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Education and Training

B.S. Microbiology, University College Dublin, Ireland	1996
Ph.D. Microbial Ecology, University College Dublin, Ireland	2001
Postdoctoral, Microbial Ecology, University of California, Berkeley	2002-2004
Postdoctoral, Molecular Microbiology, Lawrence Berkeley National Laboratory	2004-2005
UC Berkeley/Berkeley Lab, Leadership Development Program, UC Center for Executive Education	2010

Research and Professional Experience

Senior Staff Scientist, Climate and Ecosystem Sciences, LBNL	2016-present
Deputy Division Director, Climate and Ecosystem Sciences	2015-present
Program Domain Lead, Environmental and Biological System Sciences, LBNL	2014-present
Program Lead – Ecosystems Biology	2014-present
Microbes-to-Biomes Initiative Science Lead	2014-present
Assistant Adjunct Professor, University of California, Berkeley	2012-present
Staff Scientist, Lawrence Berkeley National Lab	2009-2016
Research Scientist, Lawrence Berkeley National Lab	2008-2009
Scientific Engineering Associate, Lawrence Berkeley National Lab	2005-2008
Postdoctoral Research Fellow, Lawrence Berkeley National Lab	2004-2005
Guest lecturer UC Berkeley (ESPM131, ESPM112)	2002-2012
Postdoctoral Research Fellow, University of California, Berkeley	2002-2004
Enterprise Ireland Graduate Research Fellowship, University College Dublin	1996-2000

Honors and awards

Director's Award for Exceptional Achievement	2016
Royal Netherlands Academy of Arts and Sciences, Visiting Professor	2014-2015
LBNL Outstanding Performance Award	2009
R&D 100 award for Berkeley Lab PhyloChip	2008
Wall Street Journal Technology Innovation Award (PhyloChip)	
- Winner Best New Technology (Environment Category)	2008
- Bronze Best New Technology (Overall)	2008
Pollution Engineering Magazine Number 1 New Technology for 2008 (PhyloChip)	2008
Promega Prize, Society for General Microbiology.	2001
Faculty of Science Graduate Symposium, UC Dublin.	2000
Enterprise Ireland Basic Research Award	1996-1999

Service to scholarly journals

Editorial Board: mSystems	2015-present
Editorial Board: Microbiome	2012-present

Academic Editorial Board: Peer J.	2012-present
Associate Editor: Frontiers in Terrestrial Microbiology	2011-present
Reviewer for: Applied and Environmental Microbiology, Soil Biology and Biochemistry, Chemosphere, Journal of Microbiological Methods, Geomicrobiology Journal, Ecology Letters, Ecosystems, Molecular Ecology Notes, Fungal Ecology, Ground Water Monitoring and Remediation, Microbial Ecology, FEMS Microbiology Ecology, Environmental Microbiology, BMC Genomics, PloS One, Genome Research, Environmental Science and Technology, Journal of Geophysical Research, Environmental Science and Pollution Research, Journal of Proteome Research, ISME Journal, PNAS.	

Sessions convened at national meetings

“Macrosystems Ecology”, AGU Fall Meeting, San Francisco, December, 2015.
 “Integrating Microbial Processes Into Ecosystem Models of Carbon and Nitrogen Cycling”, AGU Fall Meeting, San Francisco, December, 2012.
 “Beyond the Black Box: Integrating Advanced Microbial Characterization Data with Subsurface Reactive Transport Models”, Computational Methods in Water Resources, XVII, San Francisco, July 2008.
 “From Black Box to Can of Worms: Advances in Molecular Analysis of Microbial Communities” American Geophysical Union Fall Meeting December, San Francisco, December 2007.

