Curriculum Vitae Michael Köttgen

Personal Data

Title	Prof. Dr. med.
First name	Michael
Name	Köttgen
Current position	W3 Professor Head of Section for Genetic Kidney Disease
Current institution(s)/site(s), country	Department of Medicine IV, Nephrology and Primary Care, IMITATE, Medical Center - University of Freiburg, Germany
Identifiers/ORCID	0000-0003-2406-5039

Qualifications and Career

Stages	**Periods and Details**
Degree programme	School of Medicine, 1989-1997, University of Freiburg, Germany
Doctorate	1997, Medical Doctor (Dr. med.), Rainer Greger, Physiology (summa cum laude), Department of Physiology, University of Freiburg, Germany
Stages of academic/ professional career	2010-present: Professor (W3), Department of Medicine IV, Medical Center - University of Freiburg, Germany 2010-2012: Adjunct Professor, Department of Medicine, Johns Hopkins University, SOM, Baltimore, USA 2007-2009: Research Associate/Junior Faculty, Department of Biological Chemistry, Johns Hopkins University, SOM, Baltimore, USA 2004-2007: Postdoctoral Fellow, Prof. Dr. Craig Montell, Genetics, Department of Biological Chemistry, Johns Hopkins University, Baltimore, USA 2000-2004: Postdoctoral Fellow, Prof. Dr. Gerd Walz, Molecular Biology, Department of Medicine IV, University Freiburg 1998-2000: Postdoctoral Fellow, Prof. Dr. Rainer Greger, Physiology, Institute of Physiology, University of Freiburg 1997-1998: Residency (Arzt im Praktikum), Prof. Dr. Peter Schollmeyer, patient care and clinical training, Department of Medicine, Nephrology, Medical Center - University of Freiburg

Supplementary Career Information

Parental leave for 18 months during Medical School
Child care responsibilities (3 daughters) together with Anna Köttgen

Activities in the Research System

2021-present	Vice Speaker of the CRC 1453
2019-present	Associate Investigator of the Excellence Cluster CIBSS
2015-2019	Vice Speaker of the CRC 1140
2014-present	Member of the CRC/TRR152
2009-present	Head of the Clinical Research Unit (KFO) 201- Polycystic Kidney Disease (DFG)
2009-present	PI of graduate school SGBM, member of the Executive Board since 2018
2009-present	Associate Editor, Nephron Physiology

Teaching representative for internal medicine (University Hospital Freiburg), teaching for medical students and students of molecular medicine (pathophysiology, molecular mechanisms of disease),

teaching of doctoral students in the Institute of Disease Modeling and Targeted Medicine (IMITATE). Member of the MentoMed program for medical students.

Reviewer for journals including Nature, Cell, Nature Genetics, Nature Cell Biology, Nature Neuroscience, Nature Communications, Science Advances, PNAS, EMBO Journal, Cell Metabolism, Developmental Cell, FASEB Journal, JASN, Kidney International, Development, etc.; Reviewer for funding agencies including Deutsche Forschungsgemeinschaft, Swiss National Science Foundation, National Kidney Foundation (USA), PKD Foundation (USA), Department of Defense (USA), …

Invited speaker at international conferences including Gordon Research Conferences (2010, 2022), FASEB Research Conferences (2010, 2022), EMBO Workshop Cilia (2022), Keystone Conference (2007), International Union of Physiology Meeting – Kyoto (2007), Kidney Week (ASN), …

Supervision of Researchers in Early Career Phases

During the past 5 years I have supervised:

