

Curriculum Vitae
LUTGARDE RASKIN

Altarum/ERIM Russell O'Neal Professor of Engineering
Department of Civil and Environmental Engineering
University of Michigan

Short Bio

Lutgarde Raskin is the Altarum/ERIM Russell O'Neal Professor of Engineering at the University of Michigan, where she has been a professor of Environmental Engineering since 2005. Before this, she was a professor at the University of Illinois at Urbana-Champaign (UIUC) for 12 years. She received a BS/MS degree in Bioscience Engineering and a BS/MS degree in Economics from the University of Leuven (KU Leuven, Belgium). Her PhD degree is in Environmental Engineering from UIUC. Raskin is globally recognized as an expert in microbial aspects of anaerobic waste treatment and drinking water treatment technologies.

Raskin has served/serves as the research advisor of 17 postdocs, 26 PhD students, and 65 Master's students. She was recently awarded the University of Michigan Distinguished Graduate Mentor Award for her outstanding role as a mentor. Nineteen of her former trainees are in academic positions across the world. She has received external recognition as an Elected Fellow of the American Academy of Microbiology and the Water Environment Federation. She further received numerous external awards, including the International Society for Microbial Ecology-International Water Association (IWA) BioCluster Award, the Paul L. Busch Award for Innovation in Applied Water Quality Research from the Water Environment Research Foundation, and the Association of Environmental Engineering and Science Professors (AEESP) Frontier Award in Research. Raskin has authored or co-authored over 130 journal papers and has given over 100 invited lectures. Her work is well cited (over 10,000 citations).

Raskin has a strong service record. She co-organized the 2013 IWA Microbial Ecology and Water Engineering (MEWE) conference in Ann Arbor, Michigan. She currently serves on the Leadership Committees of the IWA Anaerobic Digestion and MEWE Specialist Groups. She has served on the Program Committees for numerous IWA's Specialist Group Conferences, including the Anaerobic Digestion, Biofilm, and Leading Edge Technology Conferences. She is an Associate Editor for Environmental Science & Technology and serves on the Editorial Board/Advisory Board of five other journals. She has served on various committees of other professional societies, including the AEESP, for which she currently serves on the Board of Directors.

Research Statement

I am inspired by the complexity of the microbial world and the astonishing progress we have made in the field of microbial ecology over the past few decades. This progress continuously motivates me to rethink engineered systems so we can better harness the power of microorganisms to treat water and recover resources from waste stream. Most of the research projects my team and I work on strive to understand and improve various aspects of the engineered water cycle microbiome to improve human health using sustainable design approaches. We especially focus on (i) water and energy recovery from waste streams and energy crops, and (ii) drinking water systems including biofiltration, disinfection, distribution and premise plumbing.

Contact

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Education

1988-1993	Ph.D. in Environmental Engineering in Civil Engineering, University of Illinois at Urbana-Champaign (UIUC).
1984-1986	Licentiate Economic Sciences (B.S.+M.S.), Distinction, University of Leuven
1987-1988	(KU Leuven), Belgium.
1982-1987	Bioscience Engineering (Environmental Biotechnology) (B.S.+M.S.), Great Distinction, Katholieke Universiteit Leuven, Belgium.

Positions Held

2013-present	Altarum/ERIM Russell O'Neal Professor of Engineering, University of Michigan.
2005-present	Professor, Dept. of Civil and Environmental Engineering, University of Michigan.
2014-2017	Graduate Chair, Department of CEE, University of Michigan.
2003-2005	Professor, Dept. of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign (UIUC).
2004-2005	Professor, Institute for Genomic Biology (IGB), UIUC.
2000-2005	Professor-Associate Professor, Beckman Institute, Institute Affiliate, UIUC.
2002-2003	Visiting Research Professor, Laboratory for Microbial Ecology and Technology (LabMET), University of Gent, Belgium.
1999-2003	Associate Professor, Dept. of Civil and Environmental Engineering, UIUC.
1993-1999	Assistant Professor, Dept. of Civil and Environmental Engineering, UIUC.
1996-1997	Fellow Center for Advanced Study, UIUC.
1988-1993	Graduate Research Assistant, Dept. of Civil Engineering and Dept. of Veterinary Pathobiology, UIUC.

Program Affiliations at University of Michigan

Dow Distinguished Faculty Fellows in Sustainability Program
Faculty Affiliate Graham Sustainability Institute
Faculty Affiliate Energy Institute
Faculty Affiliate Center for Molecular and Clinical Epidemiology of Infectious Diseases (MAC-EPID)
Faculty Affiliate Center for Microbial Systems
Integrated Training in Microbial Systems (ITiMS) Faculty Advisor

Awards and Honors

2017	Rackham Distinguished Graduate Mentor Award, UM.
2017	Jack A. Borchardt Award, This award is in recognition and appreciation of individual contributions toward the continuing education of drinking water and clean water operators, engineers, and public officials, Michigan Section of the American Water Works Association.
2016	ISME (International Society for Microbial Ecology)-IWA (International Water Association) BioCluster Award 2016 (Grand Prize). This prize rewards interdisciplinary research of unusual merit at the interface of microbial ecology and water/wastewater treatment.
2016	Associate Editor <i>Environmental Science & Technology</i>
2014	Dow Distinguished Faculty Fellow in Sustainability, UM
2013	Altarum/ERIM Russell O'Neal Professor of Engineering, UM
2013	Monroe-Brown Foundation Research Excellence Award, College of Engineering, UM
2012	Elected Fellow Water Environment Federation
2009	Elected Fellow American Academy of Microbiology
2007	Association of Environmental Engineering and Science Professors (AEESP) Frontier Award in Research for advancing the environmental engineering and science field through recognized research leadership and pioneering efforts in a new and innovative research area.
2006	American Society of Civil Engineers Walter L. Huber Civil Engineering Research Prize for pioneering the application of molecular biology techniques in wastewater treatment to study complex microbial communities, the development of advanced microbial monitoring techniques, and microbial control strategies for wastewater treatment problems.
2005	Incomplete List of Teachers Ranked as Excellent by Their Students, UIUC.
2004	Incomplete List of Teachers Ranked as Excellent by Their Students, UIUC.
2003	Illinois Consortium for Food and Agricultural Research (C-FAR) Donald A. Holt Achievement Award, received as a member of the Livestock and Urban Waste Recycling Research Team.

- 2002-2003 Flemish Science Foundation Fellowship (Fonds voor Wetenschappelijk Onderzoek, FWO, Vlaanderen).
- 2002 Paul L. Busch Award, Water Environment Research Foundation Endowment for Innovation in Applied Water Quality Research in recognition for contributions to research in water quality and the practical application of research in the water environment.
- 2002 Association of Environmental Engineering and Science Professors (AEESP) Distinguished Service Award.
- 2002 Xerox Award for Faculty Research, College of Engineering, UIUC.
- 1998-2005 Narbey Khachaturian Faculty Scholar, Dept. of Civil and Environmental Engineering, UIUC.
- 1998 Invited Committee Member for Water Environment Research Foundation Workshop - Biotechnology/Industrial Ecology - A Look into the Future for Wastewater Treatment, Sept. 12-14.
- 1997 National Science Foundation Faculty Early Career Development Program (CAREER) Award.
- 1997 Xerox Award for Faculty Research, College of Engineering, UIUC.
- 1997 Incomplete List of Teachers Ranked as Excellent by Their Students, UIUC.
- 1996-1997 Fellow, Center for Advanced Study, UIUC.
- 1994 National Science Foundation Research Initiation Award.
- 1987 Graduated with Great Distinction, Katholieke University Leuven.
- 1987 Laureate W.E.L. (Water, Energie, Leefmilieu) for M.S. thesis.

Awards and Honors Graduate and Undergraduate Students and Postdocs

- 2017 Best Presentation Award for Post-Doc Yun Shen (with co-authors A. J. Prussin II., S.-J. Haig, L. Marr, L. Raskin), Quantification of opportunistic pathogens in shower water and aerosols formed during showering, AEESP Conference, Ann Arbor, Michigan. June 20-22.
- 2017 Admission to the Strategies and Techniques for Analyzing Microbial Population Structures (STAMPS) Course at Marine Biological Laboratory (Woods Hole), Emily Crossette
- 2017 Rackham Graduate Student Research Grant, UM, Matthew Vedrin
- 2017 Rackham International Research Award, UM, Raghav Reddy.
- 2017 International Institute Individual Fellowship, UM, Matthew Vedrin.
- 2017 Graham Environmental Sustainability Institute Dow PhD Fellowship, UM, Matthew Vedrin.
- 2017 Integrated Training in Microbial Systems (ITiMS) Fellowship, UM, Emily Crossette.
- 2017 Dow Sustainability Master's Fellowship, UM, Grace Rodriguez
- 2017 Dow Sustainability Master's Fellowship, UM, Grace van Velden
- 2016 International Institute Individual Fellowship, UM, Grace Rodriguez
- 2016 Walter Weber Student Award, UM, Nadine Kotlarz
- 2016 Alfred P. Sloan Foundation, Microbiology of the Built Environment Postdoctoral Fellowship, Yun Shen.
- 2016 U.S. National Science Foundation Graduate Research Fellowship, Emily Crossette
- 2016 Integrated Training in Microbial Systems (ITiMS) Fellowship, UM, Caroline Van Steendam.
- 2015 Scholarship to attend the course "Microbial Ecology of Anaerobic Digestion: Application to the hot topic of low-temperature AD" 14th World Congress on Anaerobic Digestion |Viña del Mar, Chile, Xavier Fonoll
- 2015 Rackham Summer Award, UM, Xunchang Fei
- 2015 CTAHR MS Student Oral Presentation Award of Merit, University of Hawaii at Manoa, Shilva Shrestha
- 2015 U.S. National Science Foundation Graduate Research Fellowship, Nicole Rockey
- 2015 Admission to the Microbial Diversity Course at Marine Biological Laboratory (Woods Hole), Caroline Van Steendam
- 2015 American Society for Microbiology Travel Grant, Nadine Kotlarz.
- 2015 Dow Sustainability Postdoctoral Fellow, Sarah Haig.
- 2015 Integrated Training in Microbial Systems (ITiMS) Fellowship, UM, Nadine Kotlarz.
- 2015 Dow Sustainability Master's Fellowship, UM, Sean Murphy
- 2014 U.S. EPA STAR Fellowship, Nadine Kotlarz.
- 2014 Alfred P. Sloan Foundation, Microbiology of the Built Environment Postdoctoral Fellowship, Sarah Haig.
- 2014 International Institute Individual Fellowship, UM, Raghav Reddy
- 2014 Dow Sustainability Master's Fellowship, UM, Elizabeth Grobbel