Conferences organized

Complex Soil Systems Conference: A Path to Improved Understanding of Complex Soil Systems”. September 3-5th 2014, Berkeley, CA. Role: Conference Co-Chair

Proposal reviewing activities

DOE JGI Community Sequencing Program	2011, 2013
DOE EMSL user program	2011, 2012
Israel Science Foundation	2011
DOE Science Graduate Fellowship	2010
UK National Environmental Research Council	2010, 2013
NSF Geobiology and Low-Temperature Geochemistry Program	2009, 2013
USDA NRICGP Soil Processes program	2008
DOE Experimental Program to Stimulate Competitive Research	2007

Invited panelist

White House Office of Science and Technology Policy: Cross Cutting Microbiome Initiative. Washington DC, December 2014, January 2015, September 2015
 Kavli Futures Symposium. Technology and the Microbiome. Washington DC, December 2014, January 2015, April 2015.
 DOE Modeling-Data needs workshop, Potomac, MD, May 2015.
 Department of Energy-EMSL workshop on Multiscale Computation: Needs and Opportunities for BER Science. Washington, DC, August 2014.
 Department of Energy Subsurface Biogeochemical Research workshop on Computational Challenges in Mechanistic Modeling of Terrestrial Ecosystems (CCMMTE), Germantown, MD, April 2014.
 Department of Energy Genomic Sciences workshop on Systems Biology Research for Sustainable Bioenergy Production, Germantown, MD, October 2013.
 National Science Foundation: “Microscale Approaches to Macroscale Issues in Terrestrial Ecosystem Ecology”, Washington DC, April 2007.
 Department of Energy: “Carbon cycling and biosequestration”, Rockville, MD, March 2008.
 “Novel Ecosystems and Climate Change”, in association with the Ecological Society of America

Meeting in Albuquerque, NM, August 2009. Department of Energy, Climate Research Roadmap Workshop, Arlington, VA, May 2010.

Invited presentations

“Genome-informed trait based modeling of microbial communities in soil and subsurface systems”, Department of Earth System Science, Stanford University, Palo Alto, CA, May 2016.

“Reactive transport modeling in the genomic era”, Plenary presentation at DOE-BER SBR/TES Joint PI meeting, Potomac, MD, April 2016.

“Genome-Enabled Modeling of Biogeochemical Processes Predicts Metabolic Dependencies that Connect the Relative Fitness of Microbial Functional Guilds”, American Geophysical Union, Fall Meeting, San Francisco, CA, Dec 2015.

“Trait-based models as the nexus between environmental genomics and ecosystem biogeochemistry”, Ecology and Evolutionary Biology, University of Arizona, Tucson, AZ, Dec 2015.

“Metagenomes to Models: Trait-based Approaches for Modeling Dynamic Microbial communities”, West Coast Bacterial Physiologists, Asilomar, CA, Dec 2015.

“Mmm... Soil! Microbes, minerals and models”, Soil Science Society of America Annual Meeting, Minneapolis, MN, November 2015.

“Traits, Thermodynamics and the Representation of Microbes in Biogeochemical Models”, UC Berkeley Microbiology Retreat, Berkeley CA November 2015.

“Trait-based models as the nexus between environmental genomics and ecosystem biogeochemistry”, Ecological Society of America Annual Meeting, Baltimore, MD, August 2015.

“Trait based modeling of microbial communities” Hopkins Microbiology Course, Pacific Grove, CA, June 2015.

“Genome-Enabled Reactive Transport Modeling of Microbial Communities in Terrestrial and Aquatic Environments”, American Society for Microbiology General Meeting, New Orleans, LA, June 2015.

“Microbiome and the Environment”. Kavli Futures Symposium, American Society for Microbiology, Washington DC, April 2015.

“Beyond The Blueprint: Development Of Genome-Informed Trait-Based Models For Prediction Of Microbial Dynamics And Biogeochemical Rates”, American Geophysical Union, Fall Meeting, San Francisco, CA, Dec 2014.

“Ecosystems Biology Approaches To Determine Key Fitness Traits of Soil Microorganisms”. American Geophysical Union, Fall Meeting, San Francisco, CA, Dec 2014.

“Functional metagenomic analysis of lignocellulosic degradation in wood feeding beetles”. Environmental Metagenomics Symposium, Wageningen, Netherlands, September 2014.

“Genome informed trait-based models for improved prediction of microbial dynamics and biogeochemical rates”, Ecological Society of America, Sacramento, CA, Aug 2014.

