

Curriculum Vitae

Prof. Dr. Katja Becker

President, German Research Foundation (DFG)

Born 7 March 1965 in Heidelberg, mother of a daughter (Johanna Brandenburg)

Career History (Selection)

- Since 2000 Full (C4/W3) Professor of Biochemistry and Molecular Biology, University of Giessen
- 2005 - 2006 6-month research visit to Scripps Research Institute, La Jolla, CA, Proteomic Mass Spectrometry Lab, Prof. John Yates III
- 1999 - 2000 Junior Group Leader at the Research Center for Infectious Diseases, University of Würzburg
- 1998 Medical specialisation in Biochemistry
- 1996 Habilitation in Biochemistry, Heidelberg University
- 1994 6-month research visit to Institute of Pathology, Prof. N. H. Hunt, University of Sydney, Australia
- 1993 Licence to practise medicine
- 1993 - 1999 Research associate at Heidelberg University Biochemistry Center
- 1988 – 1993 Clinical training and research stays abroad (Royal Flying Doctor Service, Australia; Kantonsspital Basel, John Radcliffe Hospital, Oxford; Nigeria, Ghana)
- 1986 - 1988 Dissertation with Prof. Heiner Schirmer at Institute of Biochemistry II, Heidelberg University; title: "Glutathione reductase and its apoenzyme: contributions to the chemotherapy of malaria and the diagnosis of FAD deficiencies" (*summa cum laude*)
- 1984 - 1991 Studies in human medicine, Heidelberg University

Offices and Roles in the Research System

- Since 2020 President of the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation)
- 2021 - 2023 Chair of the Governing Board of the Global Research Council (GRC)

- 2020 – 2023 Chair of the Commission for Pandemic Research, DFG (ex officio)
- 2014 - 2019 Vice President of the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation)
- 2009 - 2012 Vice President for Research and Early Career Support, University of Giessen
- 2007 - 2014 Spokesperson for the Bioresources and Biotechnology Section, Giessen Graduate Center for the Life Sciences
- 2004 - 2005 Spokesperson for the interdisciplinary Research Centre for BioSystems, Land Use and Nutrition (IFZ), University of Giessen
- 2018 - 2019 Spokesperson for LOEWE centre DRUID (Novel Drug Targets against Poverty-related and Neglected Tropical Infectious Diseases), part of an initiative by the state of Hesse to promote scientific and economic excellence
- 2014 - 2019 Spokesperson for DFG Priority Programme 1710 "Dynamics of Thiol-based Redox Switches in Cellular Physiology"

Functions in Scientific Societies and Committees/

Advisory Activities

- 2021 Involvement in the statement "The Need for a One Health Approach to Zoonotic Diseases and Antimicrobial Resistance" for the G7 summit 2022
- 2020 Involvement in the statement "Coronavirus Pandemic – Measures Relevant to Health", Leopoldina (April 2020)
- 2020 Involvement in the statement „Coronavirus Pandemic in Germany: Challenges and Options for Intervention“, Leopoldina (March 2020)
- 2020 - 2023 Chair (ex officio) of the DFG's Interdisciplinary Commission for Pandemic Research
- 2017 - 2018 Member of the German government round table on Internationalisation of Education, Science and Research
- 2016 - 2017 Involvement in the statement on Improving Global Health for the G20 summit 2017
- 2015 - 2017 German representative on the Scientific Committee of the EU COST programme
- 2016 - 2020 Member of the Scientific Advisory Board of the Research Center for Infectious Diseases, University of Würzburg
- 2014 - 2015 Involvement in the statement on Neglected Tropical Diseases for the G7 summit 2015
- 2013 - 2019 Member of the Scientific Advisory Board of the Kerckhoff Heart Research Institute, Bad Nauheim

2007 - 2010 Member of the Scientific Advisory Board of the Center for International Development and Environmental Research

Honours and Awards

2010 Rudolf Leuckart Medal of the German Society for Parasitology

Since 2009 Member of the Leopoldina, Germany's National Academy of Sciences

2003 / 2004 Carus Medal of the Deutsche Akademie für Naturforscher Leopoldina / Carus Prize of the city of Schweinfurt

2000 - 2005 Member of the Junge Akademie of the Berlin-Brandenburg Academy of Sciences and Humanities and the Deutsche Akademie der Naturforscher Leopoldina

2003 Support for the congress "Redox Metabolism in Malaria: From Genes to Drugs", Bellagio, Italy, from the Rockefeller Foundation (together with Prof. Hagai Ginsburg, Hebrew University)

