

## ACADEMIC CURRICULUM VITAE

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### ACADEMIC MILESTONES

04/2019 **Venia Docendi (Habilitation)** for the Specific Prophylaxis and Tropical Medicine Institute of Specific Prophylaxis and Tropical Medicine, Medical University of Vienna, Vienna, Austria

06/2017-Present **Associate Professor**, Institute of Specific Prophylaxis and Tropical Medicine, Medical University of Vienna, Vienna, Austria

07/2014-05/2017 **Assistant Professor**, Institute of Specific Prophylaxis and Tropical Medicine, Medical University of Vienna, Vienna, Austria

07/2007-06/2014 **Postdoctoral Research Scientist**, Institute of Specific Prophylaxis and Tropical Medicine, Medical University of Vienna, Vienna, Austria

01/2006-06/2007 **Postdoctoral Research Fellow**, Institute of Pathophysiology, Medical University of Vienna, Vienna, Austria

07/2003-10/2005 **Postdoctoral Research Fellow**, University of Edinburgh, Edinburgh, UK

12/2001-04/2003 **Research Assistant**, Department of Marine Biology, University of Vienna, Vienna, Austria

01/1998-12/2001 **Research Assistant**, Department of Comparative Animal Physiology and General Zoology, Masaryk University, Brno, Czech Republic

12/2002 **PhD degree in Parasitology**, Department of Parasitology, Masaryk University, Brno, Czech Republic

1996-2002 PhD Thesis at the Department of Parasitology, Masaryk University, Brno, Czech Republic

10/1996 **Master of Science degree in Parasitology**, Masaryk University, Brno, Czech Republic

**MAIN AREAS OF RESEARCH:** The main goal of the research is to understand the principles and players of the interplay between host, parasites and microbiota, with particular emphasis on the development of novel prophylactic and therapeutic strategies for the treatment of immune-mediated inflammatory diseases such as allergy or IBD. Our group has shown that oral administration of probiotic bacteria prevents acute ulcerative colitis in mice in a strictly strain-specific manner. In addition, we have shown that the microbiota induces the maturation and homing of mast cells in the gut, which is critical for the development of experimental symptoms of food allergy. Next, we have shown that intranasal administration of probiotic bacteria or extracts of *Toxoplasma gondii* suppresses experimental allergic airway inflammation.

**10 MOST IMPORTANT ACADEMIC PUBLICATIONS** (\*corresponding author, #equally contributed)

1. White R, Sotillo J, Ancarola ME, Borup A, Boysen AT, Brindley PJ, Buzás EI, Cavallero S, Chaiyadet S, Chalmers IW, Cucher MA, Dagenais M, Davis CN, Devaney E, Duque-Correa MA, Eichenberger RM, Fontenla S, Gasan TA, Hokke CH, Kosanovic M, Kuipers ME, Laha T, Loukas A, Maizels RM, Marcilla A, Mazanec H, Morphey RM, Neophytou K, Nguyen LT, Nolte-t Hoen E, Povelones M, Robinson MW, Rojas A, **Schabussova I**, Smits HH, Sungpradit S, Tritten L, Whitehead B, Zakeri A, Nejsum P, Buck AH, Hoffmann KF. Special considerations for studies of extracellular vesicles from parasitic helminths: a community-led roadmap to increase rigor and reproducibility. *J Extracell Vesicles*. 2023 Jan;12(1):e12298. doi: 10.1002/jev2.12298
2. Korb E, Drinić M, Wagner A, Geissler N, Inic-Kanada A, Peschke R, Joachim A, Wiedermann U, **Schabussova I\***. Reduction of allergic lung disease by mucosal application of *Toxoplasma gondii*-derived molecules: Possible role of carbohydrates. *Front Immunol*. 2021 Mar 10;11:612766. doi: 10.3389/fimmu.2020.612766.
3. Korb E, Bağcıoğlu M, Garner-Spitzer E, Wiedermann U, Ehling-Schulz M, **Schabussova I\***. Machine learning-empowered FTIR spectroscopy serum analysis stratifies healthy, allergic, and SIT-treated mice and humans. *Biomolecules*. 2020 Jul 16;10(7):1058. doi: 10.3390/biom10071058
4. Schwarzer\* M, Hermanova P, Srutkova D, Golias J, Hudcovic T, Zwicker C, Sinkora M, Akgün J, Wiedermann U, Tuckova L, Kozakova H, **Schabussova I\***. Germ-Free mice exhibit mast cells with impaired functionality and gut homing and do not develop food allergy. *Front. Immunol*. 2019 Feb; 12;10:205. doi: 10.3389/fimmu.2019.00205
5. Zwicker C, Sarate P, Drinić M, Ambroz K, Korb E, Smole U, Köhler C, Wilson MS, Kozakova H, Sebo P, Kverka M, Wiedermann U, **Schabussova I\***. Prophylactic and therapeutic inhibition of allergic airway inflammation by probiotic *Escherichia coli* O83. *J Allergy Clin. Immunol*. 2018 Aug; 142(6):1987-1990.e7. doi: 10.1016/j.jaci.2018.07.029

