Curriculum vitae of

Geoffrey L. Zahn, Ph.D.

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PROFESSIONAL STATUS

Current Postdoctoral Research Associate
University of Hawaii at Manoa – Botany Department
Lab of: Dr. Anthony Amend

EDUCATION

2015 PhD in Biology – Microbial and Molecular Ecology
University of Arkansas, Fayetteville, AR, USA
Dissertation Advisor: Dr. Frederick W. Spiegel

2010 Bachelor of Science in Biology – Ecology, Evolution and Systematics
Missouri State University, Springfield, MO, USA

RESEARCH INTERESTS:

Factors that shape microbial community formation and function
Plant-Microbe interactions
Microbial community responses/feedbacks to climate change
The ecology and ecosystem services of protists and fungi
Linking local microbial and molecular dynamics to global biogeochemical cycles

SKILLS

Software: MS Office Suite, Adobe Photoshop, R, Minitab, SPSS, EcoSim, PC-Ord, Phylip, BioEdit, MEGAN 4, mothur, MG-RAST, ARB, IMG/M (cert. user), JMP, QIIME (cert. user), Basic Perl/Python, Phylip, Galaxy, SigmaPlot, Shell scripting, Git

Techniques: Soil nucleic acid extraction, NG library prep and sequencing, RT-PCR, Fluorescent microscopy, Microbial culture curation, Primer design, Soil microcosms, Cryopreservation, Bioinformatics, IR gas analyses, Stable isotope analyses, Greenhouse management, Field work (Ozarks, Alaska, Costa Rica, Hawaii, Sweden, Japan)

PUBLICATIONS

Geoffrey Zahn, Rota Wagai, Seiichiro Yonemura. 2016. The effects of amoebal bacterivory on carbon and nitrogen dynamics depend on temperature and soil structure interactions. *Soil Biology and Biochemistry*, 94: 133-137. DOI: 10.1016/j.soilbio.2015.11.021

Geoffrey Zahn, John Shadwick, Fred Spiegel. Protosteloid amoebae as a flagship group for investigating the global distribution of naked amoebae. *Journal of Eukaryotic Microbiology*. In review, August 2015.

Geoffrey Zahn, Steven L. Stephenson, Frederick W. Spiegel. 2014. Ecological distribution of protosteloid amoebae in New Zealand. *PeerJ* 2:e296; DOI 10.7717/peerj.296

Miriam De Haan, Christine Cocquyt, Alex Tice, **Geoffrey Zahn**, Frederick W. Spiegel. 2014. First records of Protosteloid Amoebae (Eumycetozoa) from the Democratic Republic of the Congo. *Plant Ecology and Evolution,* 147:1, 85-92

Erin R. Murphy, Jacob Boxberger, Robert Colvin, Suk Je Lee, **Geoffrey Zahn**, Fred Loor, Kyoungtae Kim. 2011. Pil1, an eisosome organizer, plays an important role in the recruitment of synaptojanins and amphiphysins to facilitate receptor-mediated endocytosis in yeast. *European Journal of Cell Biology*, 90:10, 825-833

Geoffrey Zahn, Sandeep Sharma, Burt Bluhm. (In preparation). High-throughput sequencing reveals temperature- and predator-mediated microbial community shifts correspond to observed carbon and nitrogen dynamics in a forest soil. In prep: *The ISME Journal*

PRESENTATIONS

Invited Seminars:

2015 **"***Effects of belowground trophic complexity on carbon cycling under changing climatic and edaphic conditions"* Joint Genome Institute, Walnut Creek, CA, USA

2015 *"The functional and distributional ecology of mycetozoans under changing edaphic and climatic dynamics"* Climate Impact Research Center, Abisko, Sweden

2014 "*Public science literacy and targeted environmental initiatives*" NWA Environmental Programs Symposium

2014 "*The functional and distributional ecology of slime molds in a changing climate*" NIAES, Tsukuba, Japan

2013 "*The Ecology of Soil Mycetozoa*" Japan Agency for Marine-Earth Science and Technology, Yokosuka, Japan

2012 "*The Mycetozoans*" Organization for Tropical Studies, Las Cruces, Costa Rica

Posters and Talks:

2014 "*Amoebae in warming soils: interactive effects of the microbial food web and environmental factors on nutrient cycling in a changing climate*" A2C Research Symposium, Fayetteville, AR, USA

2014 "*The interactive effects of protozoan predation pressure and environmental factors on carbon and nitrogen cycling in soils under warming conditions"* International Society for Microbial Ecology; Seoul, South Korea