- 2013-15 Environmental Research and Education Foundation (EREF) Scholarships (3), Xunchang Fei
 2013 John P. Hennessey Scholarship Michigan Water Environment Association, Anton Dapcic.
 2013 Graham Environmental Sustainability Institute Dow Fellowship, Nadine Kotlarz.
 2013 Admission to the Microbial Diversity Course at Marine Biological Laboratory (Woods Hole), Nadine Kotlarz
- 2012 21st Annual Michigan Section American Water Works Association/Michigan Water Environment Association Joint Exposition, Lansing, MI, Feb. 2012, Fresh Idea Poster Competition Award, Nadine Kotlarz and Giridhar Upadhyaya.
- 2012-13 U.S. Student Fulbright award to work with Professor Moses Musaaazi on a biosand water filter research project in Uganda, including laboratory research and work with a local community, Andrea Trese.
- 2012 National Security Education Program (NSEP) David L. Boren Fellowship, to support a four month stay in Tanzania to study Swahili and take part in an internship with the Zanzibar Water Authority focused on improving water supply for local citizens, Andrea Trese.
- 2012 Center for the Education of Women Menakka and Essel Bailey Graduate Fellowship, Tara Clancy.
- 2012 U.S. Department of State Critical Language Scholarship for participation in the Bangla/Bengali intensive summer language institute (Bengali-Intermediate), Tara Clancy.
- 2011 1st place in Geosyntec Consultants Paper Competition, Adam Smith
- 2011 Raoul Wallenberg International Summer Travel Fellowship, Tara Clancy
- 2011 U.S. National Science Foundation Graduate Research Fellowship, Ashley Hammerbeck
- 2011 U.S. National Science Foundation Graduate Research Fellowship, Tara Clancy
- 2011 U.S. EPA STAR Fellowship, Tara Clancy (declined due to NSF fellowship award)
- 2011 U.S. Department of State Critical Language Scholarship for participation in the Bangla/Bengali intensive summer language institute (Bengali-Beginner), Tara Clancy.
- 2011 Twentieth Annual Michigan Section American Water Works Association/Michigan Water Environment Association Joint Exposition, Lansing, MI, Feb. 2-3. Fresh Idea Poster Competition Award, Tzu-Hsin Chiao and Ameet Pinto.
- 2011 Michigan Section AWWA Fellowship for Water Quality and Treatment Study, Tara Clancy.
- 2011 Graham Environmental Sustainability Institute Fellowship, Tara Clancy.
- 2010 ISME travel awards for young scientists, Dongjuan Dai
- 2010 University of Michigan Rackham one-term dissertation fellowship, Donguan Dai
- 2010 Association of Environmental Engineering and Science Professors, Ph.D. Dissertation Award, David Berry.
- 2010 American Water Works Association's Annual Conference and Exhibition Young Professionals Poster Competition (second place), Chicago, IL, June 20-24, 2010, Tara Clancy, Giridhar Upadhyaya, Pranab Ghosh, and Jeff Jackson
- 2010 Antenore "Butch" Davanzo Scholarship Michigan Water Environment Association, Mark Poll.
- 2010 John P. Hennessey Scholarship Michigan Water Environment Association, Adam Smith.
- 2010 Nineteenth Annual Michigan Section American Water Works Association/Michigan Water Environment Association Joint Exposition, Lansing, MI, Feb. 2-3. Fresh Idea Poster Competition Award, Tara Clancy, Giridhar Upadhyaya, and Jeff Jackson.
- 2009 AEESP Grand Challenge Student Paper Award, David Berry (with co-authors M. Horn, M. Wagner, C. Xi, and L. Raskin (2010), Infectivity and intracellular survival of *Mycobacterium avium* in environmental *Acanthamoeba* strains and dynamics of inactivation with monochloramine, *Applied and Environmental Microbiology*, **76** (19): 6685-6688.).
- 2009 Admission to the Microbial Diversity Course at Marine Biological Laboratory (Woods Hole), Monisha Brown
- 2009 Michigan Section AWWA Fellowship for Water Quality and Treatment Study, Giridhar Upadhyaya.
- 2008 Graham Environmental Sustainability Institute Fellowship, Giridhar Upadhyaya.
- 2008 U.S. EPA STAR Fellowship, David Berry.
- 2008 Antenore "Butch" Davanzo Scholarship Michigan Water Environment Association, Giridhar Upadhyaya.
- 2008 Admission to the Microbial Diversity Course at Marine Biological Laboratory (Woods Hole), Dongjuan Dai
- 2008 University of Michigan Rackham graduate student research grant, Dongjuan Dai

- 2007 11th World Congress on Anaerobic Digestion, Brisbane, Australia, Sept. 23-27, 2007. Best Presentation Award (Sudini Padmasiri, with co-authors P. Tontcheva, M. Fitch, M.N. Pons, B. Norddahl, E. Morgenroth, and L. Raskin).
- 2007 GEM Ph.D. Engineering Fellowship, Advisor for Tara Jackson
- 2007 Graham Environmental Sustainability Institute Fellowship, David Berry
- 2007 Sixteenth Annual Michigan Section American Water Works Association/Michigan Water Environment Association Joint Exposition, Lansing, MI, Feb. 6-7. Fresh Idea Poster Competition Award, Xu Li and Giridhar Upadhyaya.
- 2007 Michigan Section AWWA Fellowship for Water Quality and Treatment Study, Xu Li.
- 2007 Admission to the Microbial Diversity Course at Marine Biological Laboratory (Woods Hole), David Berry
- 2006 University of Michigan Rackham international student fellowship, Dongjuan Dai
- 2006 Great Lakes International Imaging and Flow Cytometry Association Annual Conference, Best Poster Award, Diane Holder (co-author with D. Berry, D. Dai, L. Raskin, and C. Xi).
- 2006 Association of Environmental Engineering and Science Professors, Ph.D. Dissertation Award, Dominic Frigon.
- 2006 Universities Council on Water Resources (UCOWR), Ph.D. Dissertation Award, Dominic Frigon.
- 2006 Michigan Section AWWA Fellowship for Water Quality and Treatment Study, David Berry.
- 2005 First International Workshop on the Anaerobic Digestion Model No. 1, Sept. 4-6, Lyngby, Denmark. First Prize for Poster Presentation, Toshio Shimada.
- 2005 American Water Works Association Illinois Section. First Prize for Poster Presentation in Young Professional Section, Xu Li and Young Chul Choi.
- 1999 Montgomery Watson and Association of Environmental Engineering and Science Professors M.S. Thesis Award, First Place, Daniel Oerther.
- 1999 Water Environment Federation, First Place in Student Paper Competition, Ph.D. Category, Francis de los Reyes.
- 1998 Illinois Water Environment Association, Best Student Paper Award, Francis de los Reyes.
- 1997 Montgomery Watson and Association of Environmental Engineering Professors, M.S. Thesis Award, Second Place, Matthew Griffin.

Membership in Professional Organizations

American Chemical Society
 American Society for Microbiology
 American Water Works Association
 Association of Environmental Engineering and Science Professors
 International Water Association
 Water Environment Federation

Invited Seminars and Lectures

1. April 9, 2018, Michigan Tech, Houghton, MI, Visiting Women & Minority Lecture Series
2. The Drinking Water Microbiome, October 17, 2017, Tsinghua University, Beijing, China
3. The need for Biofilm-Enhanced Anaerobic Membrane Bioreactors, January 18, 2017, Peking University, Beijing, China
4. The Drinking Water Microbiome, ACS Publications Microbiome Webinar Series, Part I, The Microbiome and the Environment, July 26, 2016
5. Leveraging the Benefits of Microbes in Drinking Water Systems, Departmental Seminar, Department of Civil and Environmental Engineering, University of Pittsburgh, October 14, 2015.
6. Leveraging the Benefits of Microbes in Drinking Water Systems, 2015 Clifford W. Randall Distinguished Lecture, The Charles E. Via, Jr. Department of Civil and Environmental Engineering, Virginia Tech, September 18, 2015.
7. Dow Distinguished Faculty and Postdoctoral Researchers Dinner Lecture, Improving the sustainability of the urban water cycle through environmental biotechnology research, University of Michigan, March 24, 2015.
8. Energy Recovery from Domestic Wastewater Using Anaerobic Membrane Bioreactor Treatment, College of Agriculture, Forestry and Natural Resource Management, University of Hawaii at Hilo, Hilo, HI, April 7, 2015.