“Environmental microbiology research portfolio”, UCB Superfund Research Program Retreat, San Jose, June 2014.

“Genome-enabled watershed simulation capability – GEWaSC”, Plenary presentation at SBR/TES Joint PI meeting, Potomac, MD, May 2014.

“Challenges, advances and opportunities in modeling plant and microbial communities”, presentation at DOE-BER Computational Challenges in Mechanistic Modeling of Terrestrial Ecosystems (CCMMTE) with David Weston, Germantown, MD, April 2014.

“Challenges, advances and opportunities in modeling microbial communities”, presentation to DOE BER management, remote presentation, Germantown, MD, March 2014.

“Succession of phylogeny and function during plant litter decomposition”, Arizona State University, Tempe, AZ, November 2013.

“Single colony home with great potential and easy access to nearby carbon sources”. Advanced Light Source Science Café, Berkeley, CA, August 2013.

“Current topics in sequencing and the human microbiome”. Institute of Infectious Diseases and Molecular Medicine, University of Cape Town, South Africa, November 2012.

“Water Potential and the Life of a Soil Microbe”. Institute of Infectious Diseases and Molecular Medicine, University of Cape Town, South Africa, November 2012.

“Hope and Change: Water Potential and the Life of a Soil Microbe”. Department of Ecology & Evolutionary Biology, UC Irvine, CA November 2012.

“Challenges for Understanding and Modeling Carbon and Nutrient Cycling and Microbiological Processes in Terrestrial Ecosystems” Invited plenary session presentation at DOE Subsurface Biogeochemical Research program Annual PI meeting, Washington D.C. May, 2012.

“Mediterranean Grassland Soil Metagenome (MGSM): Enabling a systems view of soil carbon and nitrogen biogeochemistry under a changing climate” at DOE Joint Genome Institute, Community Sequencing Program, Plant-Soil-Microbe interaction workshop. January 2012, Walnut Creek, CA

“We know more about the movement of the celestial bodies than about the soil underfoot” at the Lawrence Berkeley National Laboratory, Life Sciences Division retreat, January 2012, Lafayette, CA.

Secrets of the Soil: Science at the Theater, November 2011, Berkeley Repertory Theater, Berkeley, CA.

“Distinct resuscitation patterns of soil microbes following early-season wet-up” at the 2011 Argonne Soils Workshop, October 2011, Indian Lakes, IL.

“Coordinating activities in climate related soils research at Berkeley Lab” at LBNL Earth

Sciences Division Town Hall meeting, October 2011. Berkeley, CA.

“Top-down approaches to identifying conserved traits among soil microorganisms” at DOE Subsurface Biogeochemical Research program Annual PI meeting, April, 2011, Washington D.C.

“Understanding and predicting the response of soil microbial communities to global change”. DOE Genomic Sciences Contractor-Grantee Workshop, Session on Integrated Omics Approaches to Understand Environmental Processes February 2010, Washington D.C.

“Are There Predictable Soil Microbial Community Responses to Climate Change?” Subsurface Biosphere Initiative seminar series, College of Oceanic and Atmospheric Sciences, March 2009, Oregon State University, Corvallis, OR.

“PhyloChip: A high-density phylogenetic microarray for analysis of microbial community composition and activity”. Plant and Animal Genome XVII Conference, January 2009, San Diego, CA.

“Teasing apart a microbes life with help from the molecular toolbox”. Invited Plenary Presentation at NSF sponsored workshop “Microscale Approaches to Macroscale Issues in Terrestrial Ecosystem Ecology” April 2007, Washington DC.

“Molecular Tools in Environmental Microbiology”. Invited presentation. April 2007, Adjuntas, PR. Advances in Environmental Remediation, Instituto Comunitario de Biodiversidad y Cultura Casa Pueblo de Adjuntas, Programa de Biotecnología Industrial, Universidad de Puerto Rico – Mayaguez.