1989 First Ludolf Krehl Prize (dissertation prize) of the Southwest German Society for Internal Medicine

1984 - 1986 Scholarship, Studienstiftung des Deutschen Volkes

Memberships

- Alliance of Science Organisations, Germany – ex officio
- Deutscher Zukunftspreis (Board of Trustees) – ex officio
- Foundation Werner-von-Siemens-Ring (Board of Trustees) – ex officio
- German Academic Scholarship Foundation (Board of Trustees) – ex officio
- German National Academy of Sciences Leopoldina
- German Society for Parasitology
- German Society for Tropical Medicine and Global Health
- German Society for Biochemistry and Molecular Biology
- Humboldt Foundation (Vice President) – ex officio
- Holtzbrinck Prize for Science Journalism (Board of Judges) – ex officio
- Paul Ehrlich Society (Honorary President) – ex officio
- Science Europe (General Assembly) – ex officio
- Society for Free Radical Research International
- Stifterverband für die Deutsche Wissenschaft (Member of the Executive Board) – ex officio
- STS forum (Council Member, Board Member) – ad personam

- Thyssen Foundation (Scientific Advisory Board) – ad personam
- WiD – Wissenschaft im Dialog (Shareholders' Meeting) – ex officio
- Wissenschaftskolleg zu Berlin (Member of General Meeting) – ex officio

Publications (Selection from more than 300 Publications)

- 1) **Becker K**, Savvides S, Keese M, Schirmer RH, Karplus PA (1998). Enzyme inactivation through sulfhydryl oxidation by physiologic NO-carriers. **Nature Struct Biol** 5: 267-271.
- 2) Kanzok S, Fechner A, Bauer H, Ulschmid JK, Müller HM, Botella-Munez J, Schneuwly S, Schirmer RH, **Becker K** (2001). Substitution of the thioredoxin system for glutathione reductase in *Drosophila melanogaster*. **Science** 291: 643-646.
- 3) Fritz-Wolf K, Becker A, Rahlfs S, Harwaldt P, Schirmer RH, Kabsch W, **Becker K** (2003). X-ray structure of glutathione S-transferase from the malarial parasite *Plasmodium falciparum*. **Proc Natl Acad Sci USA** 100: 13821-13826.
- 4) Urig S, Fritz-Wolf K, Réau R, Herold-Mende C, Tóth K, Davioud-Charvet E, **Becker K** (2006) Undressing of phosphine gold(I) therapeutic agents as irreversible inhibitors of human disulfide reductases. **Angew Chem Int Ed Engl** 45: 1881-1886.
- 5) Perez-Jimenez R, Li J, Kosuri P, Sanchez-Romero I, Wiita AP, Rodriguez-Larrea D, Chueca A, Holmgren A, Miranda-Vizuete A, **Becker K**, Cho SH, Beckwith J, Gelhaye E, Jacquot JP, Gaucher E, Sanchez-Ruiz JM, Berne B, Fernandez JM (2009). Diversity of chemical mechanisms in thioredoxin catalysis. **Nature Struct Mol Biol** 16: 890-896.
- 6) Koncarevic S, Rohrbach P, Deponte M, Prieto H, Yates J, Rahlfs S, **Becker K** (2009) *Plasmodium falciparum* imports the human protein peroxiredoxin 2 for peroxide detoxification. **Proc Natl Acad Sci USA** 106: 13323-13328.
- 7) Fritz-Wolf K, Kehr S, Stumpf M, Rahlfs S, **Becker K** (2011). Crystal structure of the human thioredoxin reductase - thioredoxin complex. **Nature Commun.** 2: 383.
- 8) Wang L, Delahunty C, Fritz-Wolf K, Rahlfs S, Prieto JH, Yates III JR, **Becker K** (2015). Characterization of the 26S proteasome network in *P. falciparum*. **Sci Rep** 5: 17818.
- 9) Krieg R, Jortzik E, Goetz A-A, Blandin S, Wittlin S, Elhabiri M, Rahbari M, Nuryyeva S, Voigt K, Dahse HM, Brakhage A, Beckmann S, Quack T, Grevelding CG, Pinkerton AB, Schönecker B, Burrows J, Davioud-Charvet E, Rahlfs S, **Becker K** (2017) Arylmethylamino steroids as antiparasitic agents. **Nature Commun.** 8: 14478.
- 10) Felber J, Poczka L, Scholzen K, Zeisel L, Maier MS, Busker S, Theisen U, Brandstädter C, **Becker K**, Arnér ESJ, Thorn-Seshold J, Thorn-Seshold O (2022) Cyclic 5-membered disulfides are not selective substrates of thioredoxin reductase, but are opened nonspecifically by thiols. **Nature Commun.** 13: 1754.

[Katja Becker - Google Scholar](#)