



Parasitic Zoonoses & Translational Research Group

Institute of Parasitology, Vetsuisse Faculty,

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Primary research interest

Camelid heavy chain-only antibodies; application of single domain antibodies in diagnostics, treatment and prevention of parasitic and human diseases.

Education and professional experience

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|-------------------|--|
| 11/2016 – present | Head of the Nanobody Service Facility of the University of Zurich |
| 07/2013 – present | Scientific Research Associate, Parasitic Zoonoses and Translational Research Group, Institute of Parasitology, Vetsuisse Faculty, University of Zurich |
| 09/2010 – 07/2013 | Postdoctoral Research Associate at the Institute of Parasitology, Vetsuisse Faculty, University of Zurich, Switzerland. |
| 05/2008 – 04/2010 | Postdoctoral fellow at the Sandler Center for Basic Research in Parasitic Diseases, University of California, San Francisco, USA. |
| 07/2007 – 02/2008 | Postdoctoral Research Associate at the Institute of Parasitology, Vetsuisse Faculty, University of Zurich, Switzerland |
| 01/2004 – 02/2008 | PhD study, Vetsuisse Faculty and Graduate School for Cellular and Biomedical Sciences, Universities of Zurich and Bern, Switzerland |
| 06/2002 – 11/2003 | DVM Dissertation, Vetsuisse Faculty, University of Zurich, Switzerland |
| 09/1991 – 02/2002 | Studies of Veterinary Medicine, Veterinary Faculty, University of Zagreb, Croatia |

Additional training

- LTK Course in animal experimentation Module I (Introductory course 05.07. - 09.07.2004) and Module II (Course for study directors, 16.-20. March 2015)
- 7th Annual Advanced Imaging Workshop, 20. – 23. Jan. 2010, UC Berkeley, CA, USA
- EBI Training - Bioinformatics Roadshow, 22.-23. Jan. 2009, UCSF, San Francisco, USA
- Functional Cell Biology - Introductory Course in Signal Transduction, 30.05. - 11.06.2005, University of Bern, Switzerland
- Confocal Laser Scanning Microscopy (CLSM) Course, 09.02. - 13.02.2004, University of Zürich, Switzerland
- Cell Biology Course, 2003 - 2004, University of Zürich, Switzerland
- Laboratory Safety Course, 23.02. - 26.02.2004, University of Bern, Switzerland
- Immunology Course, 25.08. - 05.09.2003, University of Bern, Switzerland
- Biostatistics Course, 08.04. - 24.06.2003, University of Zürich, Switzerland

Fellowships, grants and Awards

- Sciex-NMS research fellowship to MSc. Lenka Urlychova, “Proteolytic enzymes and inhibitors of trematode parasite *Schistosoma mansoni*”, 07/2012 – 07/2013, main applicant
- University of Zurich research grant: “Forschungskredit”, “Applying combinatorial technology in search for vaccine and drug targets in *Fasciola hepatica*”, 07/2011 – 07/2012, main applicant
- Swiss National Science Foundation: “Prospective Researcher Fellowship” Functional analysis of cathepsine proteases in the gut of *Schistosoma mansoni*”, 06/2008 – 06/2009, main applicant

Publications in peer-reviewed journals

14. "The extracellular gate shapes the energy profile of an ABC exporter". Cedric Hutter, M. Timachi, Lea Hürlimann, Iwan Zimmermann, Pascal Egloff, Hendrik Göddeke, Svetlana Kucher, **Saša Štefanić**, Mikko Karttunen, Lars Schäfer, Enrica Bordignon, and Markus Seeger. *Nat Commun.* 2019 May 21;10(1):2260. doi: 10.1038/s41467-019-09892-6.

13. “Highly modified and immunoactive N-glycans of the canine heartworm”. Martini F, Eckmair B, **Štefanić S**, Jin C, Garg M, Yan S, Jiménez-Castells C, Hykollari A, Neupert C, Venco L, Varón Silva D, Wilson IBH, Paschinger K. *Nat Commun.* 2019 Jan 8;10(1):75. doi: 10.1038/s41467-018-07948-7. PubMed PMID: 30622255; PubMed Central PMCID: PMC6325117.

12. “An ELISA for the early diagnosis of acute canine babesiosis detecting circulating antigen of large *Babesia* spp”. Eichenberger RM, **Štefanić S**, Naucke TJ, Šarkūnas M, Zamokas G,

Grimm F, Deplazes P. Vet Parasitol. 2017 Aug 30;243:162-168. doi: 10.1016/j.vetpar.2017.06.030. Epub 2017 Jun 28. PubMed PMID: 28807287.