“Characterization and monitoring of prokaryotic communities using phylogenetic high density DNA microarrays (PhyloChip)”. April 2007, Adjuntas, PR. Advances in Environmental Remediation, Instituto Comunitario de Biodiversidad y Cultura Casa Pueblo de Adjuntas, Programa de Biotecnología Industrial, Universidad de Puerto Rico – Mayaguez.

“Microbial detection technologies using genetic signatures”. March 2007, Berkeley, CA. ASTAR Advanced Judicial Institute on Nanotechnology, Synthetic Biology and Environmental Biotechnology Platform B Workshop.

“Case Study: Monitoring aerosols for intentional release of agents: Tularemia fatality”. March 2007, Berkeley, CA. ASTAR Advanced Judicial Institute on Nanotechnology, Synthetic Biology and Environmental Biotechnology Platform B Workshop.

“Integration of the Omics, Bioinformatics and Biogeochemistry: A New Frontier for Environmental Biotechnology” at Battelle International Meeting on Remediation of Chlorinated and Recalcitrant Compounds, Monterey, CA May 2006.

“Advances in Bioremediation of Soils and Sediments Polluted with Metals and Radionuclides: Field Research on Bioremediation of Metals and Radionuclides” also at Battelle International Meeting on Remediation of Chlorinated and Recalcitrant Compounds, Monterey, CA May 2006.

“High Density Microarrays for Microbial Population Dynamics” presented to University of California, San Francisco, Department of Anesthesia and Perioperative Care and the Pulmonary and Critical Care Division, CA June 2006.

Short courses taught

Introduction to bioinformatics for metagenomics. Institute of Infectious Diseases and Molecular Medicine, University of Cape Town, South Africa, November 2012.

Introduction to bioinformatics for metagenomics. School of Life Sciences, Arizona State University, Tempe, AZ, November 2013

Membership in professional societies

Member of the American Society for Microbiology, American Geophysical Union, International Society for Microbial Ecology, International Society for Subsurface Microbiology. Ecological Society of America, Soil Science Society of America.

Teaching activities

Guest lecturer at University of California, Berkeley, Department of Environmental Science Policy and Management and Microbial Biology Program (Microbial Ecology, ESPM112)

Co-Teach ESPM 131 – Soil Microbiology

Research supervision

Graduate students

Co-advisor: Heejung Cho, Ph.D. candidate, UCB-PMB (2014-present)

Co-advisor: Rebecca Daly, Ph.D. candidate, UCB-PMB (2006-deferred).

Committee (Ph.D. thesis): Steven Blazewicz UCB-ESPM (graduated 2012). Erin Nuccio UCB-ESPM (graduated 2013). Chris Brown UCB-PMB (filed 2016)

Committee (quals): Alex Thomas, Ph.D. candidate, UCB-ESPM (2017). Manisha Anantharaman, Ph.D. candidate, UCB-ESPM (2009-). Steven Blazewicz UCB-ESPM (graduated 2012). Chris Brown UCB-PMB (expected 2016)

Ad hoc research mentor to UC Berkeley doctoral candidates Eric Dubinsky (2004-2007), Kristen DeAngelis (2006-2007), David Johnson (2005-2007), Christine Sun (2006-2007), Karelyn Cruz (2005-2009), Patrick Lee (2006-2008), Kimberlee West (2006-2011), Sarah Placella (2005-2011), Kelly Wrighton (2006-2010), Nhu Nguyen (2006-2011).

Research mentor to: Alex Hangsterfer (2008-2010) Scripps Institution of Oceanography; Brandon Briggs, Oregon State University (2008-2011), Ana Maldonado-Contreras (University of Puerto Rico, Rio-Piedres, 2008-2011), Filipa Godoy-Vitorino, (University of Puerto Rico, Rio-Piedres, 2008-2011), Eva Lloret-Sevilla (Spanish National Research Council, 2010-2012). George Wells, Stanford University (2008-2009).

Mentor for undergraduate fellows (Catherine Fontana, Albion College, MI, 2008; Christopher Lambert, University of Portland, 2009) through the DOE SURE GCEP summer fellowship program.

Mentor for graduate fellows (Catherine Fontana, Yale University) under DOE GREF graduate fellowship program.