- 15 doctoral students (2 PhD, 13 MD students)
- 4 postdoctoral researchers

Scientific Results

Category A

1. Scherer N, Fässler D, Borisov O, Cheng Y, Schlosser P, Wuttke M, Haug S, Li Y, Telkämper F, Patil S, Meiselbach H, Wong C, Berger U, Sekula P, Hoppmann A, Schultheiss UT, Mozaffari S, Xi Y, Graham R, Schmidts M, **Köttgen M**, Oefner PJ, Knauf F, Eckardt KU, Grünert SC, Estrada K, Thiele I, Hertel J, Köttgen A. Coupling metabolomics and exome sequencing reveals graded effects of rare damaging heterozygous variants on gene function and human traits. ***Nat Genet.*** 2025 Jan;57(1):193-205. doi: 10.1038/s41588-024-01965-7. Epub 2025 Jan 2.
2. Patil S, Borisov O, Scherer N, Wirth C, Schlosser P, Wuttke M, Ehret S, Hannibal L, Eckardt KU, Hunte C, Neubauer B, Köttgen A, **Köttgen M**. The membrane transporter SLC25A48 enables transport of choline into human mitochondria. ***Kidney Int.*** 2025 Feb;107(2):296-301. doi: 10.1016/j.kint.2024.06.022.
3. Busch T, Neubauer B, Schmitt L, Cascante I, Knoblich L, Wegehaupt O, Schöler F, Tholen S, Hofherr A, Schell C, Schilling O, Westermann L, **Köttgen M**. The role of the co-chaperone DNAJB11 in polycystic kidney disease: Molecular mechanisms and cellular origin of cyst formation. ***FASEB J***. 2024 Nov 15;38(21):e70162. doi: 10.1096/fj.202401763R.
4. Schlosser P, Scherer N, Grundner-Culemann F, Monteiro-Martins S, Haug S, Steinbrenner I, Uluvar B, Wuttke M, Cheng Y, Ekici AB, Gyimesi G, Karoly ED, Kotsis F, Mielke J, Gomez MF, Yu B, Grams ME, Coresh J, Boerwinkle E, **Köttgen M**, Kronenberg F, Meiselbach H, Mohney RP, Akilesh S; GCKD Investigators; Schmidts M, Hediger MA, Schultheiss UT, Eckardt KU, Oefner PJ, Sekula P, Li Y, Köttgen A. (2023) Genetic studies of paired metabolomes reveal enzymatic and transport processes at the interface of plasma and urine. ***Nat Genet***. 55: 995-1008. doi: 10.1038/s41588-023-01409-8. [open access]
5. Hofherr A*, Seger C*, Fitzpatrick F, Busch T, Michel E, Luan J, Osterried L, Linden F, Kramer-Zucker A, Wakimoto B, Schutze C, Wiedemann N, Artati A, Adamski J, Walz G, Kunji ERS, Montell C, Watnick T, **Köttgen M**. (2018) The mitochondrial transporter SLC25A25 links ciliary TRPP2 signaling and cellular metabolism. ***PLoS Biol***, 16, e2005651. doi: 10.1371/journal.pbio.2005651. [open access]
6. Hofherr A, Wagner CJ, Watnick T, **Köttgen M**. (2016) Targeted rescue of a polycystic kidney disease mutation by lysosomal inhibition. ***Kidney Int***. 89: 949-955. doi: 10.1016/j.kint.2015.11.015. [open access]
7. Hofherr A, **Köttgen M**. (2016) Polycystic kidney disease: Cilia and mechanosensation revisited. ***Nat Rev Nephrol***. 12: 318-319. doi: 10.1038/nrneph.2016.61. [open access]

8. Woodward OM*, Köttgen A*, Coresh J, Boerwinkle E, Guggino WB, **Köttgen M**. (2009) Identification of a urate transporter, ABCG2, with a common functional polymorphism causing gout. ***Proc Natl Acad Sci U S A***. 106: 10338-10342. doi: 10.1073/pnas. 0901249106. [open access]
9. Wegierski T*, Steffl D*, Kopp C*, Tauber R, Buchholz B, Nitschke R, Kuehn EW, Walz G, **Köttgen M**. (2009) TRPP2 channels regulate apoptosis through the Ca^{2+} concentration in the endoplasmic reticulum. ***EMBO J***. 28: 490-499. doi: 10.1038/emboj.2008.307. [open access]
10. **Köttgen M***, Buchholz B*, Garcia-Gonzalez MA, Kotsis F, Fu X, Doerken M, Boehlke C, Steffl D, Tauber R, Wegierski T, Nitschke R, Suzuki M, Kramer-Zucker A, Germino GG, Watnick T, Prenen J, Nilius B, Kuehn EW, Walz G. (2008) TRPP2 and TRPV4 form a polymodal sensory channel complex. ***J Cell Biol***. 182: 437-447. doi: 10.1083/ jcb.200805124. [open access]

**contributed equally*

Category B

1. Co-Inventor on US Patent #61/159,154, “Modulation of ABCG2-mediated transport to treat hyperuricemia and gout”.
2. Co-Inventor (with Lukas Westermann) on filed International Patent (PCT/EP2025/064762), “Synthetic lethality to treat autosomal dominant polycystic kidney disease (ADPKD)”.

Academic Distinctions

2009	Cozzarelli Prize, Proceedings of the National Academy of Sciences, USA
2009	German Researcher Relocation Program Award, Alfried Krupp von Bohlen und Halbach Foundation
2009	Offer for tenure track faculty position in the Department of Physiology and Biophysics, Case Western Reserve University, Cleveland, USA
2008	Young Investigator Career Development Grant, PKD Foundation, USA
2007	Young Investigator Award, National Kidney Foundation, USA
2005	PKD Foundation Research Fellowship, USA
2005	Young Investigator Travel Award, ERA-EDTA
1997	Award of the Scientific Society Freiburg for doctoral thesis