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EDUCATION

- Ph.D., Biological Design (August 2012)
Arizona State University, Tempe, AZ
- B.S., Cellular & Molecular Biology (May 2008, graduated with Departmental Honors)
Johns Hopkins University, Baltimore, MD

PROFESSIONAL EXPERIENCE

- 9 / 16 – present: Assistant Professor, Department of Civil & Environmental Engineering, Northwestern University, Chicago, Illinois, USA
- 8 / 14 – 6 / 16: Post-doctoral Fellow, Biology and the Built Environment Center, Institute of Ecology and Evolution, University of Oregon, Eugene, Oregon, USA
- 9 / 12 – 7 / 14: Post-doctoral Fellow, Biochemistry of Perturbed Systems Laboratory, Atomic Energy Commission (CEA–Marcoule), Bagnols-sur-Cèze, Gard, France
- 8 / 08 – 8 / 12: Biological Design Doctoral Research Associate, Laboratory of Dr. Rolf Halden, Swette Center for Environmental Biotechnology, The Biodesign Institute at Arizona State University, Tempe, Arizona, USA
- 6 / 11 – 8 / 11: Exchange Student, Laboratory of Dr. Toshiyuki Sakaki, Department of Biotechnology, Toyama Prefectural University, Imizu, Toyama, Japan
- 5 / 07 – 5 / 08: Technology Fellow, Center for Educational Resources, Johns Hopkins University, Baltimore, Maryland, USA
- 3 / 06 – 3 / 08: Intern, Laboratory of Dr. Rolf Halden, The Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, USA

AWARDS

- Harnisch Foundation grant to attend the Op Ed Project (2015)
- Donald E. Wimber Fund Award (2015)
- Federation of European Microbiological Societies Congress Grant for Young Scientists (2013)
- US Student Fulbright Award (2012)
- Arizona State University Security & Defense Systems Initiatives Fellowship (2011)
- National Science Foundation East Asia and Pacific Summer Institutes/Japan Society for the Promotion of Science Summer Program Fellowship (2011)
- Student Travel Stipend for the American Society for Mass Spectrometry Sanibel Conference (2011)
- National Science Foundation Doctoral Dissertation Enhancement Grant, Finalist (2011)
- Department of Energy Office of Science Graduate Fellowship, Finalist (2010)
- Science Foundation Arizona Research Fellowship (2008, 2009, 2010)

- Second Decade Society Internship Grant, the Johns Hopkins University (2007)
- Center for Educational Resources Technology Fellowship (2007)

PUBLICATIONS

15. Hsu, T., R. Joice, J. Vallarino, G. Abu-Ali, **E. M. Hartmann**, A. Shafquat, C. DuLong, C. Baranowski, D. Gevers, J. L. Green, X. C. Morgan, J. D. Spengler, and C. Huttenhower. 2016. Urban transit system microbial communities differ by surface type and interaction with humans and environment. *mSystems*, accepted.
14. **Hartmann, E. M.**, D. R. Colquhoun, K. J. Schwab, and R. U. Halden. 2015. Absolute Quantification of Norovirus in Food, Water, and Soil Using Synthetic Peptides with Electrospray and MALDI Mass Spectrometry. *Journal of Hazardous Materials*, 286:525-532.
13. Halden, R. U., **E. M. Hartmann**, N. D. Denslow, P. Haynes, and J. LaBaer. 2015. Recent Advances in Proteomics Applied to Elucidate the Role of Environment Impacts on Human Health and Organismal Function. *Journal of Proteome Research*, 14:1-4.
12. **Hartmann, E. M.** and J. Armengaud. 2014. N-terminomics and proteogenomics, getting off to a good start. *Proteomics*, 14:2637-2646.
11. **Hartmann, E. M.**, E. Durighello, O. Pible, B. Nogales, F. Beltrametti, R. Bosch, J. A. Christie-Oleza, and J. Armengaud. 2014. Proteomics meets Blue Biotechnology: a wealth of novelties and opportunities. *Marine Genomics*, 17:35-42.
10. **Hartmann, E. M.** and J. Armengaud. 2014. Shotgun proteomics suggests multiple enzymes involved in dioxin degradation by *Sphingomonas wittichii* RW1. *Environmental Microbiology* 16:162-176.
9. Bland, C., **E. M. Hartmann**, J. A. Christie-Oleza, B. Fernandez, and J. Armengaud. 2014. N-terminal-oriented proteogenomics of the marine bacterium *Roseobacter denitrificans* OCh114 using TMPP labeling and diagonal chromatography. *Molecular and Cellular Proteomics*, 13:1369-81.
8. Pible, O., **E. M. Hartmann**, G. Imbert, and J. Armengaud. 2014. The importance of recognizing and reporting sequence database contamination for proteomics. *EuPA Open Proteomics*, 3:246-249.
7. Armengaud, J., J. Trapp, O. Pible, O. Geffard, A. Chaumont, and **E. M. Hartmann**. 2014. Non-model organisms, a species endangered by proteogenomics. *Journal of Proteomics*, 105:5-18.
6. Armengaud, J., **E. M. Hartmann**, and C. Bland. 2013. Proteogenomics for environmental microbiology. *Proteomics* 13:2731-2742.