9. Graduate Studies at the University of Michigan, University of Hawaii at Manoa, Manoa, HI, April 6, 2015.
10. Energy Recovery from Domestic Wastewater using Anaerobic Membrane Bioreactor Treatment, Department of Civil and Environmental Engineering, Northwestern University, November 7, 2014
11. Energy Recovery from Domestic Wastewater using Anaerobic Membrane Bioreactor Treatment, Ecology and Evolutionary Biology 466 Lecture, University of Michigan, November 6, 2014
12. Leveraging the Benefits of Microbes in Drinking Water Systems, Belgian Nuclear Research Centre, (SCK-CEN), Mol, Belgium, August 12, 2014
13. Leveraging Microbes in Drinking Water Systems to Benefit Consumers, Swiss Federal Institute for Water Research (EAWAG), Dübendorf, Switzerland, May 9, 2014
14. Energy Recovery from Domestic Wastewater using Anaerobic Membrane Bioreactor Treatment, Department of Chemical Engineering, Katholieke Universiteit Leuven, Leuven, Belgium, May 5, 2014
15. Energy Recovery from Domestic Wastewater Using Anaerobic Membrane Bioreactor Treatment, Dept. of Molecular Biosciences and Bioengineering, University of Hawaii at Manoa, Manoa, HI, April 10, 2014
16. Leveraging Microbes in Drinking Water Systems to Benefit Consumers, University of Toronto, January 6, 2014
17. Leveraging Microbes in Drinking Water Systems to Benefit Consumers, Department of Civil and Environmental Engineering, University of California, Los Angeles, Los Angeles, CA, November 7, 2013
18. Biological Drinking Water Treatment – Opportunities and Challenges, Department of Civil and Environmental Engineering, Distinguished Lecture Series, University of Houston, Houston, TX March 4, 2013
19. Biological Drinking Water Treatment – Opportunities and Challenges, Engineering Research Center for Re-inventing the Nation's Urban Water Infrastructure (ReNUWIt) Distinguished Lecture Series, Colorado School of Mines, Golden, CO, Nov. 7, 2012
20. Biological Drinking Water Treatment – Opportunities and Challenges, Warren Lecture Series, Department of Civil Engineering, University of Minnesota, Minneapolis, MN, Sept. 14, 2012
21. Bacterial Seeding in Drinking Water Treatment and Distribution Systems, Department of Microbiology and Immunology (Microbiome Group), Medical School, University of Michigan, March 7, 2012
22. Energy Recovery from Domestic Wastewater using Anaerobic Membrane Bioreactors and Molecular Biology Methods in Environmental Engineering, Doosan Hydro Technology, Inc., Tampa, FL, March 15, 2011
23. Energy Recovery from Domestic Wastewater using Anaerobic Membrane Bioreactors, Carollo Engineers, Inc., Sarasota, FL, March 16, 2011
24. Upadhyaya, G., J. Jackson, T. Clancy, J. Brown, K. F. Hayes, and L. Raskin, "Anaerobic fixed-bed bioreactor system used for simultaneous removal of nitrate and arsenic from drinking water", 9 April, 2010, University of Ghent, Belgium
25. Diversity and dynamics of microbial communities in anaerobic bioreactors and their implications for process stability, University of Notre Dame, May 8, 2008.
26. Antimicrobials and Antimicrobial Resistance in Anaerobic Bioreactors, Michigan State University, April 17, 2008.
27. Antimicrobials and Antimicrobial Resistance in Agriculture – Anaerobic Bioreactor Performance and Swine Waste, University of Vienna, Austria, Aug. 9, 2007.
28. Beating Microbial Pathogens in Drinking Water Distribution Systems Requires an Understanding of the Mechanisms of Bacterial Resistance to Disinfection, Ohio State University, May 31, 2007.
29. Survival Mechanisms of Bacterial Pathogens in Drinking Water Distribution Systems/Anaerobic Membrane Bioreactors, Malcolm Pirnie, Columbus, OH, May 30, 2007.
30. Beating Microbial Pathogens in Drinking Water Distribution Systems Requires an Understanding of the Mechanisms of Bacterial Resistance to Disinfection, Yale University, April 18, 2007.
31. Diversity and dynamics of microbial communities in anaerobic bioreactors and their implications for process stability, University of California, Riverside, Feb. 23, 2007.
32. Molecular Tools and Wastewater Treatment: Science Research Yesterday, Process Investigations Today, Routine Analysis Tomorrow? John Hopkins University, Oct. 18, 2005.
33. Understanding microbial population dynamics at fine temporal and spatial resolutions may be important for microbial community engineering, Vistas in Microbial Ecology and Environmental Biotechnology, Arizona State University, April 20, 2005.

34. Mechanism Explaining Seasonal Biological Foaming in Activated Sludge, R&D Seminar, Cecil Lue-Hing Research Center, Stickney Water Reclamation Plant, Metropolitan Water Reclamation District of Greater Chicago, Stickney, IL, Feb. 25, 2005.
35. Activated Sludge Foaming, Mycolata, and Lipases – A Journey into the Ecophysiology of a Problem to develop Operating and Design Guidelines, University of Michigan, Ann Arbor, MI, Nov. 13, 2004.
36. Microbial Ecology of Waste and Drinking Water Treatment Systems, Wageningen Agricultural University, Wageningen, The Netherlands, July 1, 2003.
37. Guest Lecturer for course “Environmental Biotechnology”, Ghent University, Belgium, Fundamentals and Applications of Biofilm Systems, Nov. 27, 2002.
38. Quantification of Microbial Population Abundance and Activity in Wastewater Treatment Systems by Oligonucleotide Probe Hybridization, Cornell University, March 1, 2001.
39. Microbial Population Dynamics in a Novel Anaerobic Wastewater Treatment System, California Institute of Technology, Nov. 4, 1998.
40. Microbial Population Dynamics in Anaerobic Wastewater Treatment Systems, University of California Los Angeles, Nov. 3, 1998.
41. Microbial Population Dynamics in Wastewater Treatment Systems, Environmental Horizons 98, UIUC, April 21, 1998.
42. Microbial Phylogeny: Linkages to Processes and Biogeochemistry, The University of Tennessee, The Center for Environmental Biotechnology, Feb. 9, 1998.
43. Importance of Microbial Diversity in Anaerobic Waste Treatment Systems. XIV Turku Microbiology Symposium on Modern Methods for Microbial Detection and Identification, The University of Turku, Turku, Finland, Oct. 24, 1997.
44. Environmental Biotechnology at the University of Illinois, Molecular Techniques in Biological Waste Treatment Systems, CNRS-UIUC workshop, Paris, France, Sept. 9-10, 1997.
45. Livestock Waste Management, Role of Microbial Ecologists and Environmental Biotechnologists, Illinois House-Senate Joint Livestock Advisory Committee, July 10, 1997.
46. Microbial Population Dynamics in Anaerobic Bioreactors, 14th Industrial Microbiology Symposium – Fundamentals of Biodiversity, University of Puerto Rico, March 21, 1997.
47. Molecular Ecology of Gut Ecosystems, Department of Animal Sciences, UIUC, April 4, 1996.
48. Molecular Studies of Microbial Population Dynamics in Biological Treatment Systems, University of Iowa, March 29, 1996.

Invited Conference/Symposium Presentations

1. Raskin, L., S.-J. Haig, N. Kotlarz, and J. J. LiPuma, Explaining the presence of respiratory tract opportunistic bacterial pathogens in drinking water systems, ES&T Symposium, 253rd American Chemical Society National Meeting & Exposition, April 5, 2017, San Francisco, CA.
2. Raskin, L., The need for Biofilm-Enhanced Anaerobic Membrane Bioreactors, Workshop Aerobic and Anaerobic Membrane Bioreactors, November 25, 2016, University of Leuven, Leuven, Belgium.
3. Raskin, L., Managing the drinking water microbiome, European Centre of Excellence for Sustainable Water Technology (WETSUS) Congress 2016, Oct. 4, 2016, Leeuwarden, The Netherlands.
4. Raskin, L., Environmental Mycobacteria in Chloraminated Drinking Water Systems, 16th International Symposium on Microbial Ecology, ISME, Aug. 25, 2016, Montreal, CA.
5. Raskin, L., Managing the Drinking Water Microbiome, Plenary Session The Urban Water Cycle Microbiome, ASM Microbe 2016, June 18, 2016, Boston, MA.
6. Raskin, L., M. Kaufman, B. Kerkez, C. Xi, and T.M. Olson, Can Real-Time Monitoring and Data Science Reduce the Public Health Impacts of Aging Water Infrastructure in Our Cities? 2016 UM-SJTU Research Symposium Data Sciences for Sustaining Critical Infrastructures for the Environment and Human Health, April 21, 2016, Ann Arbor, MI
7. Raskin, L., Microbial ecology and anaerobic digestion: the need for microbial resource management, Closing lecture in workshop “Microbial ecology of anaerobic digestion: Application to the hot topic of low-temperature AD”, Punta Arenas, Chile, November 11-14, 2015.
8. Raskin, L., Anaerobic membrane bioreactor treatment of domestic wastewater at psychrophilic temperatures, Invited contribution in workshop “Anaerobic Membrane Bio-Reactors (AnMBR) for Resource Recovery: Biosolids Avoidance and Energy Generation from Wastewater”, WEF/IWA Residuals and Biosolids Conference 2015: The Next Generation of Science, Technology, and Management, Washington, DC: June 7 – 10, 2015.

9. Raskin, L., Anaerobic membrane bioreactor research – from idea generation to technology implementation, Frontiers of Water Treatment Symposium, University of Minnesota, May 18 2015, Minneapolis, MN.
10. Raskin, L., Managing microbial communities in anaerobic membrane bioreactors, Engineering and Control of Natural and Synthetic Microbial Communities, Isaac Newton Institute for Mathematical Sciences, Nov. 26-28, 2014, Cambridge, UK
11. Raskin, L., A decade of anaerobic membrane bioreactor research – from ideas to implementation, Association of Environmental Engineering and Science Professors (AEESP) Luncheon Lecturer, WEFTEC 2014, Sept. 30, 2014, New Orleans, LA
12. Pinto, A. and Raskin, L., Bacterial community dynamics in the drinking water microbiome, 15th International Symposium on Microbial Ecology (ISME), August, 24-29, 2014, Seoul, South Korea
13. Raskin, L., Anaerobic biological treatment processes and environmental biotechnology, Workshop, WEFTEC 2013, Oct. 5-9, 2013, Chicago, IL, Mainstream Anaerobic and Nutrient Removal Systems for Energy Neutral Wastewater Management.
14. Clancy, T.M., T. Chiao, A. Pinto, L. Raskin, Assessing the Role of Backwashing and Disinfection on Microbial Water Quality and Community Dynamics in Biofilters, AWWA 2013 Annual Conference and Exposition (ACE) in Denver, Colorado, June 9-13, 2013.
15. Raskin, L., Role of microbial ecology in optimizing biofiltration for drinking water treatment. Keynote Lecture, 5th International Conference, Microbial Ecology and Water Engineering 2013 (MEWE 2013), Ann Arbor, Michigan, July 7 – 10, 2013.
16. Raskin, L., Microbial Ecology of Engineering Anaerobic Bioreactor Systems, Plenary Lecture, 13th World Congress on Anaerobic Digestion: *Recovering (bio) Resources for the World*, Santiago de Compostela, Spain, June 25-28, 2013.
17. Smith, A.L., and L. Raskin, Microbial diversity analysis: methods and tools. *Molecular Biology Tools (specialized short course for 13th World Congress on Anaerobic Digestion)*, University of Minho, Braga, Portugal, June 23-24, 2013.
18. Raskin, L., Practicing microbial resource management in environmental biotechnology through application of molecular biology and ecology tools, WERF Paul Busch Awardee/AEESP Technical Session, *85th Annual Water Environment Federation Technical Exhibition and Conference (WEFTEC)*, New Orleans, LA, Sept. 29-Oct. 3, 2012.
19. Raskin, L., Ohio-Kentucky-Indiana Regional Symposium on Applications of Bio-membranes in Science and Technology, Sept. 30, 2011, Cincinnati, Ohio.
20. Raskin, L., Diversity and dynamics of microbial communities in anaerobic bioreactors and their implications for process optimization, International Conference on Biogas Microbiology, Helmholtz-Zentrum für Umweltforschung – UFZ, The German Biomass Research Centre (DBFZ), Sept. 14-16, 2011, Leipzig, Germany
21. Brown, J.C., G. Upadhyaya, T. M. Clancy, K. F. Hayes, and L. Raskin, Simultaneous Removal of Multiple Contaminants from Drinking Water Using Fixed-bed Anaerobic Bioreactors, International Water Association Leading Edge Technology (LET) Conference, Amsterdam, The Netherlands, June 6-10, 2011.
22. Giridhar Upadhyaya, Tara M. Clancy, Alyssa Jenkins, Kathryn Snyder, Jess C. Brown, Kim F. Hayes, and Lutgarde Raskin., Biologically Mediated Removal of Multiple Contaminants from Drinking Water Sources, MAC-EPID Pre-Symposium, School of Public Health, University of Michigan, March 31, 2011.
23. Smith, A.L., H.J. Dorer, N.G. Love, S.J. Skerlos, and L. Raskin, Methane Production from Domestic Wastewater using Anaerobic Membrane Bioreactors, Presented at *Biogas Summit*, Flint, Michigan, October 29, 2010.
24. Raskin, L., Does disinfection increase the virulence of bacteria? Association of Environmental Engineering and Science Professors (AEESP) 2009 Conference - Grand Challenges in Environmental Engineering and Science: Research and Education, July 26-29, 2009, Iowa City, Iowa
25. Raskin, L., Antimicrobials, antimicrobial resistance, and the link with disinfectants, IWA Leading Edge Conference on Water and Wastewater Treatment Technologies, June 23-25, 2009, Singapore.
26. Upadhyaya, G., J. Jackson, K. Hayes, J. Brown, and L. Raskin, Simultaneous Removal of Nitrate and Arsenic from Drinking Water Sources using Fixed-bed Biologically Active Carbon (BAC) Filters MI American Water Works Association's Research & Technical Practices (RTP) May Seminar, Lansing, MI, May 19, 2009.

