Edward K. Hall

Natural Resource Ecology Laboratory - Colorado State University
Campus Delivery 1499 Fort Collins CO 80523-1499
Tel: 970-491-2162 email: ed.hall@colostate.edu

EDUCATION

MBL Microbial Diversity Course	(2010)	
University of Minnesota, Twin Cities	(2006)	Ph.D. Ecology
University of Massachusetts, Amherst	(1997)	B.S. Biology

PROFESSIONAL APPOINTMENTS

12/2014 to present	Colorado State Univ. (NREL) Research Scientist II
09/2011 to 12/2014	Colorado State Univ. (NREL) Research Scientist I
03/2011 to 12/2014	USGS Research Biologist (Mendenhall Fellow)
09/2007 – 12/2010	University of Vienna, Post-Doctoral Fellow
09/2006 – 06/2007	St. Thomas University, Department of Biology Saint Paul, MN, Visiting Asst. Professor
09/2006 to 12/2006	St. Olaf College, Department of Environmental Studies, Northfield, MN, Instructor

FELLOWSHIPS & AWARDS

CSU Water Center Fellow	2014-2015	$10,000
USGS Performance Award, Fort Collins Science Center	2013 & 2014	$850 ea.
2013 NREL, Outstanding Research Scientist	2013 & 2014	NA
2013 Fulbright Scholar, Honduras, C.A.	January 2013	~$20K
Gene E. Likens Award, ESA Biogeosciences	August 2011	$250
CSU SOGES Communication Fellow	May 2011	NA
USGS Mendenhall Fellow	March 2011	~$230K
Outstanding Student Poster – ASLO 2005	June 2005	NA
Itasca Director's Fellowship	April 2004	$1,600
Dayton Wilkie Award, EEB, Univ. of MN	April 2004	$1,100
Sigma Xi Grant in Aid of Research	March 2004	$200
James C. Underhill Fellowship	December 2003	$500
Doctoral Dissertation Research Grant Univ. of MN Graduate School	November 2003	$2,300
Dayton Wilkie Award, EEB, Univ. of MN	March 2003	$1,200
LiMNology Summer 2002 Fellowship (UMN)	May 2002	$4,000
Outstanding Teaching Assistant CBS (UMN)	Fall 2000	$100
Howard Hughes Grant for Undergrad. Research	1996 and 1997	$1000

FUNDED PROJECTS

NSF IOS: Deconstructing bacterial community biomass stoichiometry one cell at a time **PI: EK Hall** ($458,000**) 3/2015 – 3/2018**

AMUPROLAGO (NGO) Honduras C.A. Evaluating the carrying capacity of Lake Yojoa, Honduras, C.A. **PI: EK Hall**, (~$58,000) **06/2014 – 06/2015**

Colorado State University Water Center: Uniting water related research expertise in Latin America at CSU" **PI: EK Hall**, (~$10,000) **07/2014 – 05/2015**

Colorado State University Water Center: Loss of catchment retention: Interactions between catchment morphology, residence time, and geochemical processing amidst a changing hydrologic regime'" PI: Tim Covino, Co-PIs: **EK Hall,** E. Wohl (~$25,000) **07/2014 – 05/2015**

John Wesley Powell Center For Synthesis and Analysis The next generation of ecological indicators: defining which microbial properties matter most to ecosystem function and how to measure them **PI: EK Hall** Co-PI: Wallenstein and Lennon (Funding ~ $100,000) **09/2012 – 09/2015**

Colorado State University Water Center: Developing scholarly excellence across the aquatic-terrestrial interface: understanding the hydro-bio-geo-chemistry of extreme events" **PI: EK Hall**, Co-PIs: Boot, CM, F. Cotufro, and Nelson, P. (~$25,000) 01/2014 – 05/2014

US State Department 2013 Fulbright Scholar Award The ecology of the Lake Yojoa ecosystem (Honduras) **PI: EK Hall** (~$20,000 – salary declined) 01/2013/-06/2013

USGS Mendenhall Fellowship Evaluating microbial mechanisms behind temperature driven changes in alpine biogeochemistry **PI: EK Hall** (Funding ~$230,000) 04/2011 – 03/2013

Center for Water Sciences, Michigan State University Towards a mechanistic framework of how temperature affects aquatic bacterial community structure and function **PIs: EK Hall** and Lennon JT (Funding $30,000) 07/2007)

RESEARCH INTERESTS

I am an aquatic microbial ecologist. My research addresses pressing issues on the sustainability of freshwater ecosystems. To do this I work across the aquatic and terrestrial interface at the intersection of environmental microbiology and ecosystem ecology to understand how organic and inorganic

materials are transported and transformed as they move through complex ecosystems and the consequences of these processes.

