Hinsby Cadillo-Quiroz, PhD

Assistant Professor
School of Life Sciences
Arizona State University
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EDUCATION

School of Agricultural and Life Sciences. ***Cornell University****, NY, U.S.A.*
Ph.D. in Microbiology **2002-2008**

School of Biological Sciences, ***San Marcos National University****. Lima, Peru.*
Professional Title in Microbiology - (Honors) Thesis dissertation option **2000**

School of Biological Sciences, ***San Marcos National University****. Lima, Peru.*
Bachelor of Sciences **1994-1999**

PROFESSIONAL EXPERIENCE

Arizona State University
Assistant Professor– Laboratory of Microbial Ecology and Evolution • **2011- Present**

- Joint Appointment at:
  - The School of Life Sciences and
  - Biodesign Institute
- Faculty at the PhD programs:
  Biological Design
  Environmental Sciences
  Microbiology
  Molecular and Cellular Biology

University of Oregon, Center for Ecology and Evolutionary Biology
Postdoctoral Research Associate– Advisor: Brendan Bohannan **2010-2011**

University of Illinois, Department of Microbiology
Postdoctoral Research Associate– Advisor: Rachel Whitaker **2008-2010**

Cornell University, Department of Microbiology
Ph.D. Research – Advisor: Stephen Zinder **2002-2008**

GRANTS, FELLOWSHIPS, & AWARDS

- DOE-Joint Genome Institute Microbial Sequencing Program "Genomic biology of novel permafrost methanogens: Methanobacterium veterum and M. arcticum. **2012**
- JGI-DOE Sequencing Project "Genome sequencing and comparison of five novel methanogens from peatlands and bioreactors". Wrote grant in collaboration with Prof. Stephen Zinder (Cornell University) and Prof Wen-tso Lu (University of Illinois). Approved. **2009**
- JGI-DOE Microbial Sequencing Program: "Genome of the novel methanogen candidatus Methanosphaerula palustris E1-9c". Wrote grant under supervision of Prof. Stephen Zinder. Estimated amount: US $ 16,000. **2007**
- Co-Recipient of Small Grant, NSF IGERT in Biogeochemistry and Environmental Biocomplexity, Cornell University. Project: "T-RF Manager: Software for the Analysis of Microbial Community Data". Amount: US $ 4,000. In collaboration with S. Culman, B. Oneil and C. Gaby. **2007**
- Small Grant, NSF IGERT in Biogeochemistry and Environmental Biocomplexity, Cornell University. Project: "Targeted Metagenomics of **2006**

Novel Methanogens in Acidic Bogs". Amount: US $ 4,000.

- Travel Grant, International Society of Microbial Ecology. Amount: EU £500. **2006**
- Microbial Diversity Summer Scholarship funded by: Howard Huges Medical Institute, Bernard Davis Fund, and Daniel S. Grosch Scholarship Fund. US $ 3,500. **2003**
- Fulbright Scholarship. Fulbright Commission-Peru. **2002-2004**
- Geobiology Summer Scholarship. University of Southern California and Aguron Institute. US $ 3,500. **2002**
- Cornell Presidential Scholarship. For distinguished graduate school students. US $ 28,000. **2002**
- First honorific position in Best Incorporation work as new member of the Chilean Society of Microbiology **2000**

TEACHING EXPERIENCE

Biology of Microorganism (MIC 220) **Fall 2013**

Molecular and Cellular Biology (MCB 701) symposium **Fall 2012, Spring 2013, Fall 2013**

Bacterial Diversity and Systematics (MIC 470). Lecture and laboratory sessions. **Spring 2012,2013**

Guest Lecturer

Fundamentals of Biological Design (BDE 598) Arizona State University **Fall 2011**

Microbial Ecology and Evolution- University of Illinois at Urbana Champaign. **Spring 2010**

Microbial Ecology- San Marcos National University, Peru. **2000-2001**

Teaching Assistant

Microbial Diversity Course- Marine Biological Laboratory, Woods Hole, MA. **2009**

General Microbiology- Cornell University. **2003**

Microbial Ecology- San Marcos National University, Peru. **2000-2001**

General Microbiology and **Environmental Microbiology**San Marcos National University, Peru. **2000**

