Curriculum Vitae

Prof. Dr. Mark Helm
Diplom-Chemiker
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Scientific Career

11/1990 - 9/1995	University of Würzburg, Diploma Program in Chemistry
9/1995	Diplom-Chemiker: (eq. M.Sc.)
10/1995 - 6/1999	Ph.D. Thesis IBMC du CNRS, Strasbourg, France, R.Giegé & C.Florentz
6/1999	Graduation with highest honors.
10/1999 - 9 /2001	Postdoc at the California Institute of Technology, with G. Attardi
11/2001 - 9/2002	Postdoc at the Institute for Chemistry, Free University of Berlin, with A. Jäschke
10/2002	independent Head of research group (C1), IPMB Heidelberg University
4/2008	Privatdozent (eq. Lecturer) for Pharmaceutical Chemistry and Biochemistry.
10/2009 -2/2022	Associate Professor (W2) Pharmaceutical Medicinal Chemistry JGU Mainz
12/2009	Offer of Professorship (W2) from CAU Kiel – declined
12/2021	Offer of Professorship (W3) from TU Dortmund - declined
Since 3/2022	Full Professor (W3) Pharmaceutical Medicinal Chemistry JGU Mainz

Honors

1996	Student Award of the Faculty of Chemistry and Pharmacy Würzburg
1/1996 - 8/1996	Fellow of the Fonds of the Chemical Industry (FCI)
9/1996 - 8/1999	Marie-Curie Fellow of the EC.
10/1999 - 9/2001	Postdoctoral Fellow of the HFSPO (Human Frontiers Science Program Organization)
2006	Junior Scientist Award of the Rotary Club Heidelberg
2014	Zimmer International Scholar Award of the University of Cincinnati

Functions

Since 2008	Board Member of the Study Group “RNA Biochemistry” of the German Society for Biochemistry and Molecular Biology (GBM).
2011-2015	Member of the commission of experts of the Institute for Medicinal and Pharmaceutical Proficiency examination (IMPP).
2012-2016	Spokesperson of the Study Group “RNA Biochemistry” of the German Society for Biochemistry and Molecular Biology (GBM).
2015-2022	Chair of the DFG Priority Programme 1784 “Chemical Biology of Nucleic Acid Modifications”
2017-2021	Management Committee “Epitran” and Work Group Leader “Methodology and Big Data Management in COST CA16120
Since 2018	Chairman of the Rochelmeyer foundation
Since 2021	Chair of the DFG collaborative research center “RNA Modification and processing”, TRR 319 RMaP

Grants

About 8 M€ total,

DFG group funding	TRR319 (Chair), SPP 1784 (Chair) FOR 1082, SFB625, SFB 1066, DIP, and ANR-DFG.
International consortia	JPND, JPI, COST, TWINNING

Editorial Board Member

Past	Scientific Reports 2011-2021, Biological Chemistry 2012-2016, Guest Editor RNA Biology 2016/17, Frontiers in Chemical Biology 2013-2021, Genes 2019-2021,
Active	Chemistry and Biodiversity since 2017, IUBMB Life since 2021, Nucleic Acids Research since 2020.

Conference Organization

Principle Organizer: GBM RNA Biochemistry Conference, Bonn 2014, 2016, SPP1784 Meetings, Mainz, 2015,2021, 1st Symposium on Nucleic Acid Modification, 2017, Mainz, DNG Meeting 2017, Mainz.

Co-organizer: 2nd Symposium on Nucleic Acid Modification, 2019, Rehovat, Israel, GDCh Biochemistry 2016, Frankfurt, GBM Mosbach Kolloquium Mosbach 2017, 2022

Teaching

- Habilitation: Biochemistry / Pharmaceutical Medicinal Chemistry; 2009 in Heidelberg
- Programmes: Pharmacy (2002-2009 in Heidelberg, 2009-present in Mainz),
  Molecular Biotechnology (2002-2009 in Heidelberg), Biomedicinal Chemistry (2009-present in Mainz);
  RNA Biochemistry (M2 RNAES, 2013-present, Nancy, France)
- Current Lectures (each Semester): Biochemistry, Instrumental Analysis (shared), Pharmaceutical Medicinal Chemistry (shared), Special Aspects of Drug Research (shared).
- Past Lectures: Organic Chemistry, Drug Research.
- Lab courses: current: Organic Chemistry, Instrumental Analytics, Biochemistry,
- past: Biopolymeres, Bioanalytics
- Textbook Chapter in Beyer / Walter “Organische Chemie” (25. Edition 2015, Schirmeister, Schmuck, Wich) Chapter 38 “ Nucleic Acids” p 979-997.
- Textbook: Helm, M. & Wölfl, S. (2006). Instrumentelle Bioanalytik Wiley-VCH, Weinheim. 230 Pages.

