Professor of Organic Chemistry, University of Regensburg, Germany

• PREVIOUS POSITIONS

1996 – 1997 Associate Professor, University of Stuttgart, Germany
1992 - 1996 Research group leader (Habilitation), University of Göttingen, Germany
1991 Postdoctoral Fellow with Prof. D. A. Evans, Harvard University, USA
1989-1990 Postdoctoral Fellow with Dr. R. D. Miller, IBM Research Center, San Jose, USA
1986 Visiting Scholar (6 months) with Prof. K. N. Houk, UCLA, USA
1986 Visiting Scholar (3 months) with Prof. M. Rabinovitz, University of Jerusalem, Israel

• FELLOWSHIPS AND AWARDS

2014 Ryudo Professorship, Tokyo Institute of Technology
2012/2013 Fellow "Innovative Teaching", Stifterverband der Deutschen Wissenschaft
2008 JSPS Research Fellow (Japanese Society for the Promotion of Science)
2006 CSIR-Lectureship (Indian Research Council)
2001 Novartis Award for Innovative Organic Synthesis
1997-1998 Karl Winnacker Fellow
1994 Dr. Otto Röhm Memorial Award
1992 DFG-Young Investigator Award
1990 Fellow of the NATO Science Foundation 1990 / 91
1989 PhD award, Fonds der chemischen Industrie.
1989 Graduation *summa cum laude*, Universität Hamburg
1987-1989 PhD fellow, Studienstiftung des Deutschen Volkes
1987 Minerva Science Award, Minerva Stiftung, Deutschland / Israel
1981-1986 Undergraduate Fellow, Studienstiftung des Deutschen Volkes

• SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

1996-2014 16 Postdocs / 56 PhD students / 88 Master students
University of Stuttgart and University of Regensburg, Germany

• TEACHING ACTIVITIES

- 2012/2013 Coordinator reAKTIV (named Fellow of the Stifterverband der Deutschen Wissenschaft "Innovative Teaching"): Interactive teaching in large classes (<http://www.reaktiv-chemie.de/about.html>)
- since 1996 Teaching all topics of Chemistry for graduate and undergraduate students
- 1994 Visiting Assistant Professor, Harvard University, Cambridge, MA, USA.
Lectured Chem 20 (Enrollment 260; student evaluation 4.9 out of 5.0)
- Text books** Organic Chemistry (P. Bruice, Pearson); German Edition
2001-today *Public Outreach*: Web portal "Chemistry in Context": www.chemie-im-alltag.de (approx. 1 Million hits per year)



• INSTITUTIONAL RESPONSIBILITIES

- 2012 - 2016 Global Coordinator of the EU-ITN network Mag(net)icFun
- 2011 – today Dean of Research, Faculty of Chemistry and Pharmacy, University of Regensburg, Germany
- 2009 – 2011 Vice President (Research), University of Regensburg, Germany
- 2006-2011 Global coordinator Dual Bachelor Degree in Chemistry (University of Regensburg, Kansas, Arkansas (Fayetteville), Dublin City University, funded by the European Union (Atlantis program))
- 2002 – 2005 Dean, Faculty of Chemistry and Pharmacy, University of Regensburg, Germany

• COMMISSIONS OF TRUST

- 2016 President elect, International Society of Heterocyclic Chemistry (ISHC)
- 2014 – today Member of the Executive Committee, American Chemical Society, Division of Organic Chemistry
- 2013 – today Evaluation panel EU 7th framework (ITN and EID program)
- 2011 – today Editorial Board *Chemistry Open* and *Current Green Chemistry*
- 2001-2006 Scientific Advisory Board Dermatology, Schering AG, Berlin
- 2003 Panel member International Chemistry Olympiad 2004
- since 1/2001 Advisory Board Studienstiftung des deutschen Volkes; since 2004 chairman

• MEMBERSHIPS OF SCIENTIFIC SOCIETIES

German Chemical Society (GDCH), American Chemical Society (ACS), International Society of Heterocyclic Chemistry (ISHC), Deutsche Technion Gesellschaft, Israel

• MAJOR COLLABORATIONS

- Prof. Dr. Wendelin Stark, ETH Zürich, Switzerland
- Prof. Dr. Paul Hanson, University of Kansas, USA
- Prof. Dr. Oliver Kappe, University of Graz, Austria
- Prof. Dr. Chiara Cabrele, University of Salzburg, Austria
- Prof. Dr. Armin Buschauer, University of Regensburg, Germany
- Dr. Robert N. Grass, Turbobeeds Inc., Zurich, Switzerland
- Dr. Peter Meier, Novartis, Bern, Switzerland
- Prof. Dr. Huw Davies, Center of C,H-activation, Emory University, Atlanta, USA

• RESEARCH PROFILE

(1) Immobilized catalysts, in particular on magnetic nanoparticles. We reported the first carbon coated nanoparticles functionalized with various metal- and organo-catalysts, and especially demonstrating the benefits of the magnetic properties of such materials in flow reactors. These developments are now widely picked up by other scientists in organic synthesis, catalysis and material science, both in academia and industry. Sigma-Aldrich and Turbobeeds, Inc now commercialize several of our catalysts. The European Union established an ITN-Network, consisting of 6 academic and 4 industrial partners.

(2) Catalytic conversion of furans and pyrroles to natural products and drugs. We have accomplished the asymmetric synthesis of natural products and drugs such as the Farnesyltransferase inhibitor Arglabin™ (now FDA approved, to date we have reported the only total synthesis of this compound), Paenolide (PAF inhibitor, to date we have reported the only asymmetric synthesis of this compound), the anticancer drug TEA 9827 (clinical phase III) or the antibiotic Xanthathin.