PEER REVEIWED PUBLICATIONS

Hall, E.K., Schoolmaster, D.K., Amado, A.M., Domine, L. Stets, E.G. Cotner, J.B., Lennon, J.T. Similar controls on planktonic respiration from the smallest to the largest freshwater ecosystems *(in press at Inland Waters)*

Boot, C.M., Hall, E.K., Denef, K. and Baron, J.S. 2015 Long-term reactive nitrogen loading alters soil carbon and microbial community properties in a subalpine forest ecosystem. Soil Biology and Biochemistry (*in press*)

Bier R. L., Emily S. Bernhardt, Claudia M. Boot, Emily B. Graham, E. K. Hall, Jay T. Lennon, Diana Nemergut, Brooke B. Osborne, Clara Ruiz-González, Joshua P. Schimel, Mark P. Waldrop, Matthew D. Wallenstein Linking microbial community structure and microbial processes: an empirical and conceptual overview (*in press FEMS Microbiology Ecology*)

Pepe-Ranney, C.P. and Hall, E.K. 2015 Carbon subsidies affect planktonic niche partitioning and recruitment of bacteria to marine biofilms http://dx.doi.org/10.3389/fmicb.2015.00703 *Frontiers in Aquatic Microbiology*,

Rocca, J.D, Hall, E.K., Lennon, J.T., Evans, S.E., Waldrop, M.P., Cotner, J.B., Nemergut, D.R., Graham, E.B., Wallenstein, M.W. 2014 Relationships between protein-encoding gene abundance and corresponding process are commonly assumed yet rarely observed. ISME Journal 10: 1-14

Baron, J.S., Hall, E.K., Nolan, B.T., Finlay, J.C., Bernhardt, E., Harrison, J.W., Chan, F. Howarth, R.T., Boyer, E.W. 2013 The interactive effects of excess reactive nitrogen and climate change on aquatic ecosystems and water resources of the United States *Biogeochemistry* doi:10.1007/s10533-012-9788

Hall, E.K., Besemer, K., Kohl, L., Preiler, C., Scheider T., Riedel, K. Wanek W. and Battin T. 2012 Effects of resource chemistry on the composition and function of hyporheic stream biofilms *Frontiers in Aquatic Microbiology* doi: 10.3389/fmicb.2012.00035

Wallenstein, M. and Hall, E.K. 2012 A trait-based framework for predicting when and where microbial adaptation to climate change will affect ecosystem function. *Biogeochemistry* DOI 10.1007/s10533-011-9641-8: 1-13

Cotner, J.B. and Hall, E.K. 2011 Comment on "A bacterium that can grow by using arsenic instead of phosphorus" *Science* 332: 1149

(*publications cont.*)

Hall, EK, Maixner F, Franklin O, Daims H, Richter A & Battin T 2011 Linking microbial and ecosystem ecology using ecological stoichiometry: concepts and empiricism. *Ecosystems* 14(2): 261-273 *Gene Likens Award (ESA)*

Franklin, O., Hall, E.K., Kaiser, C., Richter, A. Battin, T. 2011 Optimization of biomass composition explains microbial growth-stoichiometry relationships *American Naturalist* 177:2 – E29-E42

Hall, E.K., Singer, G.A., Pölzl, M.*, Schwarz, C.*, Haemmerle, I., Daims, H., Maixner F., Battin, T. 2011 Looking inside the box: using Raman microspectroscopy to deconstruct biomass stoichiometry one cell at a time *The ISME Journal* 5: 196-208

Cotner, J. B., Hall E.K., Scott, J. Thad, Heldel, M. 2010 Freshwater bacteria are stoichiometrically flexible with a nutrient composition similar to seston *Frontiers in Aquatic Microbiology* **1**:132 DOI: 10.3389/fmicb.2010.00132

Keiblinger, K.M.† Hall, E.K†, Szukics, U., Hämmerle, I., Ellersdorfer, G., Sterflinger, K., Wanek, W., Richter, A., Jandl R., and Zechmeister - Boltenstern, S. 2010 The effect of resource quantity and resource stoichiometry on microbial carbon use efficiency *FEMS Microbiology Ecology* 73(3): 430-440 († these authors contributed equally to this work)

