

Prof. Dr. Katrin Paeschke, PhD

Medical Clinic III, Department of Oncology



Member since 2019

University Hospital Bonn

Medical Clinic III, Department of Oncology

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Research Expertise

She received her Ph.D in 2006 from the University of Witten Herdecke. During her thesis she shed light on the question how of telomere binding proteins regulate G-quadruplex (G4) structures during the cell cycle. This work was done under the supervision of Prof. Dr. Hans-J Lipps und Dr. Daniela Rhodes. She subsequently did her postdoctorate research at Princeton University with Prof. Dr. Virginia Zakian where she studied the role of Pif1 helicase at G-quadruplex DNA structures during DNA replication. Currently in her lab she uses *S. cerevisiae* and human cell lines to understand the biological function of G-quadruplex structures and how this is connected to genome stability.

Education / Employment

2018 - current

Professor at the University Hospital Bonn, Medical Clinic III, Department of Oncology, Germany

2016 - 2017

Associate Professor at the University Medical Hospital Groningen at the European Research Institute for the Biology of Ageing, the Netherlands

2012 - 2016

Group Leader at the University Würzburg at the Department of Biochemistry, Germany

2007 - 2011

Post-doctorate Research Scientist in the Zakian laboratory, Princeton University, USA

2002 - 2007

PhD student (Dr. rer. nat.) in the Lipps laboratory, University of Witten Herdecke, Germany

Honors / Awards

2015 Walther-Flemming Medal of the German Society of Cell Biology
2015 ERC Starting Grant
2012 Roentgen Award for young scientist, University of Wuerzburg,
2012 DFG Heinz-Maier-Leibnitz Award
2012 Emil-Fischer Fellow, University of Wuerzburg, Germany
2011 DFG Emmy Noether Fellowship (accepted)
2011 Travel fellowship to attend Third international meeting on G-quadruplex (Sorrento, Italy)
2011 NRW "Returning" grant, grant to start independent group leader position in NRW (declined)
2009 Postdoctoral fellowship from NJCCR (New Jersey Commission on Cancer Research, USA)
2009 DAAD Congress and travel fellowship to attend the International Chromosome Meeting,
2009 Prize in Chromosome Research contest; paper of the year 2008
2007 DFG Postdoctoral fellowship (Deutsche Forschungsgemeinschaft)
2004 EMBO short-term fellowship to learn and study at MRC LMB in Cambridge, UK

10 Most Relevant Publications for Dr. Katrin Paeschke

1. De Magis, A., Kastl, M., Brossart, P., Heine, A. & Paeschke, K. BG-Flow, a New Flow Cytometry Tool for G-Quadruplex Quantification in Fixed Cells. *BMC Biology*, (2021).
2. Gurung P., Gomes A., Martins R., Juranek S., Alberti P., Mbang-Benet D., Urbach S., Gazanion E., Guitard V., Paeschke K., Lopez-Rubio J. (2020) PfGBP2 is a novel G-quadruplex binding protein in *Plasmodium falciparum* Cell Microbiol. Doi:10.1111/cmi.13303
3. Zacheja T#, Toth A#, Haram Gi, Yang Q, Schwindt E, Kovács M, Paeschke K*, Peter Burkovics* (2020) Mgs1 protein supports genome stability via recognition of G quadruplex DNA structures *FASEB J*
4. DeMagis A, Götz S, Hajikazemi M, Fekete-Szücs E, Caterino M, Juranek S.A. Paeschke K (2020) Zuo1 supports G4 structure formation and directs repair towards nucleotide excision repair. *Nature Communications*, 2020
5. Zacheja T*, Toth A*, Haram Gi, Yang Q, Schwindt E, Kovács M, Paeschke K*, Peter Burkovics*, Mgs1 protein supports genome stability via recognition of G quadruplex DNA structures *FASEB J*, 2020
6. Jurkikova*, Garjarsky*, Hajikzemi* et al, *JBC*, 2020, May 8th
7. Rosenbaum JC1, Bonilla B2, Hengel SR2, Mertz TM3, Herken BW2, Kazemier HG4, Pressimone CA2, Ratterman TC5, MacNary E3, De Magis A6, Kwon Y7,8, Godin SK2, Van Houten B9, Normolle DP10, Sung P7,8, Das SR5, Paeschke K4,6, Roberts SA3, VanDemark AP1, Bernstein KA11. *Nat Commun*. 2019 Aug 5;10(1):3515. doi: 10.1038/s41467-019-11374-8.(2019)
8. Sauer M, Juranek SA, Marks J, De Magis A, Kazemier HG, Hilbig D, Benhalevy D, Wang X, Hafner M, Paeschke K. DHX36 prevents the accumulation of translationally inactive mRNAs with G4-structures in untranslated regions *Nat Commun*. 2019 Jun 3;10(1):2421. doi: 10.1038/s41467-019-10432-5 (2019)
9. Goetz, Pandey, Barts, Juranek, Paeschke A Novel G-Quadruplex Binding Protein in Yeast-Slx9 Molecules. 2019 May 7;24(9). pii: E1774. doi: 10.3390/molecules24091774 (2019)
10. Schwindt, E. & Paeschke, K. Mms1 is an assistant for regulating G-quadruplex DNA structures. *Curr Genet*, doi:10.1007/s00294-017-0773-9 (2017).