Mentoring and Supervision of Graduate and Undergraduate Students

Graduate

Alta Howells, Microbiology, PhD ***committee member***, ASU Spring 2013-Present

Hillary Emick, Environmental Life Sciences, PhD ***committee member***, ASU Spring 2013-Present

Lucas Zackaj, Microbiology, PhD ***committee member***, ASU Fall 2012-Present

David Benjamin Nyer***.*** Mol & Cel Biol, MSc ***committee member***, ASU 2012-2013

Anca Delgado. Microbiology, PhD ***committee member***, ASU 2012-2013

Zehra Esra Ikhan. Microbiology, PhD ***committee member***, ASU Fall 2011-Present

Eric Chapman. Environmental Life Sciences, PhD ***committee member***, ASU Fall 2011-Present

Undergraduate

Michael Crusoe -ASU Microbiology (2011-2012), Gayle Frost –ASU Sustainability (2011-2012), Jesus Montijo –ASU Microbiology (Fall 2012-Srping 2013), Mayra Buenrostro –ASU Microbiology (Spring 2012), Jazmine Mayberry -ASU Biochemistry(Spring 2012-Present) Steffen Bussecker –Visiting

student U of Tubingen (Fall 2012), Eric Hummel-ASU Microbiology (Spring 2013-Present), Pablo Cruz-Ramos –ASU Microbiology (Spring 2013), Gracie Parrish –ASU Microbiology (Spring 2013)

Other 15 students from previous positions.

WORKSHOPS & INTERNATIONAL COURSES

- **PASI Field Course 2011: Tropical Ecology and Biogeochemistry, from Andean Cloud Forests to the Lowland Amazon Peru.** Field class of the PIRE-Amazon initiative. **2011**
- **Microbial Diversity Course**. Research and teaching staff. Marine Biological Laboratory. Woods Hole. **2009**
- **Rapid Annotation Subsystem Technology (RAST) and Metagenomics** (MG) - RAST workshop II. Argonne National **2008**
- **Do "species" matter in microbial communities?.** Workshop I-NSF Frontiers in Integrative Biological Research. Montana State University-Bozeman. **2004**
- **Microbial Diversity Course**. Marine Biological Laboratory. Woods Hole. (http://www.mbl.edu/education/courses/summer/course_micro_div.html) **2003**
- **Geobiology International Summer Course**. University of Southern California and Wrigley Institute for Environmental Studies. **2002**
- **Ecology and Diversity of Marine Microorganisms International Course.** Universidad de Concepcion. Chile. **2000**

PUBLICATIONS

- Browne, P. and **Cadillo-Quiroz, H. 2013**. Transcription and mRNA regulation patterns of methanogenic Archaea. ***Archaea,*** DOI: 10.1155/2013/586369, 11p

- Bridgham, S., **Cadillo-Quiroz, H**., Keller, J., Zhuang, Q. **2013**. Contemporary and future methane emissions from wetlands: biogeochemical, microbial, and modeling perspectives from local to global scales. ***Global Change Biology*** 19:1325-1346.

- Sun, C., Brauer, S., **Cadillo-Quiroz, H**., Zinder, S., Yavitt, J. 2012. Seasonal Changes in methanogenesis and methanogens in three peatlands New York State. **Frontiers in Terrestrial Microbiology**. **3**(81), doi: 10.3389/fmicb.2012.00081

- **Cadillo-Quiroz, H**., Didelot, X., Held, N. Herrera, A., Darling, A., Reno, M., Krauske, D., and Whitaker, R. **2012**. Sympatric Speciation with Gene Flow in Thermophilic Archaea. **PLOS Biology 10** (2): e1001265.

- Yavitt, J., Yashiro, E., **Cadillo-Quiroz, H**., and Zinder, S.H. **2012**. Composition and distribution of methanogens in peatlands of the central to northern Appalachian mountain region of North America. **Biogeochemistry Journal**, 109 (1): 117-131.