27. Raskin, L., Survival Mechanisms of Bacterial Pathogens in Drinking Water Distribution Systems, Workshop on Biofilms in Engineered Water Systems: Safety, Treatment and Technology Innovation, Georgia Tech Global Learning and Conference Center, Atlanta, GA, Oct. 29-30, 2008.
28. Raskin, L., Diversity and dynamics of microbial communities in anaerobic bioreactors and their implications for process stability, Anaerobic Treatment Short Course, Anaerobic Treatment of High-Strength Industrial and Agricultural Wastes, Marquette University, Milwaukee, Wisconsin, Sept. 18-19, 2008.
29. Raskin, L., Does the use of antimicrobials in agriculture impact water quality?, MI American Water Works Association's Research & Technical Practices (RTP) May Seminar, Lansing, MI, May 20, 2008.
30. Raskin, L., Survival Mechanisms of Bacterial Pathogens in Drinking Water Distribution Systems, MI American Water Works Association's Research & Technical Practices (RTP) May Seminar, Lansing, MI, May 15, 2007.
31. Raskin, L., Population Dynamics of Syntrophic Bacteria and Methanogens in Anaerobic Bioreactors, 104th American Society of Microbiology General Meeting, New Orleans, LA, May 23-27, 2004.
32. Raskin, L. and E. Morgenroth, Opportunities for Nutrient Recovery from Animal Residues, University of Illinois Pork Industry Conference – Swine Odor and Manure Management, Champaign, IL, Dec. 11-12, 2003.
33. Crawford-Simmons, J.J., S. Padmasiri, T. Duangmanee, S. Sung, and L. Raskin, Microbial Community Analysis in Hydrogen-Producing Continuous Flow Bioreactors, Society for Industrial Microbiology Annual Meeting 2003, Minneapolis, MN, Aug. 10-12, 2003.
34. Raskin, L., Microbial ecology of anaerobic solid waste processing, EU Summer School "Biotechnology in organic waste management: from disposal to resource recovery", Wageningen, The Netherlands, June 29-July 4, 2003.
35. Raskin, L., D. Frigon, H. Vervaeren, and W. Verstraete, Molecular tools in wastewater studies: Science research yesterday, process investigations today, routine analysis tomorrow? IWA Leading Edge Conference Series – Global Conference on Leading Edge Water and Wastewater Treatment Technologies, Noordwijk/Amsterdam, The Netherlands, May 26-28, 2003.
36. Morgenroth, E., Y.C. Choi, and L. Raskin, Competition between perchlorate reducing bacteria and other heterotrophs under perchlorate limiting conditions, American Society for Microbiology, 103rd General Meeting, Washington D.C., May 18-22, 2003.
37. Raskin, L., C. Xi, and D. Zheng, Use of molecular probes to study biofilm composition, Biofilms in Industry, Medicine and Environmental Biotechnology: The Science, Galway, Ireland, Aug. 24-29, 2002.
38. Raskin, L., K.D. Rausch, M.E. Tumbleson, B.J. Daugherty, L.T. Angenent, R.M. Agbisit, and R.L. Belyea, Nutrient Recovery from Food Processing Industry Waste Streams, Corn Utilization & Technology Conference (CUTC), Kansas City, MO, June 3-5, 2002.
39. Agbisit, R., M.B. Daugherty, K.D. Rausch, L. Raskin, R.L. Belyea, T. Clevenger and M. E. Tumbleson, The Routing of Nutrients in the Corn Wet Milling Process and Opportunities for Recovery and Recycling from Waste Streams Using Environmental Biotechnology, Engineering and Processing Division Symposium, American Association of Cereal Chemists Annual Meeting, Charlotte, NC, Oct. 14-17, 2001.
40. Frigon D., D.B. Oerther, and L. Raskin, Oligonucleotide Probe Hybridization and Modeling Results Suggest that Populations Consuming Readily Degradable Substrate in Plug-flow Reactors Have High Cellular RNA Levels, Fifth Kollokollo Seminar on Activated Sludge Modelling, Kollokollo, Denmark, Sept. 10-12, 2001.
41. Raskin, L., Molecular probes to understand anaerobic digestion, Anaerobic Digestion, World Congress, Antwerp, Belgium, Sept. 2-5, 2001.
42. Raskin, L., Microbial Community Structure in Anaerobic Waste Treatment Systems, Ninth International Symposium on Microbial Ecology, Amsterdam, The Netherlands, August, 26-31, 2001.
43. Raskin, L., Quantification of rRNA with molecular beacons in microfluidic channels and applications in environmental microbiology, Gordon Research Conference on Applied and Environmental Microbiology, Connecticut College, July 21-26, 2001.
44. Raskin, L., Quantification of rRNA with Molecular Beacons in Microfluidic Channels, American Society for Microbiology, 101th General Meeting, Orlando, FL, May 20-24, 2001.
45. Raskin, L., Molecular microbial ecology of wastewater treatment systems, Gordon Research Conference on Environmental Sciences: Water, Environmental Pressures and Chemical Pathways

from the Molecular to Ecosystem Scale, Holderness School, Plymouth, New Hampshire, June 25-30, 2000.

46. Raskin, L., Quantification of microbial population abundance and activity in bioreactors by oligonucleotide probe hybridization, American Society for Microbiology 100th General Meeting, Los Angeles, CA, May 21-25, 2000.
47. Raskin, L., Use of Molecular Tools to Quantify Microbial Populations and Specific Growth Rates in Mathematical Models of Biological Treatment Processes, Association of Environmental Engineering and Science Professors (AEESP) Research Frontiers Conference, University Park, PA, Aug. 1-3, 1999.
48. Oerther, D.B., J.R. Danalewich, and L. Raskin, Biological Nutrient Removal from Food Processing Waste Streams, 1998 Corn Utilization & Technology Conference, St. Louis, MO, June 1-3, 1998.
49. Oerther, D.B., F.L. de los Reyes, and L. Raskin, Interfacing Phylogenetic Oligonucleotide Probe Hybridizations with Representations of Microbial Populations and Specific Growth Rates in Mathematical Models of Activated Sludge Processes, Fourth Kollokollo Seminar on Activated Sludge Modelling, Modelling and Microbiology of Activated Sludge Processes, Kollokollo, Denmark, March 16-18, 1998.
50. Raskin, L., D. Zheng, M.E. Griffin, and F. de los Reyes, Molecular Studies of Microbial Population Dynamics in Biological Treatment Systems, 9th Forum for Applied Biotechnology, Ghent, Belgium, Sept. 27-29, 1995.
51. Raskin, L., M.E. Griffin, and D. Zheng, Use of Ribosomal RNA-Based Methods to Study Microbial Population Dynamics in Anaerobic Bioreactors, 1995 Society for Industrial Microbiology Annual Meeting, San José, CA, Aug. 6-11, 1995.
52. Raskin, L., D. Zheng, M.E. Griffin, P.G. Stroot, and P. Misra, Characterization of Microbial Communities in Anaerobic Bioreactors Using Molecular Probes, International Meeting on Anaerobic Processes for Bioenergy and Environment, Copenhagen, Denmark, Jan. 25-27, 1995.
53. Raskin, L., Use of Ribosomal RNA Based Molecular Probes for Characterization of Complex Microbial Communities During a Long-Term Study of Anaerobic Biofilm Reactors, International Research Seminar on Biological Degradation of Organic Chemical Pollutants in Biofilm Systems, Copenhagen, Denmark, May 19-21, 1994.
54. Raskin, L., Structural and Functional Analysis of Anaerobic Biofilm Communities Using Oligonucleotide Probe Hybridizations, Mini-Symposium, Environmental Chemistry and Chemical Ecology, Institute for Environmental Studies, University of Illinois, Urbana, IL, Aug. 26-27, 1993.