2014 "*Application of high-throughput sequencing may explain carbon dynamics under predation and warming gradients via soil community shifts"* JSPS Multidisciplinary Science Forum 4; Washington, D.C., USA

2014 "*Using metagenomics and metatranscriptomics to uncover mechanisms of soil communities' effects on carbon cycling under warming conditions*" DOE Joint Genome Institute – Microbial Genomics and Metagenomics Workshop; Walnut Creek, CA, USA

2013 "*The Role of Soil Amoebae in Nutrient Cycling on a Warming Planet*" Graduate University for Advanced Studies; Sokendai, Japan

2011 "*The Protosteloid Amoebae of New Zealand*" Mycological Society of America; Fairbanks, AK, USA

2010 "*Pil1's Role on Regulating Membrane PIP2 Level"* INBRE Conference; Fayetteville, AR, USA

2010 "*The Effects of Prescribed Fire on Overwintering Fungal Abundance and Diversity: A Baseline Study*" CNAS Undergraduate Research Symposium; Springfield, MO, USA

2009 *"Endocytic Roles of Pil1, the Main Organizer of Eisosomes"* Arkansas INBRE Research Conference; Fayetteville, AR, USA

AWARDS AND FUNDING

2014 Japan Society for the Promotion of Science (JSPS) Alumnus Travel Award

2014 Dept. of Energy Joint Genome Institute IMG Workshop Registration

2013 JSPS Summer Research Fellowship (JSPS-SP01363)

2013 NSF EAPSI Grant (OISE-1308856)

2013 Clean Air – Cool Planet Climate Fellowship

2011 Mycological Society of America Travel Award

2011 NSF GK-12 Fellowship

PROFESSIONAL EXPERIENCE

2015 Endangered snail and plant conservation – Collaboration with US Army Environmental Division, Hawaii

2014 – 2015 Course Development – Online Biology Lab

University of Arkansas

2013 International Research – Soil Physiology and Ecology
May – Aug. National Institute for Agro-Environmental Sciences, Tsukuba, Japan

2013 – 2016 IUCN Species Survival Commission – Myxomycete group

2012 Field Research – Tropical Lichen Ecology
Jul. – Aug. Organization for Tropical Studies, Costa Rica

2011 – 2012 National Science Foundation GK12 Teaching Fellow
Jun. – May University of Arkansas; Owl Creek Middle School, Fayetteville, AR

2010 Undergraduate Research Assistant – Forest Fire Ecology
Jan. – Dec. Missouri State University Dept. of Biology

2009 Undergraduate Research Assistant – Molecular Genetics
Jan. – Dec. Missouri State University Dept. of Biology

TEACHING EXPERIENCE

Principles of Biology (Honors Undergraduate)
Comparative Botany (Graduate level)
Mycology (Graduate level)
6th Grade Science (NSF GK-12 Teaching Fellow)

SYNERGISTIC ACTIVITIES

2014 Ten Thousand Microscopes Beta Tester – K-12 Content Generator

2011 – **2015** Judge – NWA Regional Science Fair

2008 – **2009** James River Basin Partnership Science Committee, Springfield, MO

2007 Research Technician
Missouri State University Greenhouse – Managed the horticulture laboratory greenhouse

2006 Volunteer Ecologist
Reserva Bosque Nuboso Santa Elena, Costa Rica – Cloud forest avian distribution / Spanish-English translation

ACADEMIC AND OTHER SOCIETIES (Active participant)

International Society for Microbial Ecology
Mycological Society of America
International Society for Fungal Conservation
Japan Society for the Promotion of Science Alumni Association
Young Permafrost Researchers Network
International Union for Conservation of Nature (IUCN) – Species Survival Group (Myxomycetes)

LANGUAGES AND PROFICIENCY

English Native Fluency
German Elementary Proficiency
Spanish Working Proficiency
Japanese Elementary Beginner

RECENT COLLABORATORS

Burton H. Bluhm
University of Arkansas – Plant Pathology

Anthony Amend
University of Hawaii – Botany

Nicole Hynson
University of Hawaii – Botany

Frederick W. Spiegel
University of Arkansas – Biology

Rota Wagai
NIAES Japan – Carbon and Nutrient Cycling Division

Seiichiro Yonemura
NIAES Japan – Division of Agro-Meteorology

Robert Lücking
Botanic Garden and Botanical Museum Berlin-Dahlem