Hall, E.K., Singer, G. A., Kainz, M.J. and Lennon, J. T. 2010 Evidence for a temperature acclimation mechanism in freshwater bacteria: an empirical test of a hypothesized membrane mediated trade-off. *Functional Ecology* 24 (4): 898-908

Zhong, J., Fan, C., Zhang, L. Hall, E.K., Ding, S., Li, B. and Liu, G. 2010 Significance of dredging on sediment denitrification in Meiliang Bay, China: A year long simulation study. *Journal of Environmental Science* 22(1) 68-75

Hall, E.K., Dzialowski, A.R., Stoxen, S.M.*, and Cotner, J.B. 2009 The effect of temperature on the coupling between phosphorus and growth in lacustrine bacterioplankton communities *Limnology and Oceanography* 54: 880-889

Hall, E. K., Neuhauser, C. and Cotner J.B. 2008 Towards a mechanistic framework of how temperature affects natural bacterial communities *The ISME Journal* 2 (4): 1-11

(*publications cont.)*

Hall, E.K. and Cotner, J.B. 2007 The interactive effect of temperature and resources on carbon cycling by bacterioplankton communities *Aquatic Microbial Ecology* 49: 35-45

Brainerd E. L., Murray S.S., Hall, E. K., and Phillis R. W. 2001 Patterns of genome size evolution in tetraodontiform fishes *Evolution* 55(11) pp.2363-2368

MANUSCRIPTS in REVISION, REVIEW or PREPARATION
(*student advisee)

Fegel, Timothy, Baron, Jill, Johnson, Gunnar, Fountain, Andrew, Hall, E.K. Biogeochemical inputs of melting ice glaciers and rock glaciers to low latitude alpine ecosystems. (in review at *JGR: Biogeosciences*)

Hall E.K, Bernhardt E.M., Schimel, J.S. Jones, S.E., Lennon, J.T. Wallenstein, M.W. Evans, S.E., Boot, C.M., Waldrop, M.W., Bradford M.W., Reframing the use of microbial information in ecosystem science (*in prep)*

Hall, E.K., Fegel, T.*, Bowker D.S. and Baron J.S. The role of nitrifiers in alpine ecosystems (in prep)

Hall, E.K. and Battin T.J. The physiological and ecological response to changing temperature of interstitial stream bacteria (in prep)

Pepe-Ranney, C.P, Hahn, C.H.,. Oyler –McCance, S. and Hall E.K. Potential interactions among the diverse microbiome of the cowbird and its autecology (in prep)

Cotrufo, F., Boot, C.M., Hall, E.K., Nelson, P. Kampf, S., Rathburn, S., Rhoades, C., et al. Fate and transport of black carbon after a large sub-alpine wildfire (in prep)

PRESENTATIONS

AGU 2015

ESA talk 2015

(*presentations cont.)*

Hall, E.K., Fegel, T.S. Baron, J.S. and Boot C.M. 2014 Evaluating multiple drivers of soil organic matter lability and structure in a sub-alpine forest ecosystem American Geophysical Union, San Francisco, CA (poster)

Hall, E.K., Pepe-Ranney, C., Oyler-McCance, S., and Hahn, C. 2014 Evaluating the Gut and Cloacal Bacterial Community of Cowbirds: A Potential Mechanism for Enhanced Immunity The Wildlife Society Annual Meeting Pittsburgh PA

Hall, E.K. 2014 The interactive effect of multiple stressors on the Lake Yojoa ecosystem (Honduras CA) and the potential impact on the livelihoods it sustains Joint Aquatic Sciences Meeting (JASM) Portland, OR

Hall, E.K. and Baron, J.S. 2013 The potential for retreating alpine glaciers to alter alpine ecosystems in the Colorado Front Range American Geophysical Union, San Francisco, CA

Baron JS, Hall E.K., Fegel T, Gundersen G, Seeback A, Windom L, Woodwell, RT, Heath, TJ, Boot, CM. 2013 The interactive effects of atmospheric N deposition and climate change on a subalpine lake. American Geophysical Union, San Francisco, CA (poster)