TEACHING EXPERIENCE AND ACTIVITIES

University of Michigan

<i>Number</i>	<i>Name</i>	<i>Co-Taught With</i>	<i>Semester</i>
CEE 200	Introduction to Civil and Environmental Engineering		Winter 14 Fall 16 Winter 17
CEE 365 (CEE 360)	Environmental Process Engineering		Winter 09 Winter 10 Fall 10
CEE 366	Environmental Engineering Laboratory		Winter 14
CEE 592	Biological Processes in Environmental Engineering		Winter 06 Winter 07 Winter 08 Winter 13 Fall 13 Fall 14
CEE 482/ CEE 582	Environmental Microbiology		Fall 06 Fall 07 Fall 08 Fall 09 Fall 10 Fall 12 Fall 17
CEE 880	Seminar in Environmental and Water Resources Engineering		Fall 05 Winter 06 Fall 06 Winter 07 Fall 07 Winter 08 Winter 10 Winter 11 Winter 13 Winter 14 Winter 15 Winter 16 Winter 17
CEE 881	Civil and Environmental Engineering Seminar for New Graduate Students		Fall 09 Fall 10 Fall 12 Fall 13 Fall 14 Fall 15 Fall 16

University of Illinois at Urbana-Champaign

<i>Number</i>	<i>Name</i>	<i>Co-Taught With</i>	<i>Semester</i>
CEE 437 (CEE 342)	Water Quality Control Processes		Fall 97 Fal 98 Fall 99 Fall 00 Fall 01 Fall 04

CEE 343	Chemical Principles of Environmental Engineering Processes		Fall 93
			Fall 94
			Fall 95
CEE 346	Biological Principles of Environmental Engineering Processes The majority of this course (3/4) was taught by PhD student, Daniel Oerther, while I served as a mentor to provide guidance and feedback throughout the semester.	PhD Student Daniel Oerther and Assistant Professor Rob Sanford	Spring 97
			Spring 01
			Spring 02
CEE 538 (CEE 442)	Processes for Water Quality Control, II		Spring 94
			Spring 95
			Spring 96
			Spring 97
			Spring 98
			Spring 99
	This course was taught by postdoctoral research assistant, Lars Angenent, while I served as a mentor to provide guidance and feedback throughout the semester.	Lars Angenent	
			Spring 00
			Spring 04
CEE 495 G	Civil and Environmental Engineering Seminar		Spring 05
			Fall 99
CEE 495 AG	Civil and Environmental Engineering Seminar		Spring 00
			Spring 95
			Fall 01
			Spring 02

Organization of Short Courses and Workshops

Smith, A.L., D. Batstone, and L. Raskin, 2012. Workshop on Anaerobic Treatment of Low-Strength Wastewaters. *Leading Edge Technology (LET) Conference on Water and Wastewater Technologies*, June 3-7, Brisbane, Australia.

College of Engineering Responsible Conduct of Research and Scholarship workshop on "Reporting Research Results in Peer Reviewed Journals", May 3, 2011, University of Michigan.

Workshop, Fluorescence In Situ Hybridization, February 2005, Short course (2 ½ days) attended by a group of nine graduate students and post-docs from the University of Illinois, University of Texas at Austin, and University of Notre Dame.

Workshop, Quantitative Oligonucleotide Probe Hybridization, January/February 2004, UIUC. Short course (2 weeks) attended by a group of 11 graduate students and post-docs from the University of Illinois, Iowa State University, and University of Washington.

Biological Principles and Engineering of Water Quality Control, July 26, 2002, UIUC. Short course (3 hours) attended by a group of 20 students from Seoul National University, Korea.

Introduction to Molecular Microbial Ecology, February 1999, UIUC. Short course (4 weeks) attended by a group of 10 graduate students and post-docs from the Departments of Civil and Environmental Engineering and Animal Sciences, UIUC.

Teaching Improvement Activities

Participated in UM CRLT Workshop Best Practices for Running a Flipped Classroom: Roundtable Discussion for Engineering Faculty, May 28, 2014

Participated in a semester-long teaching course (Teaching College), Fall 1994.

Participated in UIUC College of Engineering Seminars for Teaching Improvement and Graduate College Symposia:

The Feminization of Graduate Education: A Life-course View by Mary Ann Mason, Feb. 21, 2005;
Why Women Leave Engineering and What We Can Do About It by Elaine Seymour, April 9, 2004;
Effective, Efficient Teaching by Phillip C. Wankat, Jan. 28, 2004;

Lecturing Tips, Jan. 25, 1996;

Utilizing Teaching Assistants Wisely, Oct. 31, 1995;

The Seven Principles of Good Teaching, Oct. 11, 1994;

Asking and Answering Questions to Stimulate Classroom Discussion, Feb. 22, 1994;

The Relationship of Learning Styles to Effective College Teaching and Learning in Engineering Classes, Feb. 17, 1994;

Using Early Student Feedback for Improvement of Teaching, Jan. 25, 1994.

Teaching Awards

Spring semesters 2005, 2004, 1997, and Fall 2004: "Incomplete List of Teachers Ranked as Excellent by Their Students".

Ph.D. Students Graduated

<i>Name</i>	<i>Work Period</i>	<i>Dissertation Title</i>	<i>Placement</i>
Nadine Kotlarz (co-advised with J. LiPUma)	05/13-05/17	Factors of Full-Scale Drinking Water Treatment that Contribute to Risk of Opportunistic Infectious Disease	Postdoctoral Fellow, North Carolina State University
Xunchang Fei (co-advised with D. Zekkos)	01/11-01/16	Experimental assessment of coupled physical-biochemical-mechanical-hydraulic processes of municipal solid waste undergoing biodegradation	Postdoctoral Fellow, King Abdullah University of Science & Technology
Tara Webster (formerly Clancy) (co-advised with K. Hayes)	09/09-01/15	Biogeochemical evaluation of disposal options for arsenic-bearing wastes generated during drinking water treatment	Postdoctoral Fellow, University of Colorado, Boulder
Adam Smith (co-advised with S. Skerlos)	06/09-08/14	Treatment of domestic wastewater with anaerobic membrane bioreactors	Assistant Professor, Astani Department of Civil and Environmental Engineering University of Southern California
Monisha Brown (co-advised with J. Diana)	01/08 – 05/13	Microbial Resource Management in Indoor Recirculating Shrimp Aquaculture Systems	Engineering Associate at Sanitation Districts of Los Angeles County
Giridhar Upadhyaya (co-advised with K. Hayes)	08/06-09/10	Biologically-mediated, Simultaneous Removal of Nitrate and Arsenic from Drinking Water Sources	Research Engineer, Carollo Engineers, Inc., Orange County, CA
Dongjuan Dai (co-advised with C. Xi)	07/05-09/10	Development of mixed-species biofilms and genetic mechanisms of species interactions in biofilms	Research Scientist, Dept. of CEE, Virginia Tech
David Berry (co-advised with C. Xi)	06/07-08/09	Molecular and Ecological Mechanisms of Bacterial Response to the Drinking Water Disinfectant Monochloramine	Associate Professor, Dept. of Microbial Ecology, University of Vienna
Xu Li (co-advised with E. Morgenroth)	08/03-09/08	Biological Treatment of Perchlorate and Nitrate Contaminated Drinking Water – Optimization of System Performance Using Microbial Community Characterization	Associate Professor, University of Nebraska-Lincoln, Lincoln, NE
Sudini Padmasiri (co-advised with E. Morgenroth)	08/03-09/07	Effect of high shear on anaerobic digestion in an anaerobic membrane bioreactor (ANMBR) treating high strength wastewater	Technologist, Shell Projects and Technology, Utilities and Heat Transfer Group, Shell Oil Company, Houston, TX
Toshio Shimada-Beltran (co-advised with J. Zilles and E. Morgenroth)	08/02-05/07	Effects of macrolide antimicrobials on anaerobic treatment systems	Research Engineer, Carollo Engineers, Dallas, TX
Zhi Zhou (co-advised	08/02-05/07	Evaluation of macrolide-lincosamide-streptogramin	Assistant Professor of Civil

with J. Zilles)		B (MLS _B) antimicrobial resistance at swine farms	Engineering and Environmental and Ecological Engineering, Purdue University
Young Chul Choi (co-advised with E. Morgenroth)	08/01-12/05	Biological perchlorate removal from drinking water	Director of Water Technology Energy Technology Division RTI International, Research Triangle Park, NC
Dominic Frigon	01/99-12/04	Mechanism explaining seasonal biological foaming in activated sludge wastewater treatment systems: foam-causing bacteria specialize in consuming lipids	Associate Professor, McGill University, Montreal, Quebec
Daniel Oerther	08/98-06/02	Using molecular signature methods to measure the in situ physiology of <i>Acinetobacter</i> spp. in enhanced biological phosphorus removal activated sludge wastewater treatment	Professor, John A. and Susan Mathes Chair of Environmental Engineering, Missouri University of Science and Technology, Rolla, MO
Jess Brown (co-advised with V. Snoeyink)	01/99-01/02	Abiotic and biotic perchlorate removal in an activated carbon filter	Vice President, R&D Practice Director, Carollo Engineers, Inc., Orange County, CA
Francis de los Reyes	08/94-12/99	Filamentous foaming in activated sludge systems: A study combining molecular and engineering approaches	Professor, Dept. of Civil, Construction, and Environmental Engineering, North Carolina State University, Raleigh, NC
Dandan Zheng	08/95-03/99	Evaluation of granulation processes in upflow anaerobic sludge blanket reactors using oligonucleotide probe hybridizations	Director, Quality Operation, Grifols, Los Angeles, CA

M.S. Students Graduated (With Thesis)