6. Smolen U#, Schabussova I#, Pickl, W, and Wiedermann U\*. Murine models for mucosal tolerance in allergy. *Semin Immunol.* 2017 Apr; 30:12-27. doi: 10.1016/j.smim.2017.07.007
7. Drinić M, Wagner A, Sarate P, Zwicker C, Korb E, Loupal G, Peschke R, Joachim A, Wiedermann U, **Schabussova I\***. 2017. *Toxoplasma gondii* tachyzoite-extract acts as a potent immunomodulator against allergic sensitization and airway inflammation. *Sci Rep.* 2017 Nov; 9;7(1):15211. doi: 10.1038/s41598-017-15663-4
8. Schwarzer M, Srutkova D, Hermanova P, Leulier F, Kozakova H, **Schabussova I\***. Diet matters: Endotoxin in the diet impacts the level of allergic sensitization in germ-free mice. *PLoS One.* 2017 Jan; 4;12(1):e0167786. doi: 10.1371/journal.pone.0167786
9. Srutkova D, Schwarzer M, Hudcovic T, Zakostelska Z, Drab V, Spanova A, Rittich B, Kozakova H\*, **Schabussova I**. *Bifidobacterium longum* CCM 7952 promotes epithelial barrier function and prevents acute DSS-Induced colitis in strictly strain-specific manner. *PLoS One.* Jul 28;10(7):e0134050. doi:10.1371/journal.pone.0134050
10. **Schabussova I**, K. Hufnagl, M. Tang, E. Hoflehner, A. Wagner, G. Loupal, S. Nutten, A. Zuercher, A. Mercenier, and U. Wiedermann\*. Perinatal maternal administration of *Lactobacillus paracasei* NCC 2461 prevents allergic inflammation in a mouse model of birch pollen allergy. *PLoS One.* 2012; 7(7):e40271. doi: 10.1371/journal.pone.0040271

## 10 MOST IMPORTANT SCIENTIFIC/SCHOLARLY RESEARCH ACHIEVEMENTS

1. 2022-2024: MSCA European Postdoctoral Fellowships: "LactoVES". (Principal investigator) (199k€)
2. 2021-2024: Austrian Science Fund: "Proteases of Schistosomes in host-parasite interaction". (Principal investigator) (391k €)
3. 2020-2023: Danube Allergy Research Cluster. (Co-applicant) (441k €)
4. 2013-2021: Doctoral Program MCCA: "Influence of obesity on development of allergy and mucosal tolerance". (Co-applicant) (103k €)
5. 2012-2020: Austrian Science Fund: SFB F04612: "Parasite-derived adjuvants for prevention and therapy of allergy". (Co-applicant) (338k €)
6. 2018-2020: OEAD WTZ: Travel Grant: "Testing the hygiene hypothesis: *Trichinella spiralis*-secreted proteins in treatment of airway inflammation. (Principal investigator) (6,9k €)
7. 2017-Present: Member of the scientific board of the Institute of Microbiology of the Czech Academy of Sciences
8. 2014: Researcher of the months at the Medical University Vienna
9. 2012: Patent: *Lactobacillus paracasei* Ncc2461 (ST11) for use by perinatal maternal administration in the reduction and prevention of allergies in progeny

10. 2003-2005: Wellcome Trust Fellowship at the University of Edinburgh

### **PUBLICATIONS (see LIST OF PUBLICATIONS)**

Peer-reviewed publications: **35**; Book chapters: **2**; Invited lectures: **26**; h-Factor: **17**;

Total cites: **859** (according to Scopus); Patents: **4**; Total impact factor: **178**

### **TEACHING ACTIVITIES**

Supervised Master students: **1** (Present), **3** defended

Supervised PhD students: **1** (defended 2019); **1** (2015-Present); **1** (2022-Present)

Co-supervision of PhD students: **5** (all defended)

Hold courses: **35** (e.g. Journal club, Methods seminar, Progress reports)

### **10 MOST IMPORTANT EDITORIAL AND REVIEWER ACTIVITIES**

1. Topic Editor in *Frontiers in Immunology/Microbiology*. "Employing Experimental Gnotobiotic Models to Decipher the Host-Microbiota Cross-Talk in Health and Disease"
2. Topic Editor in *Frontiers in Microbiology/Nutrition/Immunology*. "Probiotic bacteria-derived effector molecules and their impact on the host in health and disease"
3. Review Editor in *Frontiers in Therapies, Therapeutic Targets & Mechanisms*
4. Review Editor in *Frontiers in Allergens*
5. Review Editor in *Frontiers in Systems Microbiology*
6. Review Editor in *Frontiers in Infectious Agents and Disease*
7. Academic Editor for *PLOS ONE*
8. Guest Editor *Microorganisms MDPI*
9. Reviewer for 28 scientific journals
10. Reviewer for OEAD (AT) and NATIONAL SCIENCE CENTRE (PL) grants