Fegel, T.S., Baron, J.S., Boot, C.M., Hall. E.K. 2013 Biogeochemistry of glacier and rock glacier outflow in the western United States American Geophysical Union, San Francisco, CA (poster)

Boot, C.M., Hall, E.K. Baron, J.S. and Denef, K. 2013 Nitrogen fertilization alters microbial community composition and reduces the soil organic carbon pool in an old-growth subalpine forest Ecological Society of America, Minneapolis, MN

Hall E.K. 2013 Linking microbial and ecosystem ecology: what matters and how to measure it Ecological Society of America, Minneapolis, MN

Hall E.K., Pepe-Renney, C.C., and Lennon J.T. 2012 Carbon subsidies affect planktonic niche partitioning and recruitment of bacteria to marine biofilms ISME Copenhagen Denmark (poster)

Hall E.K. and Baron J.S. 2012 The role of nitrifiers in accumulating NO_3^- in the surface waters of Rocky Mountain National Park Ecological Society of America Portland, Oregon

(*presentations cont.*)

Baron JS, Bernhardt ES, Finlay JC, Chan F, Nolan BT, Hall EK, Howarth RW, Boyer EW 2012 Interactive effects of reactive nitrogen and climate change on US water resources. American Geophysical Union, San Francisco, California

Hall, E.K. and Battin, T. J. 2011 To Flee or not to Flee: The microbial response to changing temperature in a stream environment 2011 Ecological Society of America Austin, Texas

Hall, E.K., Preiler, C., Schneider, T., Riedel, K., and Battin, T. J. 2010 Teatime in the stream: the effect of resource quality on microbial form and function in interstitial stream biofilms 2010 ASLO Santa Fe, New Mexico

Hall, E.K. Maixner, F., Pölzl, M*. Daims, H. Richter, A. Battin, T. 2009 Ecological Stoichiometry as a novel front in the microbial revolution: linking community composition to ecosystem processes ASLO, Nice, France

Hall, E.K., Hämmerle, I., Pölzl, M.*, Schwarz, C.*, Maixner, F., Battin, T., Daims, H. and Richter, A. 2008 Looking inside the box: evaluating the relationship between resource stoichiometry, biomass stoichiometry and physiology of the model organism *Verrucomicrobium Spinosum*. ISME Cairns, Australia (poster)

Hall, E.K., Amado, A. Cotner, J.B. and Stets, E.G. 2008 Respiration in temperate lakes: environmental drivers and ecosystem size ASLO St. Johns, Newfoundland, Canada

Hall, E.K. and Cotner, J.B. 2006 A theoretical approach to understanding the metabolic response of bacterial communities to temperature forcing ASLO Victoria, Canada

Cotner, J.B. and E. K. Hall. 2006 Freshwater prokaryotic heterotrophs are more P-depleted than marine bacteria: implications for biogeochemical dynamics ASLO Victoria, Canada

Cotner, J.B. and E. K. Hall. 2005 Regulation of microbial stoichiometry in nature and its biogeochemical implications. Symposium on Aquatic Microbial Ecology 9, Helsinki, Finland, August

Hall E.K. and Cotner, J.B. 2005 Coupling of bacterioplankton growth and biomass C:P across a broad range of temperature and nutrient environments ASLO Santiago, Spain *****(Outstanding Student Poster Award)*****

Hall E.K. and Cotner, J.B 2005 An exploratory evaluation of planktonic biomass N:P in Lake Taihu, China International Symposium on the Eutrophication of Shallow Lakes Nanjing, China (poster)

Hall, E.K., and Cotner, J.B. 2004 Interactive effects of temperature and nutrients on carbon cycling by natural bacterioplankton communities. ASLO Savannah, GA USA

Cotner, J.B., W. Makino, and E.K. Hall. 2003 Biological Stoichiometry: from bacteria to ecosystems to global change. Society for Integrative and Comparative Biology, Toronto, Canada

Hall E.K, Makino, W. and Cotner J. Empirical analysis of bacterial growth rates, RNA:DNA levels and organismal C:N:P stoichiometry ASLO Summer 2002, Victoria, B.C. Canada

TEACHING INTERESTS

Sustainable Watersheds, Environmental Microbiology, Microbial Ecology and Diversity, Limnology, Ecology, Ecosystem Ecology, Global Biogeochemistry, Systems Approach to Global Change

