

Curriculum Vitae

Dr. David Schwefel

- **Personal data**

Date of birth: July 26, 1980 in Heidelberg, Germany

E-mail: david.schwefel@charite.de

Languages: German (native), English (fluently), French (basic)

- **Research experience**

5/2016 - present Group leader, Charité-Universitätsmedizin, Institute for Medical Physics and Biophysics, Berlin, Germany

12/2011 - 4/2016 Postdoctoral fellow with Dr. Ian A. Taylor, The Francis Crick Institute (formerly MRC National Institute for Medical Research), London, United Kingdom

Mechanisms of retroviral restriction and counteraction

3/2011 - 10/2011 Postdoctoral fellow with Prof. O. Daumke, Max-Delbrück-Centrum, Berlin, Germany

Structural and functional studies of GIMAP proteins

9/2006 - 4/2007 Research associate with Profs. W. Welte and K. Diederichs, University of Konstanz, Germany

Structural analysis of synthetic carbohydrate ligands bound to a plant lectin

- **Education**

2007 - 2011 Doctoral studies with Prof. O. Daumke, Max-Delbrück-Centrum, Free University Berlin, Germany, grade “summa cum laude”

Structural and functional studies of GIMAP proteins

2005 - 2006 Diploma thesis with Profs. W. Welte and K. Diederichs, University of Konstanz, Germany, grade “sehr gut” (A)

Purification and biophysical analysis of the TonB protein; structural analysis of synthetic carbohydrate ligands bound to a plant lectin

2001 - 2006 Studies of Biology, University of Konstanz, Germany

- **Grants**

5/2016 DFG Emmy Noether Programme (EUR 1.500.000)

5/2016 EMBO Laboratory Start Up Grant (EUR 30.000)

- **Fellowships**

8/2015 - 4/2016 EMBO advanced Fellowship

10/2014 - 7/2015 amfAR Mathilde Krim Fellowship in Basic Biomedical Research

8/2014 - 9/2014 MRC Investigator Scientist

8/2012 - 7/2014 EMBO Long Term Fellowship

12/2011 - 7/2012 MRC Career Development Fellowship

10/2010 - 10/2011 Max-Delbrück-Centrum Bonus Programme

- **Peer-reviewed publications**

Arnold LH, Groom HCT, Kunzelmann S, **Schwefel D**, Caswell SJ, Ordonez P, Mann MC, Rueschenbaum S, Goldstone DC, Pennell S, Howell SA, Stoye JP, Webb M, Taylor IA, Bishop KN (2015). Phospho-dependent regulation of SAMHD1 oligomerisation couples catalysis and restriction. *PLoS Pathog* 11(10):e1005194

Schwefel D, Boucherit VC, Christodoulou E, Walker PA, Stoye JP, Bishop KN, Taylor IA (2015). Molecular determinants for recognition of divergent SAMHD1 proteins by the lentiviral accessory protein Vpx. *Cell Host Microbe* 17(4):489-99

Morrissey C, **Schwefel D**, Ennis-Adeniran V, Taylor IA, Crow YJ, Webb M (2015). The eukaryotic elongation factor eEF1A1 interacts with SAMHD1. *Biochem J* 466(1):69-76

Schwefel D, Groom HC, Boucherit VC, Christodoulou E, Walker PA, Stoye JP, Bishop KN, Taylor IA (2014). Structural basis of lentiviral subversion of a cellular protein degradation pathway. *Nature* 505(7482):234-8

Fröhlich C, Grabiger S, **Schwefel D**, Faelber K, Rosenbaum E, Mears J, Rocks O, Daumke O (2013). Structural insights into oligomerization and mitochondrial remodelling of dynamin 1-like protein. *EMBO J* 32(9):1280-92

Schwefel D#, Arasu BS, Marino SF, Lamprecht B, Köchert K, Rosenbaum E, Eichhorst J, Wiesner B, Behlke J, Rocks O, Mathas S, Daumke O# (2013). Structural insights into the mechanism of GTPase activation in the GIMAP family. *Structure* 21(4):550-9

Brand J, Smith ES, **Schwefel D**, Poole K, Lapatsina L, Kozlenkov A, Behlke J, Lewin GR, Daumke O (2012). A stomatin dimer modulates the activity of acid-sensing ion channels. *EMBO J* 31(17):3635-46

Schwefel D, Daumke O (2011). GTP-dependent scaffold formation in the GTPase of Immunity-Associated Protein family. *Small GTPases* 2(1):27-30

Schwefel D, Fröhlich C, Eichhorst J, Wiesner B, Behlke J, Aravind L, Daumke O (2010). Structural basis for oligomerization in the septin-like GTPase of immunity-associated proteins 2 (GIMAP2). *Proc Natl Acad Sci U S A* 107(47):20299-304

Schwefel D#, Fröhlich C, Daumke O (2010). Purification, crystallization and preliminary X-ray analysis of human GIMAP2. *Acta Cryst* F66:725-9

Schwefel D, Maierhofer C, Beck JG, Seeberger S, Diederichs K, Möller HM, Welte W, Wittmann V (2010). Structural basis of multivalent binding to wheat germ agglutinin. *J Am Chem Soc* 132(25):8704-19

Corresponding author

- **Other publications**

Schwefel D, Gao S, Daumke O (2010) Improved refinement approach for low resolution data. *Deutsche Gesellschaft für Kristallographie AK1 Newsletter July*

- **Talks and courses**

January 21, 2016, London, United Kingdom - London Virtual Virology. “Counteraction of SAMHD1 restriction by the accessory protein Vpx ”

June 18-20, 2015, Heidelberg, Germany - EMBO Fellows Meeting. “Specificity redirection of the host’s Cullin4-RING E3 ubiquitin ligase by lentiviral accessory proteins”

December 16, 2014, London, United Kingdom - London Structural Biology Club. “Structural studies of the lentiviral accessory protein Vpx”

April 1-3, 2014, Heidelberg, Germany - EMBO Laboratory Management Course

September 21-24, 2013, Amsterdam, Netherlands - 5th EMBO Meeting. “Retroviral hijacking of the host ubiquitin ligase machinery”