5. Colquhoun, D. R., **E. M. Hartmann**, and R. U. Halden. 2012. Proteomic Profiling of the Dioxin-Degrading Bacterium *Sphingomonas wittichii* RW1. *Journal of Biomedicine and Biotechnology* Article number 408690.
4. **Hartmann, E. M.** and R. U. Halden. 2012. Analytical Methods for the Detection of Viruses in Food by Example of CCL-3 Bioagents. *Analytical and Bioanalytical Chemistry* 404:2527-2537.
3. **Hartmann, E. M.**, J. P. Badalamenti, R. Krajmalnik-Brown, and R. U. Halden. 2012. Quantitative PCR for Tracking Megaplasmid-Borne Biodegradation Potential of Sphingomonads by Example of the Dioxin Degrader *S. wittichii* RW1. *Applied and Environmental Microbiology* 78:4493-4496.
2. **Hartmann, E. M.**, D. R. Colquhoun, and R. U. Halden. 2010. Identification of Putative Biomarkers for Toluene-Degrading Burkholderia and Pseudomonads using Matrix-Assisted Laser Desorption/Ionization Time-of-Flight Mass Spectrometry and Peptide Mass Fingerprinting. *Bioscience, Biotechnology, and Biochemistry* 74:1470-2.
1. Maldarelli, G. A., **E. M. Hartmann**, P. J. Cummings, R. D. Horner, K. M. Obom, R. Shingles and R. S. Pearlman. 2009. Virtual lab demonstrations improve students' mastery of basic biology laboratory techniques. *Journal of Microbiology & Biology Education* 10:51-57.

PRESENTATIONS & INVITED LECTURES

14. "Antimicrobial chemicals are prevalent and problematic in dust as well as in wastewater treatment," 252nd American Chemical Society National Meeting, Philadelphia, PA, USA, August 21 – 25, 2016.
13. "Potential indoor exposure to antimicrobials and antibiotic resistant organisms," Alfred P. Sloan Workshop on "Towards a better understanding of the emerging paradox with exposures to indoor microbes: good and bad," Kuopio, Finland, September 8 – 10, 2015.
12. "How anthropogenic chemicals are altering the microbial world," LabRoots webinar on Microbiology, <http://labroots.com/virtual-event/id/1>, September 2 – 3, 2015.
11. "Prevalence of Antimicrobials in Dust and their Impact on the Indoor Microbiome," Alfred P. Sloan 4th Conference on the Microbiology of the Built Environment, Boulder, CO, USA, July 15 – 18, 2015.
10. "Prevalence of Antimicrobials in Dust and their Impact on the Indoor Microbiome," American Society for Microbiology General Meeting, New Orleans, LA, USA, May 30 – June 2, 2015.
9. "Live/dead determination in dust with flow cytometry and PMA," Workshop on Live/Dead Determination, University of California, Davis, CA, USA, May 13-14, 2015.