Name	Work Period	Thesis Title	Placement
Petia Tontcheva (co-advised with E. Morgenroth)	08/05-08/07	Organic and inorganic membrane fouling mechanisms in anaerobic membrane bioreactors	Senior Chemist, Nalco Water, Naperville, Illinois
Shubhra Jain	08/04-10/06	Filamentous foaming in activated sludge systems	Independent Consultant, New Delhi, India
Jiangzhao "Amily" Zhang (co-advised with E. Morgenroth)	08/02-05/05	Effect of shear on membrane fouling in anaerobic membrane bioreactors treating swine waste	Project Engineer, Gannett Fleming, Woodbury, New York
Nicole Monteith (co-advised with E. Morgenroth)	08/02-07/04	Effect of erythromycin on nitrification	
Ning Tong (co-advised with B. Marinas)	08/01-08/03	Adaptive response in <i>Mycobacterium avium</i> when exposed to monochloramine	Environmental Restoration Department, Battelle, Columbus, OH
Sudini Padmasiri	08/01-08/03	Microbial community characterization of biological hydrogen removal systems	Technologist, Shell Projects and Technology, Utilities and Heat Transfer Group, Shell Oil Company, Houston, TX
Richard Lin (co-advised with E. Morgenroth)	07/01-08/03	Bacterial Community Analysis and Optimization of Biologically Active Carbon Filters Used to Remove Perchlorate from Groundwater	Montgomery, Watson, Herza, Walnut Creek, CA
Adam Klein	08/01-07/03	Using Molecular Techniques to Assess the Role of Novel Organisms in Biological Foaming at Wastewater Treatment Plants	Brown and Caldwell, Seattle, WA
Becky Luna (formerly Daugherty)	08/00-08/02	Anaerobic treatment of high sulfate waste streams to allow for the subsequent recovery of sulfur	Vice President, Carollo Engineers, Denver, CO
Archana Jindal	08/00-08/02	Antimicrobial Resistance in Swine Waste Treatment Processes	Carollo Engineers, Santa Ana, CA
Eva Arnaiz	02/00-09/00	Foaming potential of <i>Gordonia amarae</i> grown under different conditions. Is foaming linked to cell wall hydrophobicity?	Infilco, Madrid, Spain
Sandra Loor-Vela	08/98-08/00	Anaerobic dissipation of 14C-acetochlor in flooded soil microcosms	Executive Director CECIA (NGO), Quito, ECUADOR
Peter Stroot	08/94-07/99	Anaerobic co-digestion of municipal solid waste and	Managing Member at

Daniel Oerther	08/95-08/98	biosolids under various mixing conditions Application of molecular tools for the analysis of biological foaming in activated sludge	HemaGnosis, Spokane, WA Professor, Missouri University of Science and Technology, Rolla, MO
James Danalewich	01/96-07/98	Biological nutrient removal from domestic and milk processing wastewaters	Malcolm Pirnie Inc., White Plains, NY
Katherine McMahon (formerly Sauer)	08/95-10/97	Syntrophic and methanogenic population dynamics during the anaerobic codigestion of municipal solid waste and sewage sludge	Professor, University of Wisconsin, Madison
Ma. Fiorella de los Reyes	08/95-08/97	Detection and quantification of <i>Gordona amarae</i> strains in foaming activated sludge systems using a phylogenetic approach	Manila Water Company, Balara, Quezon City, Philippines
Ebru Dulekgurgen	01/95-02/97	Microbial population dynamics in sequencing batch reactors for biological phosphorus removal using ribosomal RNA sequence analyses and oligonucleotide probe hybridizations	Assistant Professor, Istanbul Technical University, Environmental Engineering Department, Istanbul-Turkey
Theodore Papagiannis	01/95-08/96	Biological nutrient removal from dairy processing wastewater	Attorney, Knobbe Martens Olson & Bear LLP, Irvine, CA
Evanthia Tor (formely Malkos)	01/94-01/96	Bioremediation of naphtalene in soils of varying textures, nutrient concentrations, and hydrocarbon content	Massachusetts Department of Environmental Protection, Springfield, MA
Dandan Zheng	08/93-08/95	Characterization of microbial communities in anaerobic bioreactors using oligonucleotide probe hybridizations	Director, Quality operation at Grifols, Los Angeles, CA
Matthew Griffin	01/94-08/95	Use of molecular tools to enhance the evaluation of anaerobic co-digestion of the organic fraction of municipal solid waste and sewage sludge	Environmental Engineer, General Motors, MI

Additional M.S. Students Graduated (research, but no thesis)

Name	Work Period	Placement
James Yonts (research)	01/16-12/16	Tetrattech, Lansing, MI (Monitoring of corrosion and opportunistic bacterial pathogens in potable hot water pipe loop)
Nigel Beaton (co-advised with N. Love) (research)	09/14-09/15	Staff Professional, Carollo Engineers, Inc., Portland, OR 97205 (Anaerobic Membrane Bioreactor Pilot-Scale System - worked through Jan. 2016)
Sean Murphy (research)	09/14-12/15	Environmental Engineer, US Indian Health Service, Sanitation Facilities Construction Program, Martin, SD (Waste Activated Sludge Anaerobic Contactor (WASAC))
Ben Kunstman (research)	01/15-05/16	Staff Engineer, Environmental Integrity Project, Washington, DC, (Anaerobic digestion of lignocellulosics, research 01/15-08/15)
Pedro Puente (research)	09/13-05/15	Analyst, Ministerio Coordinador de Conocimiento y Talento Humano (MCCTH) Quito, Ecuador (Treatment of domestic wastewater with anaerobic membrane bioreactors)
Raghav Reddy (PhD track)	09/13-05/15	PhD student UM (Stability of arsenic solids produced during arsenic removal from drinking water sources)
Anton Dapcic (co-advised with N. Love) (research)	03/13-12/14	Environmental Engineer, Carollo Engineers, Dallas (Waste Activated Sludge Anaerobic Contactor (WASAC))
Elizabeth Grobbel (research)	09/13-12/14	Residency in Social Enterprise Fellow, New Sector Alliance, Boston, MA (Sustainable Aquaculture)
Ana Estrella You (research, co-advised with K. Hayes)	09/12-05/14	Operations Assistant, Industrial Area, GRUNTEC Environmental Services, Ecuador (Chromium monitoring in drinking water treatment plants)
Mark Poll	05/10-05/13	Product Environmental Engineer at Ford Motor Company, Detroit area, Biologically mediated removal of arsenic, nitrate, and uranium (research spring/summer 2010),
Ashley Hammerbeck (research)	09/11-05/13	Process Engineer, Donohue & Associates, Inc., St. Louis Park, MN (Anaerobic membrane bioreactors for domestic wastewater treatment)
Kathryn Vanderweele Snyder (research, co-advised with K. Hayes)	09/12-05/13	Hazen and Saywer, Coral Gables, Florida (Arsenic removal from drinking water sources)
Nadine Kotlarz (PhD track)	09/11-05/13	Postdoctoral Fellow, Univ. of Michigan (Biological nitrate and perchlorate removal from drinking water using various electron donors)
Tzu-Hsin Cindy Chiao (research)	09/09-05/12	Dual degree MSE and MS in Sustainable Systems Engineering (Disinfection strategies for mixed microbial communities in drinking water systems), Water Resources Analyst, Otak, Seattle area
Andrea Trese (research)	09/11-05/12	Associate Engineer at EOA, Inc., San Francisco Bay area (Monitoring

Alyssa Mayer (formerly Jenkins) (research)	09/10-12/11	drinking water distribution systems) Assistant Engineer, Hazen and Sawyer, Cincinnati, OH (Biological removal of arsenic and nitrate from drinking water)
Adam Smith (PhD track - co-advised with S. Skerlos)	06/09-05/11	Assistant Professor, Astani Department of Civil and Environmental Engineering, University of Southern California (Anaerobic membrane bioreactors)
Andrew Colby (research)	07/09-12/10	Tetra Tech, Seattle, WA (sustainable aquaculture and stress in nitrification systems)
Tara Webster (formerly Clancy) (PhD track – co-advised with K. Hayes)	09/09-12/10	Postdoctoral Associate, Soil and Crop Sciences, Cornell University (Role of sulfate-reducing microbes in biologically mediated removal of arsenic from drinking water)
Jeff Jackson (research)	09/08-05/10	Arcadis, Denver, CO (Biological removal of arsenic and nitrate from drinking water)
Tanna Borrell (research - co-advised with S. Skerlos)	05/06 – 08/09	Writer, homemaker (use of anaerobic membrane bioreactor for municipal wastewater treatment)
Lynn Williams (research)	09/07-05/09	Brown and Caldwell, Seattle, WA (disinfection of drinking water treated by biofiltration)
Chikako Donahue (research)	09/06-12/08	Stay at home mother
Rohit Warriar	09/07-12/08	Staff Scientist at Geosyntec Consultants, Raleigh, NC
Wangki Yuen (research)	09/07-06/08	PhD Candidate, Dept. of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign (Microbial community characterization of drinking water treatment Systems)
Monisha Brown (PhD track)	09/06 – 12/07	Engineering Associate at Sanitation Districts of Los Angeles County (Sustainable aquaculture)
Tara Jackson (research)	09/05 – 12/07	Chevron, Houston, TX (Quantification of microbial populations in anaerobic membrane bioreactors using a phylogenetic microarray method)
David Berry (PhD track)	09/05 – 05/07	Associate Professor, Dept. of Microbial Ecology, University of Vienna
Gregg Thompson	08/97-12/98	CH2M-Hill, Corvallis, OR
Florencio Ballesteros	08/96-12/97	Instructor, University of the Philippines, Diliman, Quezon City, Philippines
Eric Leveque	08/95-01/97	Carollo Engineers, Las Vegas, NV
Jose Barrios-Perez	08/94-08/96	Ph.D. 2003, Asesor del C. Secretario, Secretaria del Medio Ambiente y Recursos Naturales, México, D.F., Mexico
David Schumacher	08/94-08/96	check
Pavitra Misra	08/93-01/96	NTH Consultants, Lansing, MI
C. Eliana Brown	01/94-01/96	Illinois EPA, Champaign, IL
Jeffrey Ralson	08/93-10/95	O'Brien & Gere Engineers, Inc., Novi, MI
Tetsuo Wada	08/93-08/95	Nihon Suido Consultants Co., Ltd., Tokyo, Japan
Carlos Chavez-Gomez	08/93-05/95	Black & Veach, Phoenix, AZ
Louis le Roux	08/93-12/94	President, BioAir Solutions, LLC, Voorhees, NJ

High School Students Hosted

<i>Name</i>	<i>Work Period</i>	<i>Research Topic</i>
Yara El-Tawil	07/14-08/14	Bacteria in drinking water distribution systems and premise plumbing
Jonathan Ni	08/15-07/16	Fate of microplastics in wastewater treatment plants
Sahithi Pingali	06/17-07/17	Arsenic monitoring in drinking water sources in rural areas in Bangladesh

Visiting Scholars Hosted

<i>Name (University)</i>	<i>Work Period</i>	<i>Research Topic</i>	<i>Current Position</i>
Maja Nielsen	09/16-03/17	Anaerobic digestion	PhD student Aarhus University, Denmark
Xavier Fonoll Almansa (University of Barcelona)	05/14-04/15	Anaerobic digestion of lignocellulosics	Postdoc University of Michigan
Shilva Shresthra (University of Hawaii)	05/14-12/14	Anaerobic digestion of lignocellulosics	PhD student University of Michigan
Christian Koch (University of Aachen)	04/14-07/14	Treatment of domestic wastewater with anaerobic membrane bioreactors	MS student ETH Zurich
Jinju Geng (Nanjing University)	04/13-04/14	Chromium removal from drinking water	Associate Professor, School of the Environment, Nanjing University, China

