

• PERSONAL INFORMATION



Family name, First name: König, Burkhard
Researcher ID: A-1362-2009; orcid.org/0000-0002-6131-4850
Publications: 368, Citations: 5795; Citations per article: 16.7; H Index 41
Nationality: German
Date of birth: 23. 06. 1963
URL for web site: <http://www-oc.chemie.uni-regensburg.de/koenig/index.html>

• EDUCATION

1991 PhD, Department of Chemistry, University of Hamburg, Germany (*summa cum laude*)
1988 Diplom, Department of Chemistry, University of Hamburg, Germany (*1.0, highest grade*)

• CURRENT POSITION

2000 – Full Professor of Organic Chemistry
Faculty of Chemistry and Pharmacy / University of Regensburg / Germany

• PREVIOUS POSITIONS

1993 – 1999 Research group leader (assistant professor/ Habilitand)
Department of Chemistry, Technical University of Braunschweig, Germany
1992 – 1993 Postdoc with Prof. Dr. B. M. Trost
Faculty of Chemistry / Stanford University / U. S. A.
1991 – 1991 Research fellow with Prof. Dr. M. A. Bennett at the
Research School of Chemistry / Australian National University / Canberra / Australia

• FELLOWSHIPS AND AWARDS

2011/2012 UN-Decade Award on Sustainability
2007 Literature award of the Fonds of the German Chemical Industry 2007
1996 Invitation fellowship award of the 'Japan Society for the Promotion of Science' (JSPS),
Kyushu University, Fukuoka, Japan
1995 Award of the Dr. Otto Röhm Gedächtnisstiftung
1992 – 1993 Fellowship of the Deutsche Forschungsgemeinschaft (Habilitationstipendium)
1993 – 1996 Fellowship of the Fonds der Chemischen Industrie (Liebig-Stipendium)
1992 – 1993 Feodor-Lynen fellow postdoctoral fellow of the Alexander von Humboldt foundation,
Stanford, U.S.A.
1988 – 1991 Graduate fellow of the Studienstiftung des Deutschen Volkes

• SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

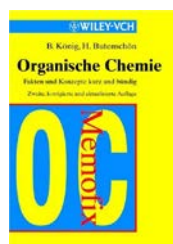
1996 – 2014 25 Postdocs / 57 PhD students / 95 Master/diploma students
at the Technical University of Braunschweig, Germany (until 1999) and at the
Faculty of Chemistry and Pharmacy, University of Regensburg, Germany

• TEACHING ACTIVITIES

Since 1996 Teaching chemistry at all levels from first year organic
class to specialized graduate seminars.
2000 - 2010 Co-ordinator of the new organic teaching lab database (NOP):
www-oc-praktikum.de (75 undergraduate experiments, translated into 10 languages)
2012/2013 reAKTIV: Interactive teaching in large classes (<http://www.reaktiv-chemie.de/about.html>)



Text books:



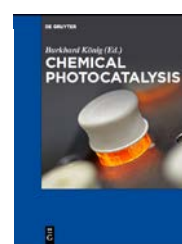
B. König,
H. Butenschön
Wiley-VCH

1999



B. König,
H. Butenschön
Wiley-VCH

2007



B. König
(Ed.)
DeGruyter

2013

2003 *Public outreach: Chemical experiments for primary school kids (Stiferverband für die Deutsche Wissenschaft)*

• INSTITUTIONAL RESPONSIBILITIES

- 2011 – Dean of the faculty of chemistry and pharmacy / University of Regensburg / Germany
- 2000 – Coordinator of international student exchange of the faculty of chemistry and pharmacy / University of Regensburg / Germany
- 2010 – 2019 Spokesman of the graduate research training group “GRK 1626” Chemical Photocatalysis of the German Science Foundation, Regensburg, Germany
- 2007 – 2013 Coordinator of the INDIGO graduate research network funded by the German Academic Exchange Service and the BASF SE, Germany and India
- 2004 – 2006 Coordinator of the EU network “Asia Link Medicinal Chemistry”, Germany, Ireland, China, and Vietnam

