

CURRICULUM VITAE – HANNA J. WAGNER

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EDUCATION AND RESEARCH EXPERIENCE

- 2019 - **Postdoctoral researcher**
today University of Freiburg, Signalling Research Centres BIOSS and CIBSS; Prof. Dr. Wilfried Weber
Engineering of viral vectors for synthetic chemical, biological, or optogenetic control of cell transduction to modulate signaling pathways with high spatiotemporal resolution.
- 2014 – **Doctoral thesis**, 1.0 with honors (summa cum laude), awarded with the Salome Gluecksohn-
2018 Waelsch Prize
University of Freiburg, Centre for Biological Signalling Studies (BIOSS); Prof. Dr. Wilfried Weber
Development of information-processing materials systems by protein engineering and synthetic biological design concepts.
- 2013 – **Internship** (4 months)
2014 B.R.A.I.N. Biotechnology Research and Information Network AG, Zwingenberg
Reprogramming of bacterial microcompartments.
- 2007 – **Diploma, Biology**, 1.0, awarded with the Alumni prize of the Faculty of Biology
2014 University of Freiburg
Main subject: biochemistry; minor subjects: molecular biology, developmental biology, virology
Diploma thesis: BIOSS; Prof. Dr. Gerald Radziwill, Prof. Dr. Wilfried Weber
Development of the first optogenetically controlled protein kinase in mammalian cells.
- 2012 – **Instructor of the iGEM team** (international Genetically Engineered Machine competition)
2013 University of Freiburg
Supervision 18 students working on a CRISPR/Cas9 toolkit for mammalian gene regulation.
- 2011 **Internship** (3 months)
University of Michigan, Department of Chemistry; Prof. Dr. Nils Walter
Intracellular single molecule FRET analyses of catalytic RNAs.
- 2010 **Member of the iGEM team**
University of Freiburg, Faculty of Biology; Prof. Dr. Arndt and Prof. Dr. Kristian Müller
Development of a viral particle construction kit to target and eliminate tumor cells.

AWARDS AND FELLOWSHIPS

- 2018 **2018 Salome Gluecksohn-Waelsch prize** for the best doctoral work performed at SGBM
- 2017 **Poster presentation award**, Interdisciplinary summer school, Nagoya, Japan
- 2017 **Travel grant** for the 42nd FEBS Congress, Jerusalem, Israel
- 2014 – **Spemann Graduate School of Biology and Medicine (SGBM)**, international PhD training program,
2018 University of Freiburg
- 2010 – **Fellowship from the German Academic Scholarship Foundation**, awarded to students with
2014 outstanding academic skills
- 2014 **Alumni prize of the Faculty of Biology** for excellent diploma thesis and marks
- 2013 **iGEM team awards:** Gold medal; awards for "Best Foundational Advance" and "Best New BioBrick Device, Engineered" (overgraduates); 1st runner up European overgraduate teams
- 2010 **iGEM team awards:** Gold medal; best "Health and Medicine" project

LIST OF PUBLICATIONS

Wagner HJ[#], Weber W[#], Design of a Human Rhinovirus-14 3C Protease-Inducible Caspase-3. *Molecules*, 24, 1945 (2019); doi: 10.3390/molecules24101945; [#]co-corresponding authors

Wagner HJ, Engesser R, Ermes K, Geraths C, Timmer J, Weber W, Synthetic biology-inspired design of signal-amplifying materials systems. *Mater. Today*, 22, 25-34 (2019); doi: 10.1016/j.mattod.2018.04.006

Wagner HJ, Kemmer S, Engesser R, Timmer J, Weber W, Biofunctionalized Materials Featuring Feedforward and Feedback Circuits Exemplified by the Detection of Botulinum Toxin A. *Adv. Sci.*, 6, 1801320 (2019); doi: 10.1002/advs.201801320

Wagner HJ, Wehrle S, Weiss E, Cavallari M, Weber W, A Two-Step Approach for the Design and Generation of Nanobodies. *Int. J. Mol. Sci.*, 19, 3444 (2018); doi: 10.3390/ijms19113444

Wagner HJ, Engesser R, Ermes K, Geraths C, Timmer J, Weber W, Characterization of the synthetic biology-inspired implementation of a materials-based positive feedback loop. *Data Brief*, 19, 665-677 (2018); doi: 10.1016/j.dib.2018.05.074

Wagner HJ, Capitain CC, Richter K, Nessling M, Mampel J, Engineering bacterial microcompartments with heterologous enzyme cargos. *Eng. Life. Sci.*, 17, 36-46 (2017); doi: doi.org/10.1002/elsc.201600107

Wagner HJ, Sprenger A, Rebmann B, Weber W, Upgrading biomaterials with synthetic biological modules for advanced medical applications. *Adv. Drug Deliv. Rev.*, 105(Pt A), 77-95 (2016); doi: 10.1016/j.addr.2016.05.004

Chatelle CV, Hövermann D, Müller A, **Wagner HJ**, Weber W, Radziwill G, Optogenetically controlled RAF to characterize BRAF and CRAF protein kinase inhibitors. *Sci. Rep.*, 6, 23713 (2016); doi: 10.1038/srep23713

Wend S*, **Wagner HJ***, Müller K, Zurbriggen MD, Weber W, Radziwill G, Optogenetic control of protein kinase activity in mammalian cells. *ACS Synth. Biol.*, 3(5), 280-285 (2014); doi: 10.1021/sb400090s; *shared first authors

Agne M, Blank I, Emhardt AJ, Gäbelein CG, Gawlas F, Gillich N, Gonschorek P, Juretschke TJ, Krämer SD, Louis N, Müller A, Rudolf A, Schäfer LM, Scheidmann MC, Schmunk LJ, Schwenk PM, Stammnitz MR, Warmer PM, Weber W, Fischer A, Kaufmann B, **Wagner HJ**, Radziwill G, Modularized CRISPR/dCas9 effector toolkit for target-specific gene regulation. *ACS Synth. Biol.*, 3(12), 986-989 (2014); doi: 10.1021/sb500035y

Hagen S, Baumann T, **Wagner HJ**, Morath V, Kaufmann B, Fischer A, Bergmann S, Schindler P, Arndt KM, Müller KM, Modular adeno-associated virus (rAAV) vectors used for cellular virus-directed enzyme prodrug therapy. *Sci. Rep.*, 4, 3759 (2014); doi: 10.1038/srep03759