TEACHING EXPERIENCE

Sp. 2015	CSU Co-Lecturer WR440 Watershed Problem Analysis
Sp. 2014-15	CSU Co-Lecturer WR304 Sustainable Watersheds
Fall 2014	CSU BZ Lecturer 474 Limnology and ESS 311 Ecosystem Ecology
Sp. 2013	CSU Co-Lecturer MIP432 Microbial Ecology
2011-2014	Guest Lectures CSU CR540 (Paustian/Boot), WR304 (Laituri/Kampf), SUPER program (ESS Ernakovich), Biogeochmistry (Wallenstein), MIP432 Micobial Ecology (Klein)
Sp. 2009	Lecturer and Laboratory Instructor, Microbial Ecology of Lotic Ecosystems, UNESCO masters course. University of Delft, Holland, taught at Lunz am See, Austria
Fall 2006	Lecturer and Laboratory Instructor, Diversity and Adaptation University of St. Thomas, Saint Paul, MN
Fall 2006	Lecturer, Introduction to Environmental Studies, St. Olaf College, Northfield, MN

Fall 2004	Preparing Future Faculty, Univ. of Minnesota, Grad 8101
1999-2005	Graduate Student Instructor: Introductory Biology (2 semesters), Introductory Ecology (3 semesters), Limnology (3 semesters), Ecology: Theory and Concepts (graduate course)
1998-1999	Jr. & Sr. High School Biology, Chemistry and Mathematics, Centro Escolar Aldebaran, Tegucigalpa, Honduras

INVITED LECTURES

Feb. 2016	University of Colorado, Denver
Dec. 2013	Colorado State Univeristy – Department of Microbiology, Immunology and Pathology -The ecophysicology of microbial temperature dependence and nutrient cycling: moving from mixed communities to single cells and back
Oct. 2013	Colorado State University – Natural Resource Ecology Laboratory *Anthropocenities* - Human Driven Influences on Aquatic Ecosystems in a Globalized World: A Tale of Two Watersheds
Feb. 2013	Colorado State University – Department of Fish and Wildlife A Tale of Two Watersheds: Anthropogenic Ecosystem Stress in the Age of Globalization
Mar. 2013	Wasser Cluster, Lunz am See Austria, Anthropocenities - Human Driven Influences on Aquatic Ecosystems in a Globalized World: A Tale of Two Watersheds (Host: G. Singer)
Oct. 2012	Duke University University Program in Ecology, Sitting at the Intersection of Microbial and Ecosystem Ecology (Host: E. Bernhardt/R. Bier)
May 2012	US Geological Survey, Boulder Colorado, Linking Microbial and Ecosystem Ecology: what matters and how to measure it (Host: Ted Stets)
Mar. 2012	Carleton College, Linking Microbial and Ecosystem Ecology: what matters and how to measure it (Host: Daniel Hernandez)
Feb, 2012	Michigan Technological University Linking Microbial and Ecosystem Ecology: what matters and how to measure it (Host: Charles Kerfoot)
Jan, 2012	Baylor University, Linking Microbial and Ecosystem Ecology: what matters and how to measure it (Host: Robert Doyle)
Jan. 2012	Virginia Polyetchnical University, Linking Microbial and Ecosystem Ecology: what matters and how to measure it (Host: Jack Webster)

(*invited cont.*)

Nov. 2011 Colorado School of Mines Environmental Science and Engineering Seminar Series, A trait based approach to microbial ecology: insight for ecosystems (Host: Graduate Student Invited Speaker)

Nov. 2011 University of Wyoming Department of Zoology and Physiology, Linking microbial and ecosystem ecology: trials and tribulations (Host: Erin Hotchkiss)

April 2011 Colorado State University, NREL Departmental Seminar, Linking microbial and ecosystem ecology: a stoichiometric approach - (Host: Claudia Boot)

Dec. 2010 University of Vienna, Department of Limnology, Using ecological stoichiometry to link microbial and ecosystem ecology. (Host: Tom Battin)

Feb. 2009 Department of Biology, Michigan Technological University, Linking the ultimate and the proximate: how controls on microbial physiology constrain key biogeochemical pathways in aquatic ecosystems (Host: Charles Kerfoot)

Dec. 2008 Department of Limnology, University of Vienna, Ecological stoichiometry as a novel front in the microbial revolution

April 2008 Institut Ciencias del Mar (ICM) Barcelona, Cooking with ecological stoichiometry: temperature, resources and microbial metabolism (Host: Pep Gasol)