11. "Generation and Characterization of Anti-VGLUT Nanobodies Acting as Inhibitors of transport". Schenck S, Kunz L, Sahlender D, Pardon E, Geertsma ER, Savtchouk I, Suzuki T, Neldner Y, **Štefanić S**, Steyaert J, Volterra A, Dutzler R. Biochemistry. 2017 Aug 1;56(30):3962-3971. doi: 10.1021/acs.biochem.7b00436. Epub 2017 Jul 21. PubMed PMID: 28731329.

10. "Inhibition of *Haemonchus contortus* larval development by fungal lectins". Heim C, Hertzberg H, Butschli A, Bleuler-Martinez S, Aebi M, Deplazes P, Künzler M, **Štefanić S**. Parasit Vectors. 2015 Aug 19;8(1):425. doi: 10.1186/s13071-015-1032-x.

9. "Prolyl Oligopeptidase from the Blood Fluke *Schistosoma mansoni*: From Functional Analysis to Anti-schistosomal Inhibitors". Fajtová P, **Štefanić S**, Hradilek M, Dvořák J, Vondrášek J, Jílková A, Ulrychová L, McKerrow JH, Caffrey CR, Mareš M, Horn M. PLoS Negl Trop Dis. 2015 Jun 3;9(6):e0003827. doi: 10.1371/journal.pntd.0003827. eCollection 2015 Jun.

8. "RNA interference in *Schistosoma mansoni* schistosomula: selectivity, sensitivity and operation for larger-scale screening". **Štefanić S**, Dvorak J, Horn M, Braschi S, Sojka D, Ruelas DS, Suzuki B, Lim KC, Hopkins SD, McKerrow JH, Caffrey CR. PLoS Negl Trop Dis. 2010 Oct 19;4(10):e850.

7. "Glucosylceramide synthesis inhibition affects cell cycle progression, membrane trafficking and stage differentiation in *Giardia lamblia*". **Štefanić S**, Spycher C, Morf L, Fabrias G, Casas J, Schraner E, Wild P, Hehl AB and Sonda S. J Lipid Res. 2010 Sep;51(9):2527-45. Epub 2010 Mar 24.

6. "A contiguous compartment functions as endoplasmic reticulum and endosome/lysosome in *Giardia lamblia*". Abodeely M, DuBois KN, Hehl AB, **Štefanić S**, Sajid M, DeSouza W, Attias M, Engel JC, Hsieh I, Fetter RD, McKerrow JH. Eukaryot Cell. 2009 Nov;8(11):1665-76. Epub 2009 Sep 11.

5. "Neogenesis and maturation of transient Golgi-like cisternae in a simple eukaryote". **Štefanić S**, Morf L, Kulangara C, Regos A, Sonda S, Schraner E, Spycher C, Wild P, Hehl AB. J Cell Sci. 2009 Aug 15;122(Pt 16):2846-56. Epub 2009 Jul 21.

4. "Host cell P-glycoprotein is essential for cholesterol uptake and replication of *Toxoplasma gondii*". Bottova I, Hehl AB, **Štefanić S**, Fabriàs G, Casas J, Schraner E, Pieters J, Sonda S, J Biol Chem. 2009 Jun 26;284(26):17438-48. Epub 2009 Apr 22.

3. "A sphingolipid inhibitor induces a cytokinesis arrest and blocks stage differentiation in *Giardia lamblia*". Sonda S, **Štefanić S**, Hehl AB. Antimicrobial Agents and Chemotherapy. 2008 Feb;52(2):563-9. Epub 2007 Dec 17.

2. "Organelle proteomics reveals cargo maturation mechanisms associated with Golgi-like encystation vesicles in the early-diverged protozoan *Giardia lamblia*". **Štefanić S**, Palm D, Svard SG, Hehl AB. J Biol Chem. 2006 Mar 17;281(11):7595-604. Epub 2006 Jan 3.

1. "Polymerase chain reaction for detection of patent infections of *Echinococcus granulosus* ("sheep strain") in naturally infected dogs". Štefanić S, Shaikenov BS, Deplazes P, Dinkel A, Torgerson PR, Mathis A. Parasitol Res. 2004 Mar;92(4):347-51. Epub 2004 Jan 16.