Postdoctoral fellows

- Eva Lloret-Sevilla (Jan 2016-present)
- Yiwei Cheng (July 2015-present)
- Eric King (2014-present)
- Kateryna Zhalnina (2014-present)

- Javier Ceja Navarro (2010-2014). Currently a Project Scientist at LBNL.
- Ulisses Nunes da Rocha (2011-2013). Currently a postdoc at VU Amsterdam.
- Mari Nyyssonen (2010-2013). Currently a Scientist at VTT Technical Research Center of Finland
- Nicholas Bouskill (2009-2012). Currently a Research Scientist at LBNL.
- Ulas Karaoz (2008-2013). Currently a Project Scientist at LBNL.
- Ruyang Han (2008-2013). Currently a research scientist at USDA.
- Holly Ganz (UC Berkeley, 2007-2011). Currently a research scientist at UC Davis.

Visiting faculty

Mentor for Faculty (Arturo Massol) from the University of Puerto Rico through the DOE/NSF FaST program (June-August 2006), Steven Wakelin (CSIRO Australia, July 2008), Bjorn Johansson, Fulbright Fellow (U Minho, Portugal, September 2014-February 2015).

Undergraduate students

Supervisor of UC Berkeley undergraduate student interns, Seung Baek (2003-2005), Calvin Myint (2005-2006), Byron Ma (2007-2008), Tiffany Kwak (2009-2011), Marina Volegova (2010-present). Sara Marie Komenan (LA Valley College – Transfer to Excellence Program, June – August 2012), Badamtseteg Jargalsaikhan (UC Berkeley, September 2012 to May 2013), Rozina Hossainkhil (UC Berkeley, September 2012 to May 2013), Dinh Ly (UC Berkeley, September 2012 to May 2013), Severin Ouedraogo (UC Berkeley September 2012 to May 2013), Yen Nguyen (UC Berkeley, September 2012 to May 2013), Evin Wieser (2014-2015), Taivan Batjargal (2014-present), Matt Nisenboym (2015-present).

Mentor for undergraduate students from the University of Puerto Rico through the DOE/NSF FaST program (June-August 2006).

Mentor for undergraduate interns through the DOE SULI program (Josue Rodriguez, University of Puerto Rico, Mayaguez, 2016).

High school students

Mentor for summer high school interns through the LBNL HSSRPP program (2006-2012).

High school teachers

Summer 2013: Marcel Degas (San Francisco International High School) summer internship at LBNL through the Industry Initiatives for Science and Math Education (IISME) program supported through the LBNL Center for Science and Engineering Education (CSEE).

Peer Reviewed Publications.

Google Scholar (<https://scholar.google.com/citations?user=TLJ2tNAAAAAJ&hl=en>)

ResearcherID (<http://www.researcherid.com/rid/A-7853-2008>)

1. Jewell, T. N., U. Karaoz, **E. L. Brodie**, K. H. Williams, and H. R. Beller. 2016. Metatranscriptomic evidence of pervasive and diverse chemolithoautotrophy relevant to C, S, N and Fe cycling in a shallow alluvial aquifer. *The ISME Journal*. 10:2106-2117.
2. Blaser, M. J., Z. G. Cardon, M. K. Cho, J. L. Dangl, T. J. Donohue, J. L. Green, R. Knight, M. E. Maxon, T. R. Northen, K. S. Pollard and **E.L. Brodie**. 2016. Toward a Predictive Understanding of Earth's Microbiomes to Address 21st Century Challenges. *mBio* 7:e00714-00716.
3. Bouskill, N. J., T. E. Wood, R. Baran, Z. Hao, Z. Ye, B. P. Bowen, H. C. Lim, P. S. Nico, H.-Y. Holman, B. Gilbert and **E.L. Brodie**. 2016. Belowground Response to Drought in a