• COMMISSIONS OF TRUST

- 2014 – Editorial board member of “Chemistry – A European Journal” and “European Journal of Organic Chemistry”, Wiley
- 2014 – German Chemical Society (GDCh) – Wiley/VCH publishing advisory board (Verlagsbeirat)
- 2004 – Member of the International Advisory Board of the Institute for Organic Chemistry and Biochemistry of the Czech Academy of Sciences, Prague, Czech Republic
- 2013 – 2014 Committee Member Abilitazione Scientifica Nazionale, Competition Sector: 03/C1 - Organic Chemistry, Italy
- 2013 – EPFL Fellows expert reviewer (Marie Curie Action Cofund), Lausanne, Switzerland
- 2008 – 2012 Chairman of the Organic Division of the German Chemical Society (GDCh; Liebig Vereinigung), Germany
- Since 2006 Reviewing board member for scholarships of the German Environmental Foundation (Deutsche Bundesstiftung Umwelt, DBU)
- 2009 – 2013 Selection committee chairman of the Heyrovsky – Ilkovic - Nernst name lecture
- 2004 – 2008 Member of the executive board of the German Chemical Society (GDCh), Germany
- 2005 – 2007 Chairman of the „Arbeitsgemeinschaft Deutscher Universitätsprofessoren Chemie (ADUC)“
- 2004 – Member of the International Advisory Board of the “European Journal of Organic Chemistry”

• MEMBERSHIPS OF SCIENTIFIC SOCIETIES

German Chemical Society (GDCh), American Chemical Society (ACS), Deutsche Technion Gesellschaft

• MAJOR COLLABORATIONS

Prof. Armin Buschauer, Institute of Pharmacy, University of Regensburg, Germany
Prof. Eberhard Riedle, Photonic Centers, Ludwig-Maximilians University, Germany
Prof. Licheng Sun, Dalian Technical University, China
Prof. Maria Kalinina, Frumkin Institute, Russian Academy of Science, Moscow, Russian Federation
Prof. Uday Maitra, Indian Institute of Science, Bangalore, India

• RESEARCH PROFILE

1. *Visible light photocatalysis*. We reported the first examples of the “photo-Meerwein” reaction, eosin Y catalysed visible light C-C bond forming reactions, flavin-catalyzed photooxidations and synergistic combinations of heterogeneous photocatalysis and stereoselective organocatalysis. All methods are now widely applied by other scientists in organic synthesis. The German Science Foundation established a graduate research training group on chemical photocatalysis in Regensburg coordinated by the PI.
2. *Luminescent indicators for bioanalysis* were prepared by our group for the first time, avoiding the otherwise required covalent synthesis of receptor-dye conjugates, by co-embedding of amphiphilic receptors and reporter dyes into the membrane of vesicles. Our supramolecular sensing principle is used by other scientists and was recognized in the national competition “Land der Ideen” of the Federal Ministry of Science and Education (BMBF) as innovative invention (28. July 2011).
3. *Photochromic inhibitors for enzymes and transporters* were our contributions to the rapidly emerging area of photopharmacology. We introduced dithienylethene based inhibitors, merging the structure of chromophores and pharmacophores providing the first bi-stable bioactive molecules quantitatively switchable in a working enzyme.
4. *Deep eutectic melts of bulk carbohydrates* were developed replacing costly and toxic ionic liquids. The melts found application as solvents, in the direct conversion of natural products into fine chemicals and extraction procedures. We reported the first synthesis of hydroxymethylfurfural (HMF) in a melt and the first solvent free Fischer Indole synthesis. Many researchers have adopted the principle and perform now solvent free reactions in melt mixtures of abundant natural products.

