

Falk Ponath

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Educational and Professional Training

2017-now	Helmholtz Centre for RNA-based Infection Research, Würzburg, Germany, PhD Student
2014-2017	Martin-Luther-University Halle-Wittenberg, Germany, M.Sc. in Biochemistry
2011-2014	Martin-Luther-University Halle-Wittenberg, Germany, B.Sc. in Biochemistry
2000-2010	Hermann-Tast-School Husum, Germany, Abitur

Research Experience

PhD Research, Helmholtz Institute for RNA-based Infection Research, RNA Biology of Bacterial Infections, 11/2017 – now

Supervisor: Professor Jörg Vogel

- The goal of my project is to elucidate the RNA-mediated transcriptional network of the colorectal-cancer associated bacterium *Fusobacterium nucleatum* to further general understanding but also inform on potential mechanism to exploit for RNA-based therapy specific against this pathogen.

M. Sc. Research Project, Brigham & Women's Hospital and Harvard Medical School, 04/2016 – 03/2017

Supervisor: Associate Prof. Cynthia A. Lemere

- My thesis work investigated a potential altered glial response and complement activation in passive immunotherapy against pyroglutamate-3 A β with an antibody mutated in its' CDC-region or the original one.

Research Intern, Fraunhofer Institute for Cell Therapy and Immunology, Protein & Drug Biochemistry Unit, 09/2015-02/2016

Supervisor: Dr. Stephan Schilling

- This project aimed to successfully express and purify the matrixmetalloprotease human meprin α after which to characterize it and to test rational designed inhibitors.

Student Assistant, Scil Proteins GmbH, Dep. Selection and Functional Validation, 01/2015-01/2016

Supervisor: Dr. Eva Bosse-Doenecke

- My task was to clone and validate various vector constructs for subsequent test expression.

B.Sc. Research Project, Martin-Luther-University Halle-Wittenberg, Dep. Institute for Medical Immunology, 03-08/2014

Supervisor: Prof. Barbara Seliger

- My thesis investigated the effect of IFN-gamma stimulation on microRNA expression and targets involved in the immunosurveillance in carcinoma cell lines.

DAAD RISE summer student, Pennsylvania State University, Department of Chemistry, 08-10/2013

Supervisor: Associate Prof. David Boehr

- The project explored changes in structural dynamics of Poliovirus' RNA-dependent RNA-polymerase upon singular mutations regarding its RNA binding capability and replication fidelity.

Methods

- Tissue culture (human and insect cell lines)
- Cloning
- Transformation of bacteria and yeast
- Transfection of cell lines
- Western-blot
- Protein overexpression and purification
- (Confocal) microscopy
- Mouse training
- Immunohistochemistry
- RT-qPCR
- ELISA
- Flow cytometry
- Quantitative image analysis
- RNA-seq
- Northern Blot
- Anaerobic work

Awards

- 2018 Awarded the fellowship of the “Dr. Eckernkamp Fellowship-Programm of the Vogel Stiftung” to fund my PhD research.
- 2016 Awarded PROMOS scholarship by the German Academic Exchange Service (DAAD) and the Martin-Luther-University Halle-Wittenberg supporting my external M.Sc. research project at the Brigham&Women’s Hospital and Harvard Medical School.
- 2013 Awarded a summer student scholarship with the DAAD RISE (Research Internships in Science and Engineering) to undertake research at the Pennsylvania State University for 10 weeks.

Oral presentations, Posters and Workshops

- 2018 5th Meeting of Regulating with RNA in Bacteria & Archaea, Sevilla, Spain. "Probing *Fusobacterium nucleatum*: a global RNA map for an emerging cancer-associated bacterium". **Falk Ponath**, Caroline Tawk, Jörg Vogel. Poster.
- 2017 The AD/PD seminar series of the Ann Romney Center for Neurological Diseases, Brigham & Women’s Hospital, Harvard Medical School, Boston MA. “Immunotherapy in Aged AD Mice with Anti-Pyroglutamate-3 Abeta - Monoclonal Antibodies with and without Complement Activating Effector Function”. Invited Seminar.
- 2016 BrightFocus Foundation’s Alzheimer’s FastTrack, San Diego CA. Workshop
- 2016 Helen Crehan, Bin Liu, Martin Kleinschmidt, Jens-Ulrich Rahfeld, Kevin X. Le, Mi-Ae Park, Marcelo Di Carli, Vladimir Reiser, William Trigg, Birgit Hutter-Paier, Inge Lues, Stephan Schilling, Cynthia A. Lemere (Presented by **Falk Ponath**). Plaque-clearing by a murine anti-pyroglutamate-3 A β IgG2a monoclonal antibody with and without a CDC mutation. Society for Neuroscience “Neuroscience 2016”, San Diego. Poster.

Extramural Activities

- 2015-present Active member of the junior German Society for Biochemistry and Microbiology (jGBM).
- 2012-09/2016 Student Ambassador for Biochemistry at the Martin-Luther-University Halle-Wittenberg

References are provided upon request