- Tropical Forest Soil. II. Change in Microbial Function Impacts Carbon Composition. *Frontiers in Microbiology* **7**.
4. Bouskill, N. J., T. E. Wood, R. Baran, Z. Ye, B. P. Bowen, H. Lim, J. Zhou, J. D. Van Nostrand, P. Nico, T. R. Northen and **E.L. Brodie**. 2016. Belowground Response to Drought in a Tropical Forest Soil. I. Changes in Microbial Functional Potential and Metabolism. *Frontiers in Microbiology* **7**.
 5. Couradeau, E., U. Karaoz, H. C. Lim, U. N. da Rocha, T. Northen, **E. Brodie**, and F. Garcia-Pichel. 2016. Bacteria increase arid-land soil surface temperature through the production of sunscreens. *Nature communications* **7**.
 6. Faybishenko, B., S. Hubbard, **E. Brodie**, P. Nico, F. Molz, A. Hunt, and Y. Pachepsky. 2016. Preface to the Special Issue of Vadose Zone Journal on Soil as Complex Systems. SOIL SCI SOC AMER 677 SOUTH SEGOWIE ROAD, MADISON, WI 53711 USA.
 7. Lloret, E., J. A. Pascual, **E. L. Brodie**, N. J. Bouskill, H. Insam, M. F.-D. Juárez, and M. Goberna. 2016. Sewage sludge addition modifies soil microbial communities and plant performance depending on the sludge stabilization process. *Applied Soil Ecology* **101**:37-46.
 8. Nuccio, E. E., J. Anderson-Furgeson, K. Y. Estera, J. Pett-Ridge, P. Valpine, **E. L. Brodie**, and M. K. Firestone. 2016. Climate and edaphic controllers influence rhizosphere community assembly for a wild annual grass. *Ecology* **97**:1307-1318.
 9. Alivisatos, A. P., M. J. Blaser, **E. L. Brodie**, M. Chun, J. L. Dangl, T. J. Donohue, P. C. Dorrestein, J. A. Gilbert, J. L. Green, J. K. Jansson, R. Knight, M. E. Maxon, M. J. McFall-Ngai, J. F. Miller, K. S. Pollard, E. G. Ruby and S. A. Taha (2015). A unified initiative to harness Earth's microbiomes. *Science* **350**: 507-508.
 10. Baran, R., **E. L. Brodie**, J. Mayberry-Lewis, E. Hummel, U. N. Da Rocha, R. Chakraborty, B. P. Bowen, U. Karaoz, H. Cadillo-Quiroz, F. Garcia-Pichel and T. R. Northen (2015). Exometabolite niche partitioning among sympatric soil bacteria. *Nature Communications* **6**.
 11. Vega, F.E., Brown, S.M., Chen, H., Shen, E., Nair, M.B., Ceja-Navarro, J.A., **Brodie, E.L.**, Infante, F., Dowd, P.F. and Pain, A., 2015. Draft genome of the most devastating insect pest of coffee worldwide: the coffee berry borer, *Hypothenemus hampei*. *Nature Scientific Reports*, **5**
 12. Ceja-Navarro, J.A., Vega, F.E., Karaoz, U., Hao, Z. Jenkins, S. Lim, H.C., Kosina, P., Infante, F., Northen, T.R. and **E.L. Brodie** (2015). Gut microbiota mediate caffeine detoxification in the primary insect pest of coffee. *Nature Communications* doi:10.1038/ncomms8618.
 13. da Rocha, U. N., H. Cadillo-Quiroz, U. Karaoz, L. Rajeev, N. Klitgord, S. Dunn, V. Truong, M. Buenrostro, B. P. Bowen, F. Garcia-Pichel, A. Mukhopadhyay, T. R. Northen, and **E. L. Brodie**. 2015. Isolation of a significant fraction of non-phototroph diversity from a desert Biological Soil Crust. *Frontiers in Microbiology* **6**.
 14. Shi S, Nuccio E, Herman DJ, Rijkers R, Estera K, et al. (2015) Successional Trajectories of Rhizosphere Bacterial Communities over Consecutive Seasons. *mBio* **6.4** (2015): e00746-15.
 15. Srinivasan, R., U. Karaoz, M. Volegova, J. MacKichan, M. Kato-Maeda, S. Miller, R. Nadarajan, **E. L. Brodie**, and S. V. Lynch. 2015. Use of 16S rRNA Gene for Identification of a Broad Range of Clinically Relevant Bacterial Pathogens. *PLoS One* **10**.
 16. Yang, L., P. S. Yachimski, **E. Brodie**, K. E. Nelson, and Z. Pei. 2015. Foregut Microbiome, Development of Esophageal Adenocarcinoma, Project. Pages 186--189 *Encyclopedia of Metagenomics*.
 17. Beller, H. R., L. Yang, C. Varadharajan, R. Han, H. C. Lim, U. Karaoz, S. Molins, M. A. Marcus, **E. L. Brodie**, C. I. Steefel and P.S. Nico. 2014. Divergent aquifer biogeochemical systems converge on similar and unexpected Cr (VI) reduction products. *Environmental Science & Technology* **48**:10699-10706.