S. Udin (AAN, Bangladesh)	02/14	Stability of arsenic solids	Asia Arsenic Network, Bangladesh
A. Shamim Khan (AAN, Bangladesh)	02/14	Stability of arsenic solids	Asia Arsenic Network, Bangladesh
David Miklos (Technical Univ. of Berlin)	05/13-08/13	Stability of arsenic solids	MS student, Technical University of Berlin
Roya Gitiafroz (Univ. of Toronto)	01/07-12/10	Anaerobic benzene degradation	Dept. of Chemical Engineering, Univ. of Akron
Dr. Pranab Ghosh (IIT Guwahati, India)	06/09-06/10	Biologically mediated removal of uranium from drinking water	Assistant Professor, Indian Institute of Technology Guwahati, India
Dermot Hughes (National University of Ireland, Galway, Ireland)	06/08-09/08	Anaerobic membrane bioreactors	Ph.D. Student, NUI
Ebru Dulekgurgen (Istanbul Technical University, Turkey) (co-advised with E. Morgenroth)	02/04-07/04	Granulation in sequencing batch reactors for enhanced biological phosphorus removal	Assistant Professor, Istanbul Technical University, Environmental Engineering Department, Istanbul-Turkey
Ku Yong Kim (KAIST, Korea)	03/04-02/05	Biological hydrogen production	Ph.D. Student, KAIST, Korea
Dr. Mark Fitch (University of Missouri at Rola)	08/03-05/04	Anaerobic membrane bioreactors	Associate Professor, Univ. of Missouri at Rola
N. Amin (Isfahan, Iran) (co-advised with E. Morgenroth)	08/03-01/04	Effect of erythromycin on anaerobic treatment of pharmaceutical wastewater	Ph.D. student, Isfahan, Iran
Dr. Usha George (Tocklai Experimental Station, India)	01/99-06/99	Molecular microbial ecology of anaerobic bioreactors	Tocklai Experimental Station, India
Kaare Hansen (Technical University of Denmark)	08/96-12/96	Oligonucleotide probes for <i>Syntrophomonadaceae</i> to characterize anaerobic bioreactors	Novo Nordisk, Denmark
Dagmar Rothauszky (Technical University of Braunschweig, Germany)	01/96-05/96	Oligonucleotide probes for <i>Microthrix parvicella</i> to characterize foaming in activated sludge	Evotec Corp., Hamburg, Germany
Wolfgang Ritter (Technical University of Munich, Germany)	01/95-08/95	Oligonucleotide probes for mycolic acid containing actinomycetes to characterize foaming in activated sludge	Medical School, Germany

Post-Doctoral Researchers Supervised

Name	Work Period	Research Topic	Placement
Gamze Gulez	05/13-07/13	Linkages between drinking water and human microbiomes	Postdoctoral Researcher École polytechnique fédérale de Lausanne (EPFL), Switzerland
Ling Cao	01/12 – 07/13	Life cycle assessment (LCA) of aquaculture systems	Assistant Professor, Shanghai Jiaotong University
Ameet Pinto	08/09 -06/12	Microbial community analyses of drinking water treatment plants	Assistant Professor, Northeastern University
Giridhar Upahyaya	09/10 -08/12	Microbiologically mediated removal of multiple contaminants from drinking water	Research Engineer, Carollo Engineers, Sarasota, FL
Wendell Khunjar (co-advised with N. Love)	12/09 -09/10	Structural Diversity and Functional Resilience to Stress in Ammonia Oxidizers	Research Engineer, Hazen and Sawyer P.C., Fairfax, VA
Diane Holder	12/05 -01/09	Biofilms in drinking water distribution systems	Researcher USDA
Aurelio Briones	06/02-12/08	Anaerobic biological treatment of high sulfate waste streams – microbial ecology of rice paddies – Sustainable aquaculture	Assistant Professor, University of Idaho
Chuanwu Xi	01/01-08/04	Use of molecular beacons in microfluidic devices – biological perchlorate removal from drinking water	Associate Professor, University of Michigan

Jennifer Crawford Simmons	01/97-01/04	Herbicide fate in anaerobic soils – Biological hydrogen production	High school science teacher
Largus Angenent	08/98-12/00	Biological treatment of animal waste	Humboldt Professor, University of Tübingen, Germany
Krassimira Hristova	1/98-12/99	Development of solution based hybridization techniques	Assistant Professor, Marquette University, Milwaukee, WI
Margit Mau	11/97-06/99	Development of solution based hybridization techniques	Assistant Professor, Bergakademie Freiberg, Germany
Elizabeth Wheeler-Alm	08/94-06/96	Molecular microbial ecology in soil environments	Professor, Central Michigan University

M.S. Students Supervised at Present

<i>Name</i>	<i>Work Period</i>	<i>Research Topic</i>
Brittany Colcord	09/17-present	Medium-chain fatty acid production during anaerobic treatment of waste streams
Freddy Ordonez (co-advised with S. Skerlos)	09/17-present	Anaerobic MBR
Tim Fairley (co-advised with S. Skerlos)	09/16-present	Anaerobic MBR
Grace van Velden (co-advised with Arun Agrawal)	01/16-present	Sustainability of arsenic removal processes in Bangladesh
Grace Rodriguez (co-advised with K. Hayes and A. Agrawal)	01/16-present	Sustainability of arsenic removal processes in Bangladesh
Cindy Yao (co-advised with J. Diana)	09/15-present	Recirculating shrimp aquaculture

Ph.D. Students Supervised at Present

<i>Name</i>	<i>Work Period</i>	<i>Research Topic</i>
Katherine Dowdell	08/17 -present	Optimizing Filter Operation in an Ozone-Biofiltration Plant to Reduce Selection for Opportunistic Pathogens in Drinking Water Production
Matthew Vedrin (co-advised with R. Hardin)	01/17 -present	WASH in Gabon
Shilva Shrestha	09/16 -present	Medium-chain fatty acid production during anaerobic treatment of waste streams
Raghav Reddy (co-advised with A. Agrawal)	01/16 -present	Sustainability of arsenic removal processes in Bangladesh
Nicole Rockey (co-advised with K. Wigginton)	07/15 -present	Monitoring of corrosion and opportunistic bacterial pathogens in potable hot water pipe loop/Norovirus monitoring
Emily Crossette (co-advised with K. Wigginton)	07/15 -present	Antibiotic resistance in anaerobic treatment processes
Caroline Van Steendam (co-advised with S. Skerlos and I. Smets)	08/14 -present	Treatment of domestic wastewater with anaerobic membrane bioreactors

Post-Doctoral Researchers Supervised at Present

<i>Name</i>	<i>Work Period</i>	<i>Research Topic</i>
Melina Bautista	09/17-present	Optimizing filter operation in an ozone-biofiltration plant to reduce selection for opportunistic pathogens in drinking water production
Yun Shen	09/16-present	Opportunistic bacterial pathogens in drinking water aerosols
Xavier Fonoll Almansa	01/16-present	Anaerobic digestion of lignocellulosics and other biomass streams
Sarah Haig (co-advised with J. LiPuma)	10/14-present	Linkages between drinking water and human microbiomes

Visiting Scholars Hosted at Present

<i>Name (University)</i>	<i>Work Period</i>	<i>Research Topic</i>
Nuria Zamorano Lopez (Universitat de Valencia, Valencia, Spain)	08/2017-present	Microbial community characterization in anaerobic digesters

Ph.D. Committees – University of Illinois at Urbana-Champaign

Cunyet Feizoulof, Qualifying Exam (Snoeyink), Aug. 93, member.
Daniel Noguera, Preliminary and Final Exams (Freedman), Nov. 93, Nov. 95, member.
Matthew Verce, Qualifying and Preliminary Exams (Freedman), Aug. 94, July 96, member.
Thomas Gillogly, Qualifying Exam (Snoeyink), Aug. 94, Jan. 95, member.
Eric Seagren, Final Exam (Rittmann), March 94, member.
Syed Hashsham, Preliminary and Final Exams (Freedman), Jan. 95, Sept. 96, member.
Dandan Zheng, Qualifying, Preliminary, and Final Exams (Raskin), Aug. 95, Nov. 97, March 99, chair.
Francis de los Reyes, Qualifying, Preliminary, and Final Exams (Raskin), Aug. 95, May 98, Nov. 99, chair.
Hari Viswanathan, Qualifying Exam (Valocchi), Aug. 95, member.
Robert Brent, Qualifying Exam (Herricks), Jan. 96, member.
Sunji Oya, Preliminary and Final Exams (Valocchi), Nov. 96, March 98, member.
Mary Jo Kirisits, Qualifying, Preliminary, and Final Exams (Snoeyink), Jan. 97, 98, May 00, member.
Daniel Oerther, Qualifying, Preliminary, and Final Exams (Raskin), Aug. 97, May 99, April 01, chair.
Jason Rennecker, Qualifying Exam (Marinas), Aug. 97, Jan. 98, member.
Michelle Corley, Preliminary Exam, Dept. of Animal Sciences (Mackie/White), Aug. 97, Nov. 97, member.
Joe Elarde, Qualifying Exam (Snoeyink/Marinas), Jan. 98, member.
Qilin Li, Qualifying, Preliminary, and Final Exams (Snoeyink), Jan. 99, Dec. 00, July 02, member.
Jess Brown, Qualifying, Preliminary, and Final Exams (Snoeyink/Raskin), Jan. 99, Sept. 00, Jan. 02, co-chair.
Darren Lytle, Qualifying Exam (Snoeyink), Jan. 99, member.
Benito Corona-Vasquez, Qualifying Exam (Marinas), Aug. 99, member.
Jae Hong Kim, Qualifying Exam (Marinas), Aug. 99, member.
Dominic Frigon, Qualifying, Preliminary, and Final Exams (Raskin), Jan. 00, Aug. 01, Dec. 04, chair.
Bo Zhang, Qualifying Exam (Raskin), Jan. 01, chair.
Kyung Moon, Qualifying Exam (Sanford), Jan. 01, member.
Young-Chul Choi, Qualifying Exam, Sept. 01, Jan. 02, Preliminary Exam, Jan. 05, and Final Exam, Oct. 05 (Morgenroth/Raskin), co-chair.
Quian He, Qualifying, Preliminary, and Final Exams (Sanford), Sept. 01, Aug. 02, July 03 member.
Roderick Agbisit, Preliminary Exam (Rausch), July 02, member.
Sudini Padmasiri, Qualifying, Prelim, and Final Exams (Raskin/Morgenroth), Sept. 03, Nov. 05, Sept. 07 chair.
Toshio Shimada-Beltran, Qual, Prelim, and Final Exams (Raskin/Zilles), Sept. 03, Sept. 05, May 07 chair.
Zhi Zhou, Qualifying, Preliminary, and Final Exams (Zilles/Raskin), Sept. 03, Oct. 05, May 07 co-chair.
Ning Tong, Qualifying Exam (Raskin), Jan. 04, chair.
Jiangzhao Zhang, Qualifying Exam (Morgenroth/Raskin), Jan. 04, co-chair.
Adrienne Minetti, Qualifying Exam (Morgenroth/Clark), Jan. 04, member.
Kim Milferstedt, Qualifying Exam (Morgenroth), Jan. 04, member.
Xu Li, Qualifying Exam (Raskin/Morgenroth), Sept. 04, chair.
Martin Page, Qualifying Exam (Marinas), Jan. 05, member.