- Nelson, J.L., Fung, J.M. **Cadillo-Quiroz, H**., Cheng X., Zinder S.H. **2011**. A Role for *Dehalobacter spp*. in the Reductive Dehalogenation of Dichlorobenzenes and Monochlorobenzene. *Environmental Science & Technology 45* (16), 6806-6813

- Sakai, S., Ehara, M., Tseng, I., Yamaguchi, T., Brauer, S., **Cadillo-Quiroz, H**., Zinder, S., Imachi, H. 2012. *Methanolinea mesophila*, sp. nov., a hydrogenotrophic methanogen isolated from a rice field in Taiwan, and proposal of the new archaeal family *Methanoregulaceae* fam. nov. within the order *Methanomicrobiale.* **International Journal of Systematic and Evolutionary Microbiology** 62:1389-1395.

- Bräuer, S., **Cadillo-Quiroz, H.**, Ward, R.J., Yavitt, J. and S. Zinder. 2011. M*ethanoregula boonei* gen. nov., sp. nov., an acidiphilic methanogen isolated from an acidic peat bog. **International Journal of Systematic and Evolutionary Microbiology** 61 (1): 45-52

- Held, N., Herrera, A., **Cadillo-Quiroz, H**., Whitaker, R. 2010. CRISPR associated diversity within a population of *Sulfolobus islandicus.* PLOS one, *5 (9):* e12988.

- **Cadillo-Quiroz, H**., Yavitt, J., Zinder, S.H., and J. E. Thies. 2010. Diversity and community structure of methanogens and related *Archaea* inhabiting the rhizoplane of two contrasting plants in an acidic bog. **Microbial Ecology** 59 (4): 757-767.

- Culman, S.W., R. Bukowski, H.G. Gauch, **H. Cadillo-Quiroz**, and D.H. Buckley. 2009. T-REX: Software for the processing and analysis of T-RFLP data. **BMC Bioinformatics journal** 10(1): 171.

- **Cadillo-Quiroz, H**., Yavitt, J., and Zinder, S.H. 2009. *Methanosphaerula palustris* gen. nov., sp. nov., a hydrogenotrophic methanogen isolated from a minerotrophic fen. **International Journal of Systematic and Evolutionary Microbiology** 59: 928-935.

- **Cadillo-Quiroz H.**, Yashiro E, Yavitt JB, Zinder SH. (2008). Characterization of the archaeal community in a minerotrophic fen and terminal restriction fragment length polymorphism-directed isolation of a novel hydrogenotrophic methanogen. **Applied and Environmental Microbiology** 74: 2059-2068.

- Dettling, M., Yavitt, J., **Cadillo-Quiroz, H.,** Sun, C. and Zinder S.H. 2007. Soil-Methanogen Interaction in Two Peatlands (Bog, Fen) in Central New York State. **Geomicrobiology Journal**. 24 (3): 247-259.

- **Cadillo-Quiroz H**, Bräuer SL, Yashiro E, Sun C, Yavitt JB, and Zinder SH. 2006. Vertical profiles of methanogens in two contrasting acidic peatlands in central New York State, USA. **Environmental Microbiology** 8(8):1428-1440.

- Bräuer S.L., **Cadillo-Quiroz, H.**, Yashiro, E., Yavitt, J.B., and S.H. Zinder. 2006. Isolation of a novel acidiphilic methanogen from an acidic peat bog. **Nature** 442:192-194.

- Park, W., Jeon, C.O., **Cadillo-Quiroz**, H., DeRito, C., and E. L. Madsen. 2004. Survival of naphthalene-degrading *Pseudomonas putida* NCIB 9816-4 in naphthalene-amended soils: toxicity of naphthalene and its metabolites. **Applied Microbiology and Biotechnology**, 64 (3): 429-435.

PROFESSIONAL AFFILIATIONS & SERVICE

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- Member of the American Society for Microbiology (ASM)
- Member for the International Society of Microbial Ecology (ISME)
- Member of the Society of Wetlands Scientist (SWS)
- Member of the Ecological Society of America (ESA)
- Member of the Biogeochemistry and Environmental Complexity – Cornell University
- Member of the Society for Advancement of Chicanos and Native Americans in Science

- ASM mentor for international students

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