Aug. 2007 Kellogg Biological Station, Michigan State Univ. Brown Bag Seminar Series, The interactive effect of temperature and resources on natural bacterioplankton communities (Graduate Student Invitee)

April 2007 Univ. of Vienna, Functional Ecology Lecture Series, The interactive effect of temperature and resources on composition and metabolism of natural bacterioplankton communities (Host: Tom Battin)

May 2007 Univ. of Wisconsin, Madison, Interactive effect of resources and temperature on microbial metabolism (Host: Galen McKinley – Candidate Interview)

Oct. 2006 Hamline University, Biology Department Seminar Temperature and the physiology of aquatic ecosystems A story from the prokaryotic perspective St. Paul, Minnesota (Host: Leif Hembre)

PROFESSIONAL SERVICE/MEMBERSHIPS

Fall 2015	NREL Strategic Planning Committee
Sept. 2014 – pres.	Co-Executive Director CSU/Central China Normal University Joint Research Center for Aquatic Environmental Protection
Aug. 2014-pres.	Ecological Society of America, Vice Chair, Microbial Ecology Section
Spring 2014	NREL Organizing Committee for the Executive Advisory Committee
December 2014	Organizer (w S. Kampf and M. Marani, Duke University) Special Session Feedbacks among geomorphology, hydrology, and biology across terrestrial and aquatic ecosystems American Geophysical Union (AGU) San Francisco, CA
August 2013	Organizer Special Symposium – Microbes as the Next Generation of Ecological Indicators, Ecological Society of America (ESA) Minneapolis, MN
Dec. 2013	Co-Organizer Special Symposium - Linking Microbial Communities & Biogeochemistry to Ecosystem Processes & Change American Geophysical Union (AGU) San Francisco, CA
2013 – Present	American Society of Microbiology (ASM) Member
2013 – Present	American Geophysical Union (AGU) Member
2011 – Present	Frontiers in Aquatic Microbiology (Review Editor)
2009 – Present	Ecological Society of America (ESA) Member
2008 – Present	International Society of Microbial Ecology (ISME) Member
2002 – Present	Advancing the Science of Limnology and Oceanography (ASLO) Member
June 2004	Chair and Organizer of Special Session (#04) ASLO 2004 Savannah, GA USA
Fall 2004	College Biological Science Assoc. Dean of Research Search Committee (student representative)
Spring 2001	EEB Ethics and Aesthetics Committee Member

Student Committees or Advisees: Whitney Beck (Phd GDPE CSU), Brian Wolff (PhD GDPE CSU, co-advisor), Tim Fegel (MsC, Colorado State University, co-advisor), Raven Bier (PhD candidate Duke University), Marvin Pölzl (MSC Univ. Vienna 2009, co-advisor), Christian Schwarz (MSC Univ. Vienna 2009 co-advisor), Julia Birtel (MSC Univ. Vienna 2010, co-advisor)

Reviewer: U.S. National Science Foundation, Nature Climate Change, Soil Biology and Biochemistry, Ecology Letters, Ecological Monographs, Environmental Microbiology, Ecosystems, Biogeochemistry, Environmental Microbiology, ISME Journal, Frontiers in Aquatic Microbiology, Aquatic Microbial Ecology, Microbial Ecology, Hydrobiologia, Journal of Plankton

Research, Research in Microbiology, Journal for Himalayan Science, Soil Biology and Biochemistry, Water Resources Research

OTHER SKILLS: Spanish (fluent), German (conversant)

REFERENCES

James B. Cotner (thesis advisor)
Professor - Moos Chair in Limnology
University of Minnesota
Dept. of Ecology, Evolution, and Behavior
1987 Upper Buford Cr.
St. Paul MN 55108
Phone: 612-625-1706
Fax: 612-624-6777
E-mail: cotne002@umn.edu

Tom Battin (post-doctoral advisor)
Full Professor of Ecohydraulics
Ecole Polytechnique Fédérale de Lausanne (EPFL)
Valais Wallis in Sion Campus
Lausanne, Switzerland
Email: tom.battin@epfl.ch

Jay Lennon (collaborator)
Associate Professor
Indiana University
Department of Biology
261 Jordan Hall, 1001 East 3rd Street
Bloomington, IN 47405 USA
812-856-0962 (office)
E-mail: lennonj@indiana.edu