18. Berlemont, R., S. D. Allison, C. Weihe, Y. Lu, **E. L. Brodie**, J. B. Martiny, and A. C. Martiny. 2014. Cellulolytic potential under environmental changes in microbial communities from grassland litter. *Frontiers in Microbiology* **5**:639.
19. Closek, C. J., S. Sunagawa, M. K. DeSalvo, Y. M. Piceno, T. Z. DeSantis, **E. L. Brodie**, M. X. Weber, C. R. Voolstra, G. L. Andersen, and M. Medina. 2014. Coral transcriptome and bacterial community profiles reveal distinct Yellow Band Disease states in *Orbicella faveolata*. *ISME J.*
20. Vandehey, N. T., T. R. Northen, **E. L. Brodie**, and J. P. O'Neil. 2014. Noninvasive Mapping of Photosynthetic Heterogeneity in Biological Soil Crusts by Positron Emission Tomography: Carbon Fixation. *Environmental Science & Technology Letters* **1**:393-398.
21. Ganz HH, Turner WC, **Brodie EL**, Kusters M, Shi Y, et al. (2014) Interactions between *Bacillus anthracis* and Plants May Promote Anthrax Transmission. *PLoS Negl Trop Dis* **8**(6): e2903. doi:10.1371/journal.pntd.0002903
22. Wells, G. F., C. H. Wu, Y. M. Piceno, B. Eggleston, **E. L. Brodie**, T. Z. DeSantis, G. L. Andersen, T. C. Hazen, C. A. Francis, and C. S. Criddle. 2014. Microbial biogeography across a full-scale wastewater treatment plant transect: evidence for immigration between coupled processes. *Applied microbiology and biotechnology* **98**:4723-4736.
23. Ma, Y., R. Madupu, U. Karaoz, C. W. Nossa, L. Yang, S. Yooseph, P. S. Yachimski, **E. L. Brodie**, K. E. Nelson, and Z. Pei. 2014. Human Papillomavirus Community in Healthy Persons, Defined by Metagenomics Analysis of Human Microbiome Project Shotgun Sequencing Data Sets. *Journal of virology* **88**:4786-4797.
24. Druhan, J. L., M. Bill, H. Lim, C. Wu, M. E. Conrad, K. H. Williams, D. J. DePaolo, and **E. L. Brodie**. 2014. A large column analog experiment of stable isotope variations during reactive transport: II. Carbon mass balance, microbial community structure and predation. *Geochimica et Cosmochimica Acta* **124**:394-409.
25. Wakelin, S. A., B. I. Barratt, E. Gerard, A. L. Gregg, **E. L. Brodie**, G. L. Andersen, T. Z. DeSantis, J. Zhou, Z. He, and G. A. Kowalchuk. 2013. Shifts in the phylogenetic structure and functional capacity of soil microbial communities follow alteration of native tussock grassland ecosystems. *Soil Biology and Biochemistry* **57**:675-682.
26. Rajeev, L., U. N. da Rocha, N. Klitgord, E. G. Luning, J. Fortney, S. D. Axen, P. M. Shih, N. J. Bouskill, B. P. Bowen, and C. A. Kerfeld, Ferran Garcia-Pichel, **E.L. Brodie**, T.R. Northen, and A. Mukhopadhyay. 2013. Dynamic cyanobacterial response to hydration and dehydration in a desert biological soil crust. *The ISME journal*.
27. Nyssönen, M., H. M. Tran, U. Karaoz, C. Weihe, M. Z. Hadi, J. B. Martiny, A. C. Martiny, and **E. L. Brodie**. 2013. Coupled high-throughput functional screening and next generation sequencing for identification of plant polymer decomposing enzymes in metagenomic libraries. *Frontiers in microbiology* **4**.
28. Close, H. G., S. R. Shah, A. E. Ingalls, A. F. Diefendorf, **E. L. Brodie**, R. L. Hansman, K. H. Freeman, L. I. Aluwihare, and A. Pearson. 2013. Export of submicron particulate organic matter to mesopelagic depth in an oligotrophic gyre. *Proceedings of the National Academy of Sciences* **110**:12565-12570.
29. Ceja-Navarro, J. A., N. H. Nguyen, U. Karaoz, S. R. Gross, D. J. Herman, G. L. Andersen, T. D. Bruns, J. Pett-Ridge, M. Blackwell, and **E. L. Brodie**. 2013. Compartmentalized microbial composition, oxygen gradients and nitrogen fixation in the gut of *Odontotaenius disjunctus*. *The ISME journal*.
30. Briggs, B. R., M. Graw, **E. L. Brodie**, J.-J. Bahk, S.-H. Kim, J.-H. Hyun, J.-H. Kim, M. Torres, and F. S. Colwell. 2013b. Microbial distributions detected by an oligonucleotide microarray across geochemical zones associated with methane in marine sediments from the Ulleung Basin. *Marine and Petroleum Geology* **47**:147-154.

