NEJC STOPNISEK

Microbiology and Molecular Genetics
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RESEARCH INTERESTS

My main research interest lies in understanding the **assembly, stability and functionality of plant and soil associated microbial communities**. More specifically, considering anthropogenic perturbations and climate change processes, I am interested in how stressed microbiomes are assembled, what mechanisms are used to achieve and maintain stability and what functions contribute to the stability and overall ecosystems functionality/host health.

EDUCATION & PROFESSIONAL EXPERIENCE

Postdoctoral Fellow	Department of Microbiology and Molecular Genetics, Michigan State University, East, Lansing, MI USA Supervisor: Dr. Ashley Shade	2017 - present
Postdoctoral Fellow	Department of Civil and Environmental Engineering, University of Washington, Seattle, WA USA Supervisor: Dr. David A. Stahl	2014 - 2017
Ph.D. Microbiology and Immunology	Institute of Plant Biology, University of Zurich Zurich, Switzerland Supervisor: Dr. Laure Weisskopf	2010 - 2014
Research Assistant	Department of Microbiology, University of Ljubljana, Ljubljana, Slovenia	2009 - 2010
Diploma	Department of Microbiology, University of Ljubljana, Ljubljana, Slovenia Supervisor: Dr. Ines Mandic Mulec	2004 - 2009
Visiting Scholar	Department of Biology, University of Aberdeen Aberdeen, UK Supervisor: Dr. James I. Prosser	2009 - 2009

PUBLICATIONS

***** denotes equal contribution

Grady*, Sorensen*, **Stopnisek***, Guittar, Shade (2019). Assembly and seasonality of core phyllosphere microbiota on perennial biofuel crops. *Nature Communications* 10, Article number: 4135.

Bell, Hockett, Alcalá-Briseño, Barbercheck, Beattie, Bruns, Carlson, Chung, Alyssa Collins, Emmett, Esker, Garrett, Glenna, Gugino, del mar Jimenez-Gasco, Kinkel, Kovac, Kowalski, Kuldau, Leveau, Michalska-Smith, Myrick, Peter, Shade, **Stopnisek**, Tan, Welty, Wickings, Yergeau (2019). Manipulating wild and tamed phytobiomes: challenges and opportunities. *Phytobiomes* 3:3-21.

Meinhardt, **Stopnisek**, Pannu, Strand, Fransen, Casciotti, Stahl (2018) Ammonia-oxidizing bacteria are the primary N2O producers in an ammonia-oxidizing archaea dominated alkaline agricultural soil. *Environmental Microbiology* 20: 2195-206.

Stopnisek, Zühlke, Carlier, Barberan, Fierer, Becher, Riedel, Eberl, Weisskopf (2016). Molecular mechanisms underlying the close association between soil Burkholderia and fungi. *ISMEJ* 10:253-64.

Stopnisek, Bodenhausen, Frey, Fierer, Eberl, Weisskopf (2014). Genus-wide acid tolerance accounts for the biogeographical distribution of soil Burkholderia populations. *Environmental Microbiology* 16:1503-12.

Kost, **Stopnisek**, Agnoli, Eberl, Weisskopf (2014). Oxalotrophy, a widespread trait of plant-associated Burkholderia species, is involved in successful root colonization of lupin and maize by Burkholderia phytofirmans. *Frontiers in Microbiology* 4:1-9.

Stopnisek, Gubry-Rangin, Höfferle, Nicol, Mandic-Mulec, Prosser (2010). Thaumarchaeal ammonia oxidation in an acidic forest peat soil is not influenced by ammonium amendment. *Applied and environmental microbiology* 76:7626-34.

MANUSCRIPTS IN REVIEW

Shade and **Stopnisek**. Abundance-occupancy distributions prioritize core microbiomes from sequencing datasets. *Current Opinion in Microbiology*.

Stopnisek and Shade. Cross-continental biogeography of the common bean rhizosphere reveals a persistent core microbiome. bioRxiv 727461. *PNAS*.

MANUSCRIPTS IN PREPARATION

Stopnisek, Turkarslan, Elliot, Dong, Biggin, Jap, Walian, Auer, Hillesland, Zhao, Baliga, Stahl. Mechanism and physiological consequences of the syntrophically evolved microbial partners.

Turkarslan*, **Stopnisek***, Elliot, Hillesland, Zhao, Baliga, Stahl. Interspecies interactions during evolution of obligate syntrophy.

Colangelo-Lillis, **Stopnisek**, Turkarslan, Elliott, Stahl, Wing. Syntrophy-directed evolution influences isotopic fractionation of sulfur.

Stopnisek and Shade. Cosmopolitan microbes detected across diverse plant species.

Stopnisek, Dooley, Howe and Shade. Distinct functionality of foliar microbiota during plant development.

Stopnisek and Shade. Assembly and functionality of the common bean microbiome.

PROFESSIONAL PRESENTATIONS

Invited Conference Talks

LabRoots virtual event (www.labroots.com)	2019
American Phytopathological Society. Cleveland, OH, USA	2019
Ecological Society of America. New Orleans, LA, USA	2018
International Burkholderia cepacia Working Group. Vancouver, BC, Canada	2015

Invited Seminars

Michigan State University. East Lansing, MI, USA	2018
University of Ljubljana. Ljubljana, Slovenia	2016
Ecosystems and Networks Integrated with Genes and Molecular Assemblies. Berkeley, USA	2016
Swiss Microbial Ecology Meeting 2013, Murten, Switzerland	2013

Poster Presentations

Pennsylvania State University Plant biology symposium, State College, PA, USA	2018
International Society for Microbial Ecology 16, Montreal, QC, Canada	2016
Ecosystems and Networks Integrated with Genes and Molecular Assemblies. Berkeley, USA	2015
Symposium on Bacterial Genetics and Ecology 12, Ljubljana, Slovenia	2013

International Society for Microbial Ecology 14, Copenhagen, Denmark	2012
Association for General and Applied Microbiology, Tuebingen, Germany	2012
Ecology of Soil Microorganisms, Prague, Czech Republic	2011
Soil Metagenomics, Braunschweig, Germany	2010

TEACHING & MENTORING EXPERIENCE

Teaching Assistant	Molecular biology and microbiology (3 ETCS) University of Zurich, Zurich, Switzerland	2011, 2012, 2013
Teaching Assistant	Systemic microbiology (6 ETCS) University of Zurich, Zurich, Switzerland	2011, 2012
MENTORING	University of Zurich:	
	Thomas Kost	2011 – 2012
	University of Washington:	
	Anjali Rupela	2016 – 2017
	Michigan State University:	
	Waseem Syed, Karly Kruger, Blake Bezemek, Alina Castagna, Maddison Agustin	2017 – present

GRANTS & AWARDS

Discovery project, internal Ecosystems and Networks Integrated with Genes and Molecular Assemblies consortium funding ($80,000)	2015
Life Science Graduate School Zurich travel award ($700)	2013
Undergraduate scholarship from ERASMUS MUNDUS ($4000)	2009

PROFESSIONAL ACTIVITIES

Workshop Organizer

Omics in Plant Microbiome studies. American Phytopathological Society. Denver, CO, USA. Aug 2020.

Peer Reviewer

ISME Journal • Frontiers in Microbiology • Soil Biology and Biochemistry • Applied and Environmental Microbiology • FEMS Microbiology Ecology • Microbial Ecology • Applied Soil Ecology • Physiological and Molecular Plant Pathology

Society Member

Slovenian Microbiological Society • American Society for Microbiology • British Ecological Society

Departmental Engagement

Seminar committee member • New hire search committee