8. “Proteomics,” Genomic Data Manipulation (BIO 508), Harvard School of Public Health, Boston, MA, USA, April 13, 2015.
7. “Proteomics,” Introduction to Systems Biology (BI410/510), University of Oregon, Eugene, OR, USA, November 4, 2014.
6. “Proteogenomics: Using proteomics to recognize and correct genome errors,” 8th Central and Eastern European Proteomics Conference meets 2nd International Metabolomics Austria, Vienna, Austria, June 30 – July 4, 2014.
5. “Proteogenomics for the enhanced discovery of bacterial biomarkers,” the North Atlantic Treaty Organization Advance Study Institute on Detection of Chemical, Biological, Radiological and Nuclear Agents for the Prevention of Terrorism, Castelnuovo Berardenga, Italy, May 26 – June 1, 2013.
4. “Genetic Engineering,” Sustainable Environmental Biotechnologies (CEE 494/598), Arizona State University, Tempe, AZ, USA, November 29, 2011.
3. “Biological Applications of Mass Spectrometry and Related Data Analysis,” High Speed Computing (MAE 598/APM 525), Arizona State University, Tempe, AZ, USA, October 12, 2010.
2. “Challenges of Detecting Bioterrorism Agents in Complex Matrices,” the North Atlantic Treaty Organization Advanced Research Workshop on Detection of Biological Agents for the Prevention of Bioterrorism in Homeland Security by Advanced Mass Spectrometric Methods, Spezzano, Italy, June 25 – July 2, 2009.
1. “Proteomics and Mass Spectrometry: Techniques for Studying Bioremediation,” Environmental Engineering Analytical Laboratory (CEE 598), Arizona State University, Tempe, AZ, USA, October 29, 2008.

BOOK CHAPTERS

5. **Hartmann, E. M.**, J.-C. Gaillard, and J. Armengaud. “Shotgun proteomics for hydrocarbon microbiology,” in *Handbook of Hydrocarbon and Lipid Microbiology*. (K. Timmis, Editor), Springer, accepted.
4. **Hartmann, E. M.** and J. Armengaud. “Proteogenomics for the enhanced discovery of bacterial biomarkers,” in *Detection of Chemical, Biological, Radiological and Nuclear Agents for the Prevention of Terrorism*. (J. H. Banoub, Editor), Elsevier, 2014. ISBN 978-94-017-9238-7.
3. **Hartmann, E. M.**, F. Allain, J.-C. Gaillard, O. Pible, and J. Armengaud. “Taking the shortcut for high-throughput shotgun proteomic analysis of bacteria,” in *Host-Bacteria Interactions. Methods in Molecular Biology*. (D. O’Callaghan and A. C. Vergunst, Editors), Springer Protocols, 2014. ISBN: 978-1-4939-1260-5.

2. Doudrick, K., D. Jones, T. Kalinowski, **E. M. Hartmann**, and R. U. Halden. "Assessment of the Contribution of Triclosan to Dioxin Emissions from Sludge Incineration in the U.S. Using a Mathematical Model," in *Contaminants of Emerging Concern: Ecotoxicological and Human Health Considerations. American Chemical Society (ACS) Book Series*. (R. Halden, Editor), Oxford University Press, 2010. ISBN: 0-8412-2496-X.
1. **Hartmann, E. M.** and R. U. Halden. "Challenges of Detecting Bioterrorism Agents in Complex Matrices," in *NATO-Science for Peace and Security-Chemistry and Biology Series: Detection of Biological Agents for the Prevention of Bioterrorism*. (J. H. Banoub, Editor), Springer, 2010. ISBN: 978-90-481-9815-3.

POSTERS

16. Betancourt Román, C. M., **E. M. Hartmann**, and J. L. Green. Towards assessing the viability of the indoor microbiome using flow cytometry. Presented at Healthy Buildings America, Boulder, CO, USA July 19 – 22, 2015.
15. Betancourt Román, C. M., **E. M. Hartmann**, and J. L. Green. Towards assessing the viability of the indoor microbiome using flow cytometry. Presented at the Alfred P. Sloan 4th Conference on the Microbiology of the Built Environment, Boulder, CO, USA July 15 – 18, 2015.
14. Siemens, A., **E. M. Hartmann**, C. M. Betancourt Román, M. Fretz, J. Kline, D. Northcutt, G. Z. Brown, B. J. Bohannon, and J. L. Green. The Effect of Different Light Wavelengths on the Dust Microbiome. Presented at the 5th Annual Undergraduate Symposium, Eugene, OR, US, May 14, 2015.
13. Betancourt Román, C. M., **E. M. Hartmann**, B. J. Bohannon, and J. L. Green. Microbiome viability in indoor dust. Presented at the 11th Annual University of Michigan Early Career Scientists Symposium, Ann Arbor, MI, USA, March 28, 2015.
12. **Hartmann, E. M.** and J. Armengaud. Identification of novel bioremediation enzymes using proteogenomics. Presented at the Society of Environmental Toxicology and Chemistry Europe 24th Annual Meeting, May 11 – 15, 2014.
11. **Hartmann, E. M.** and J. Armengaud. Dioxin and dibenzofuran transformation by *Sphingomonas wittichii* RW1: new insights from the proteogenomics lens. Presented at the 5th Congress of European Microbiologists, Leipzig, Germany, July 21 – 25, 2013.
10. **Hartmann, E. M.**, M. L. Fisher, and R. U. Halden. Site-Directed Mutagenesis of the Dioxin Dioxygenase to Improve Activity Towards 2,3,7,8-Tetrachloro-Dibenzo-p-Dioxin. Presented at the Japan Society for the Promotion of Science Summer Program Poster Session, Hayama, Japan, June 17, 2011.
9. **Hartmann, E. M.** and R. U. Halden. Use of AQUA and MALDI-TOF/TOF MS to Quantify a Dioxin-Degrading Enzyme. Presented at the Science Foundation Arizona Grand Challenges Summit, Flagstaff, AZ, May 22 – 24, 2011.