(3) (Asymmetric) Catalysis: Chiral ligands for asymmetric catalysis, e.g. aza(bisoxazolines) that are widely used by organic chemists for immobilization of this ligand class. Furthermore, we introduced copper complexes as an alternative to ruthenium or iridium in photoredox catalyzed C-C bond forming reactions.

(4) Foldamers with constrained β -amino acids and their application in the design of biologically relevant ligands: We showed for the first time that α,β -peptides with sequence as short as 5-9 residues form stable secondary structures that can replace fragments in biological active ligands such as the Neuropeptide Y. Following this approach, we could develop cell penetrating carrier peptides for drugs that can selectively recognize breast cancer cells. The use of α,β -peptides as sequence based analogs for native peptides is now widely explored.

1. Five representative publications

1. *Palladium Nanoparticles Supported on Magnetic Carbon-Coated Cobalt Nanobeads – Highly Active and Recyclable Catalysts for Alkene Hydrogenation (Times Cited 19)*; Q. M. Kainz, R. Linhardt, R. N. Grass, G. Vilé, J. Pérez-Ramírez, W. J. Stark, O. Reiser*, *Adv. Funct. Mat.* **2014**, *24*, 2020-2027; doi:10.1002/adfm.201303277

This paper demonstrates the quantitative deposition of palladium nanoparticles on magnetic Co/C nanoparticles, resulting in a highly active and recyclable "magnetic palladium on charcoal" catalyst. The principle disclosed should be widely applicable to other metal based nanoparticle catalysts.

2. *A Recyclable Nanoparticle-Supported Palladium Catalyst for the Hydroxycarbonylation of Aryl Halides in Water (Times Cited: 111, the article was featured on the cover of Angewandte Chemie)*; S. Wittmann, A. Schätz, R. N. Grass, W. J. Stark, O. Reiser*, *Angew. Chem. Int. Ed.* **2010**, *49*, 1867-1870; doi:10.1002/anie.200906166

This paper demonstrates the immobilization of homogeneous catalysts by π -stacking to the carbon layer of magnetic nanoparticles. This strategy was widely adopted for immobilization of catalysts on carbon rich materials.

3. *Cu(dap)₂Cl as efficient visible light driven photoredox catalyst in carbon carbon bond forming reactions (Times Cited: 42)*; M. Pirtsch, S. Paria, T. Matsuno, H. Isobe, O. Reiser, *Chem. Eur. J.* **2012**, *18*, 7336-7340; doi:10.1002/chem.201200967

First report of a copper photoredox catalyst for visible light mediated ATRA reactions, which is now widely used by organic chemists as an alternative to ruthenium or iridium complexes.

4. *Trifluoromethylchlorosulfonylation of Alkenes: Evidence for an Inner-Sphere Mechanism by a Copper Phenanthroline Photoredox Catalyst*; D. B. Bagal, G. Kachkovskiy, M. Knorn, T. Rawner, B. M. Bhanage, O. Reiser*, *Angew. Chem. Int. Ed.* **2015**, *54*, 6099.

First report that copper based photocatalysts can operate by an inner sphere mechanism, opening up the possibility for novel photoredox catalyzed transformations beyond electron transfer. The first trifluoromethylchlorosulfonylation of alkenes is reported as proof of principle.

5. *Traceless Stereoinduction for the Enantiopure Synthesis of Substituted-2-Cyclopentenones* N. Arisetti, O. Reiser*, *Org. Lett.* **2015**, *17*, 94-97; doi:10.1021/ol5032975

Starting from furans, this paper describes the enantioselective synthesis of a wide variety of chiral cyclopentenones and their application in natural synthesis and drugs with unparalleled efficiency,

2. Granted patents

1. P.R. Hanson, O. Reiser, A. Schätz, A. Rolfe, PCT Int. Appl. (2012), US 20120226007 A1 20120906 DE 102006035018 B4 20090723: *High capacity magnetic nanoparticles based on polymer hybrids as supports for reagents and catalysts*
- 2.H. Yersin, O. Reiser, L. Q. Li, S. Eibauer, PCT Int. Appl. (2008), WO 2008012103 A1 20080131 *Oxazole derivative complexes and their use as triplet emitters for organic light-emitting device applications*

3. Invited presentations to internationally established conferences

PacificChem Meeting, Hawaii, USA, December 2015; ACS Meeting, Boston, USA, August 2015; International Meeting of the Korean Chemistry Society, Gwangju, Korea, October 2014; International Meeting of the Japanese Society, Nagoya, Japan, March 2014; International Symposium on Amino Acids and Peptides, Galveston, TX, USA, October 2013; International Symposium on Heterocyclic Chemistry (ISHC-2013), Shanghai, September 2013; International Symposium on Foldamers, Paris, France, April 2013; International Fluorine Days, Tokyo, Japan, April 2013; WCCAS (3rd World Congress on Catalysis and Synthesis), Beijing, China, May 2012; IMM (International Conference on Medicinal Chemistry), Beijing, China, May 2012; ICGSC (2nd International Conference on Green & Sustainable Chemistry) Singapore, November 2011; 14ACC (14th Asian Chemical Congress), Bangkok, Thailand, September 2011; 3rd Indo-German Chemistry Congress, Mumbai, India, September 2011; Gordon Research Conference on Biological Chemistry, Les Diablerets, Schweiz, June 2010.

4. International Prizes / Awards / Academy memberships

2014: Ryudo Professorship, Tokyo Institute of Technology; 2012: Fellow Stifterverband der Deutschen Wissenschaft; 2001: Novartis Award for Innovative Organic Synthesis