Top 10 Publications

131 Original Papers, 20 Reviews, 36 miscellaneous

H-Index 52 (12/2021, Research Gate), >10.000 citations

Full list including IF values under:

https://www.ak-helm.pharmazie.uni-mainz.de/original-arbeiten-und-reviews/

ORCID ID QR code

131.	Richter, F., Plehn. J.E., Bessler, L., Hertler, J., Jörg, M., Cirzi, C., Tuorto, F., Friedland, K., **Helm, M.,** RNA marker modifications reveal the necessity for rigorous preparation protocols to avoid artifacts in epitranscriptomic analysis, (**2021),** *Nucleic Acid Res.*, Dec 1, Online ahead of print,
99.	Jacob, D., Thüring, K., Galliot, A., Marchand, V., Galvanin, A., Ciftci, A., Scharmann, K., Stock, M., Roignant, J.Y., Leidel, S.A., Motorin, Y., Schaffrath,R., Klassen, R., **Helm. M.** (2019) Absolute quantification of noncoding RNA by microscale thermophoresis, , *Angew. Chem. Int. Ed* 10.1002/anie.201814377
93.	Dal Magro, C., Keller, P., Kotter, A., Werner, S., Duarte, V., Marchand, V., Ignarski, M., Freiwald, A., Müller, R.U., Dietrich, C., Motorin, Y., Butter, F., Atta, M., **Helm, M**. (2018**)**, A vastly increased chemical variety of RNA modifications that includes a thioacetal structure, **,** Angew. *Chem. Int. Ed. Engl.,* Apr. 6, 57(26):7893-7897
91.	Aschenbrenner, J., Werner, S. Marchand, V., Adam, M., Motorin, Y., **Helm**, **M.,** Marx, A. “Engineering of a DNA polymerase for direct m^6A Sequencing” 2018, *Angew. Chem. Int. Ed.* 57,417-421.
R13	**Helm, M.,** Motorin, Y.,Detecting RNA modifications in the epitranscriptome: predict and validate, (2017), *Nature Reviews Genetics* 18(5):275-291.
82.	Lence, T., Akhtar, J., Bayer, M., Schmid, K., Spindler, L., Ho, C.H., Kreim, N., Andrade-Navarro, M.A., Poeck, B., **Helm, M**. & Roignant, J.-Y. (2016) m^6A modulates neuronal functions and sex determination in Drosophila, *Nature*, 540(7632):242-24.
69.	Hauenschild, R., Tserovski, L., Schmid, K., Thüring, K., Winz, ML., Sharma, S., Entian, KD., Wacheul, L., Lafontaine, DL., Anderson, J., Alfonzo, J., Hildebrandt, A., Jäschke, A., Motorin, Y., **Helm, M.*,** (2015) The reverse transcription signature of N-1-methyladenosine in RNA-Seq is sequence dependent. *Nucleic Acids Research*, 43(20):9950-64.
41.	Gehrig, S., Eberle, M. E., Botschen, F., Rimbach, K., Eberle, F., Eigenbrod, T., Kaiser, S., Holmes, W. M., Erdmann, V. A., Sprinzl, M., Bec, G., Keith, G., Dalpke, A. H. & **Helm, M. *** (2012). "Identification of modifications in microbial, native tRNA that suppress immunostimulatory activity." *J Exp Med*. 209(2): 225-233.
37.	Nguyen, T. H., Steinbock, L. J., Butt, H. J., **Helm, M.*** & Berger, R.* (2011). "Measuring single small molecule binding via rupture forces of a split aptamer." *J Am Chem Soc* 133(7): 2025-2027.
24.	Voigts-Hoffmann, F., Hengesbach, M., Kobitski, A. Y., van Aerschot, A., Herdewijn, P., Nienhaus, G. U. & **Helm, M.*** (2007). "A methyl group controls conformational equilibrium in human mitochondrial $tRNA^{(Lys)}$." *J Am Chem Soc* 129(44): 13382-13383.