8. Doudrick, K. D., Venkatesan, A. K., Jones, D. B., Kalinowski, T., **Hartmann, E. M.**, Halden, R. U. Assessment of the Contribution of Triclosan to Dioxin Emissions from Sludge Incineration in the U.S. Using a Mathematical Model. Presented at the Water Environment Federation: Industrial Wastewater Seminar 2011. Bally's Hotel Atlantic City, NJ, May 9 – 10, 2011.
7. **Hartmann, E. M.** and R. U. Halden. Use of AQUA and MALDI-TOF/TOF MS to Quantify a Dioxin-Degrading Enzyme. Presented at the American Society for Mass Spectrometry 23rd Sanibel Conference, St. Pete Beach, FL, January 21 – 24, 2011.
6. **Hartmann, E. M.** and R. U. Halden. Concept for a Brain Tissue Screening Procedure to Ensure Prion Exclusion. Presented at the 12th Annual Arizona Alzheimer's Consortium Conference, Glendale, AZ, May 21, 2010.
5. **Hartmann, E. M.** and R. U. Halden. Discovery and Detection of Biomarkers of Petroleum-Degrading Bacteria. Presented at the Science Foundation Arizona Grand Challenges Conference, Phoenix, AZ, April 12 – 13, 2010.
4. **Hartmann, E. M.**, K. McClellan, and R. U. Halden. Toward Proteomics-Informed Optimization of *In Situ* Bioremediation. Presented at the National Institute of Environmental Health Sciences Superfund Basic Research and Training Program, Pacific Grove, CA, December 7 – 9, 2008.
3. Maldarelli, G. A., **E. M. Hartmann**, P. J. Cummings, R. Horner, K. M. Obom, R. Shingles, R. Pearlman. Virtual Lab Demonstrations Improve Students' Mastery of Basic Biology Laboratory Techniques, American Society for Microbiology General Meeting, Boston, MA, June 1 – 5, 2008.
2. **Hartmann, E. M.**, D. R. Colquhoun, and R. U. Halden. Identification of Pollutant-Degrading Bacteria Using Peptide Mass Fingerprinting and Mass Spectrometry. Presented at The American Chemical Society Mid-Atlantic Regional Meeting, Collegeville, PA, May 16 – 18, 2007.
1. Colquhoun, D. R., T.R. Miller, **E. M. Hartmann**, and R. U. Halden. Preliminary Characterization Of Pollutant Degrading Microbes Using Matrix Assisted Laser Desorption Ionization Time-Of-Flight Mass Spectrometry. Presented at The Annual Meeting Of The American Society For Microbiology, Orlando, FL, May 20 – 25, 2006.

SERVICE & PEER REVIEW

- American Society for Microbiology Microbiome Communication Taskforce
- Publication: *Nature Methods*, *Trends in Immunology*, *Trends in Microbiology*, *Environmental Science & Technology*, *Journal of Proteome Research*, *Genome Medicine*, *BMC Genomics*, *Proteomics*, *Analytical and Bioanalytical Chemistry*, *PLOS ONE*, *Pediatric Research*, *Marine Pollution Bulletin*, *BMC Bioinformatics*, *International Journal of Molecular Sciences*

- Proposal: Hudson River Foundation for Science and Environmental Research, German-Israeli Foundation for Scientific Research and Development