1. Five representative publications

1. *Eosin Y Catalyzed Visible Light Oxidative C-C and C-P bond Formation* (**Times Cited: 193**)
D. P. Hari, B. König* *Org. Lett.* **2011**, *13*, 3852 – 3855. DOI: [10.1021/ol201376v](https://doi.org/10.1021/ol201376v)
The paper disclosed the first example of using the organic dye eosin Y as visible light photocatalyst; the compound is now widely used by researchers to replace precious Ru(bipy)₃Cl₂ in synthesis.
2. *Metal free, Visible Light Mediated Direct C-H Arylation of Heteroarenes with Aryl Diazonium salts* (**Times Cited: 138**)
D. P. Hari, P. Schroll, B. König* *J. Am. Chem. Soc.* **2012**, *134*, 2958 – 2961. DOI: [10.1021/ja212099r](https://doi.org/10.1021/ja212099r)
The Meerwein arylation reaction is known since more than 100 years, but the original protocol using copper salts gives only moderate yields. This has limited the use of the reaction in synthesis. We describe here for the first time the activation of diazonium salts by visible light photoredox catalysis providing a much cleaner reaction and good to excellent product yields. The “Photo Meerwein” reaction has since then been widely applied in organic synthesis.
3. *Reduction of aryl halides by consecutive visible light-induced electron transfer processes*
I. Ghosh, T. Ghosh, J. I. Bardagi, B. König* *Science* **2014**, *346*, 725-728.
This is the first report on consecutive photoinduced electron transfer in visible light photocatalysis.
4. *Potent and selective inhibitors of breast cancer resistance protein (ABCG2) derived from the p-glycoprotein (ABCB1) modulator tariquidar* (**Times Cited: 62**)
M. Kühnle, M. Egger, C. Müller, A. Mahringer, G. Bernhardt, G. Fricker, B. König,* A. Buschauer* *J. Med. Chem.* **2009**, *52*, 1190 – 1197. DOI: [10.1021/jm8013822](https://doi.org/10.1021/jm8013822)
The compound with currently highest potency and selectivity for ABCG2 inhibition is reported.
5. *Conversion of carbohydrates into 5-hydroxymethylfurfural in highly concentrated low melting mixtures* (**Times Cited: 91**)
F. Ilgen, D. Ott, D. Kralisch, C. Reil, A. Palmberger, B. König* *Green Chem.* **2009**, *11*, 1948 – 1954. DOI: [10.1039/b917548m](https://doi.org/10.1039/b917548m) First report of the efficient and solvent-free conversion of carbohydrates into HMF using a low melting mixture.

2. Research monographs

B. König (Ed.): *Chemical Photocatalysis* De Gruyter **2013**, ISBN: 978-3-11-026924-6

3. Granted patents

1. H. R. Kalbitzer, B. Koenig, PCT Int. Appl. (2004), 14 pp. WO 2004006934 A2 20040122 CAN 140:122769 AN 2004:60322: *Method and 1,4,7,10-tetraazacyclododecane metal complexes for influencing the spatial structure of Ras or other guanine nucleotide binding (GNB) proteins, and use as antitumor agents*
2. A. K. Bosserhoff, B. König, A. Riechers, J. Schmidt 2011, WO 2011/113604 A1 Int. Application Number PCT/EP2011/001338: *Peptides or Antibodies which bind to Melanoma Inhibitory Activity (MIA) Protein*

4. Invited presentations to internationally established conferences / international advanced schools.

Gordon Research Conference, Physical Organic Chemistry, June 2009, Holderness, U.S.A.; Butlerov International Congress on Organic Chemistry, September 2011, Kazan, Russian Federation; SLAP 2012, Latin American Polymer Symposium, September 2012, Bogota, Columbia; Catalysis in Organic Synthesis, ICCOS 2012, September 2013, Moscow, Russian Federation; 6th Heron Island conference on reactive intermediates, July 2013, Australia; National Organic Symposium Trust, XVI Organic Chemistry Conference, March 2014, Agra, India; EuCheMS Conference on Organic Free Radicals 2014, July 2014, Prague, Czech Republic; Molecular Switches, Beilstein Organic Chemistry Symposium 2014, September 2014, Prien, Germany; 18th International Symposium on Flavins and Flavoproteins, July 2014, Thailand
Innolec, University of Brno, October 2014, Brno, Czech Republic; 13th Eurasia Conference on Chemical Sciences, December 2014, Bangalore: SCM 2015 - 14th Int. Sym. on Spin and Magnetic Field Effects in Chemistry, March 2015, Kolkata; 13th Latin American Conference on Physical Organic Chemistry, Cordoba, May 2015; 2015 Photochemistry Gordon Research Conference, Boston, July 2015; EuropaCat XII, Kazan, Aug 2015; Karl-Ziegler-Symposium, WiFo Dresden, Sept. 2015; Int. summer school on Org. Synth. "A. Corbella" – ISOS 2015, Gargnano, June 2015.

5. International Prizes/ Awards/ Academy memberships.

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| 2011 | UN-Decade Award on Sustainability |
| 2007 | Literature award of the Fonds of the German Chemical Industry 2007 |