31. Briggs, B. R., **E. L. Brodie**, L. M. Tom, H. Dong, H. Jiang, Q. Huang, S. Wang, W. Hou, G. Wu, and L. Huang. 2013a. Seasonal patterns in microbial communities inhabiting the hot springs of Tengchong, Yunnan Province, China. *Environmental microbiology*.
32. Lau S.C., Zhang R, **Brodie E.L.**, Piceno Y.M., Andersen G, Liu W.T. (2013). Biogeography of bacterioplankton in the tropical seawaters of Singapore. *FEMS Microbiol. Ecol.* 84(2):259-269.
33. Rajeev L, da Rocha UN, Klitgord N, Luning EG, Fortney J, Axen SD, Shih PM, Bouskill NJ, Bowen BP, Kerfeld CA, Garcia-Pichel, F., **Brodie, E. L.**, Northen, T. R. Mukhopadhyay, A. (2013). Dynamic cyanobacterial response to hydration and dehydration in a desert biological soil crust. *ISME J.*
34. Beller, H. R., Han, R., Karaoz, U., Lim, H. C., & **Brodie, E. L.** (2013). Genomic and physiological characterization of the chromate-reducing, aquifer-derived firmicute *Pelosinus* sp. strain HCF1. *Applied and Environmental Microbiology*, 79(1), 63–73.
35. Lynch, S. V, Goldfarb, K. C., Wild, Y. K., Kong, W., De Lisle, R. C., & **Brodie, E. L.** (2013). Cystic fibrosis transmembrane conductance regulator knockout mice exhibit aberrant gastrointestinal microbiota. *Gut Microbes*, 4(1), 3–9.
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Patents and invention disclosures

1. JIB-2927. Array for Detecting Antibiotic Resistance.

2. IB-2229P4. Methods And Systems For Phylogenetic Analysis. A Persistent and Diverse Airway Microbiota Present During Chronic Obstructive Pulmonary Disease Exacerbations.
3. Chip-SIP: Quantification Of Nucleic Acid Stable Isotope Labeling With Biopolymer Microarrays And Secondary Ionization Mass Spectrometry. US Pat. App 13/023,468
4. Using Phylogenetic Probes for Quantification of Stable Isotope Labeling and Microbial Community Analysis. US Pat. App 13/023,538.