Ph.D. Committees – University of Michigan

Xu Li, Preliminary and Final Exams (Raskin), Dec. 05, June 08 chair.
Lisa Colosi, Preliminary and Final Exams (Weber), March 06, July 07 member.
David Keeney, Qualifying Exam (Semrau), May 06, member.
Thi Hoa Trinh, Qualifying Exam (Adriaens/Lastoskie), May 06, Sept. 06, member.
Sharon Gourджи, Qualifying Exam (Michalak), Jan. 07, member.
David Berry, Qualifying, Preliminary, and Final Exams (Raskin/Xi), Jan. 07, Nov. 07, July 09 chair.
Tanna Borrell, Qualifying Exam (Raskin/Skerlos), May 07, co-chair.
Trinh Tran, Qualifying Exam (Lastoskie), May 07, member.
Giridhar Upadhyaya, Qualifying, Preliminary, and Final Exams (Raskin/Hayes), June 07, Sept. 08, Sept. 10 co-chair.
Tara Jackson, Qualifying Exam (Raskin), Sept. 07, chair.
Abhishek Chatterjee, Qualifying Exam (Michalak), January 08, member.
Monisha Brown, Qualifying, Preliminary, and Final Exams (Raskin), May 08, June 10, May 13 chair.
Jongdae Im, Qualifying Exam (Semrau), May 08, member.
Meghan Milbrath (SPH), Preliminary Exam (Jolliet), May 08, member.

Dongjuan Dai (SPH) Preliminary and Final Exams (Xi/Raskin), Aug. 08, Sept. 10, co-chair.
 Yu Chen (Chemical Engineering) Preliminary and Final Exams (Lin), Jan. 09, Sept. 12, member.
 Jeremy Guest, Qualifying, Preliminary, and Final Exams (Love/Skerlos), Jan. 09, Dec. 09, Dec. 11, member.
 Sherri Cook, Qualifying, Preliminary, and Final Exams (Love/Skerlose), May 10, Jan. 12, May 14, member.
 Daniel Obenour, Qualifying Exam (Michalak/Scavia), Jan. 10, member.
 Tara Clancy, Qualifying Exam (Raskin/Hayes), May 11, Preliminary Exam, May 12, Final Exam, Jan 15, co-chair.
 Adam Smith, Qualifying, Preliminary, and Final Exams (Raskin/Skerlos), May 11, May 12, Aug 14, co-chair.
 Xunchang Fei, Qualifying Exam (Zekkos/Raskin), June 11, Preliminary and Final Exams (Zekkos/Raskin), Sept. 11, Dec. 15, co-chair.
 Lauren Stadler, Qualifying, Preliminary, and Final Exams (Love), May 12, June 13, December 15 member.
 Jeseth Delgado Vela, Qualifying Exam (Love), May 13, member
 Nadine Kotlarz, Qualifying Exam (Raskin), May 13, Preliminary Exam (Raskin), Jan. 14, Final Exam (co-chair), May 17
 Ivan Jayawan, Qualifying Exam (Demond/Ellis), Jan 14, Feb 14, member.
 Chia-Chen Wu, Qualifying Exam (Olson/Love), July 14, member.
 Wenjia Fen, Qualifying Exam (Ellis), Sept 14, member.
 Yinyin Ye, Qualifying Exam (Wigginton), Nov 14, member.
 Mohit Nahata (Chemical Engineering), Preliminary Exam (Schwank), April 14, member.
 Caroline Van Steendam, Qualifying Exam (Raskin/Skerlos), April 14, Preliminary Exam (Raskin/Skerlos), August 16, co-chair.
 Joy Jeyaratnam, Qualifying Exam (Wigginton), Sept 15, member.
 Nicole Rockey, Preliminary Exam (Raskin/Wigginton), May 16, co-chair.
 Emily Crossette, Preliminary Exam (Raskin/Wigginton), May 16, co-chair.
 Raghav Reddy, Preliminary Exam (Raskin), May 16, chair.
 Jubilee Adeoye, Preliminary Exam (Ellis), May 16, member.
 Sara Troutman, Preliminary Exam (Kerkez/Love), May 16, member.
 Shilva Shrestha, Preliminary Exam (Raskin), April 17, chair.

Other Contributions to Instructional Programs

Supervised research projects of several Civil and Environmental Engineering undergraduate students: Mike Mangini (Fall 93), Mark Mirek (Spring 94), Dave Schumacher (Fall 94), James Danalewich (Spring 95+Fall 95), Bradley Grens (Spring 95), Darci Black (Fall 95), Quiana Whittler (Fall 95+Spring 96), Mitch Mathews (Spring 96), Paul Ruscko (Spring 97, Fall 97, Spring 98), Heidi Mulderink (Fall 96, Spring 97), Sarah Keenan (Spring 98, Summer 98), Vicki Swidron (Summer 98, Fall 98), Martin Tower (Fall 98, Spring 99); Jeff Grubich (Fall 99, Spring 00); Yasuhiro Usui (Fall 99, Spring 00), Tim Grimm (Fall 00), Abigail Van Waning (Spring 01), Chad Gladfelter (Spring 02, Summer 02), Ka Wai Suzanne Huang (Spring 02, Summer 02), Wangki Yuen (Winter 07, Spring 07), Khadeejah Sani (Winter 07), Heather Dorer (Fall 09, Winter 10, Spring/summer 10, Fall 10, Winter 11), Andrea Trese (Spring/Summer 10, Spring/Summer 11), Zijia Li (Spring/summer 10, Fall 10, Winter 11), Maria Sevillano Rivera (Spring/Summer 10), Lauren Strahs (Fall 10, Winter 11, Fall 11, Winter 12), Kathryn Vanderweele (Winter 11, Spring/summer 11 (SURE), Fall 11, Winter 12), Christina Machak (Spring/Summer 11, Fall 11; dual degree Geology/Civil Engineering); Xinsheng Chu (Spring/summer 11, Fall 11), Amy Wells (Fall 12), Julia Pierce (Fall 12, Winter 13, Spring/summer 13, Fall 13), Sarah Halperin (Fall 12, Winter 13), James Tan (Spring/Summer 13 (UROP), Spring/summer 14 (SURE), Fall 14, Winter 15, Fall 15, Winter 16), James Yonts (Winter 14, Spring/Summer 14 (SURE), Fall 14, Winter 15, Spring/Summer 15 (SURE)), Susan Rusinowski (Fall 14), Bridget Vial (Fall 15, Winter 16, Fall 16, Winter 17), Margaret Houlihan (Winter 16, UROP), Alec Distel (Winter 17, Spring/summer 17 (SURE-UMEI)), Juliana Huizenga (Winter 17 Spring/summer 17 (SURE)), Lindsay Rasmussen (Winter 17, Spring/Summer 17 (WISE RP Summer Research Award)), Liem Ellen Setiawan (Spring/summer 17 (SURE)),

Supervised research projects of two Microbiology undergraduate students, Jennifer Daley (Spring 97), Andrew White (Summer 2004, Fall 2005, Spring 2005), five Chemical Engineering undergraduate students, Davina Carson (Spring 97), Jarad Champion (Spring 01, Fall 01, Spring 02), Jennifer Drummon (Summer 02), Tara Jackson (Summer 04), Qaboos Imran (Fall 12, Winter 13, Spring/Summer 13, Fall 13, Winter 14, Spring/Summer 14, Fall 14), a Biochemistry undergraduate student, Matt Wagoner (Summer 02, Fall 02, Spring 03, Summer 03, Fall 03, Spring 04), a Molecular Biology undergraduate student, Mike

Tenuto (Spring 05), an Agricultural Engineering undergraduate student, Richard Hussey (Summer 97, Fall 97, Spring 98), and two Chemistry undergraduate student, Adrianna Ivory (Fall 12, Winter 13). Guy Burke (Winter 16, Summer 16, Fall 16).

PUBLICATIONS

Book/Book Chapters

1. Hofman-Bang, J., D. Zheng, P. Westermann, B.K. Ahring, L. Raskin (2003), Molecular Ecology of Anaerobic Reactor Systems, B. K. Ahring (Ed.), Biomethanation, Advances in Biochemical Engineering/Biotechnology, Springer-Verlag, Inc., 81: 151-203.
2. Zhang, B., B. Marinas, L. Raskin (2003), Use of Molecular Probes to Study Biofilms, P. Lens, A.P. Moran, T. Mahony, P. Stoodley, V. O'Flaherty (Eds.), Biofilms in Medicine, Industry and Environmental Biotechnology, IWA Publishing, pp. 352-374.
3. Zheng, D., and L. Raskin (2002), Anaerobic Granules and Granulation Processes, G. Bitton (Ed.), Encyclopedia of Environmental Microbiology, John Wiley & Sons, Inc., New York.
4. Fry, N.K., L. Raskin, R. Sharp, E.W. Alm, B. Mobarry, D.A. Stahl (1997), In Situ Analysis of Microbial Populations with Molecular Probes: The Phylogenetic Dimension, J. Shapiro and M. Dworkin (Eds.), Bacteria as Multicellular Organisms, Oxford University Press.
5. Raskin, L., W.C. Capman, R. Sharp, L.K. Poulsen, and D.A. Stahl (1997), Molecular Ecology of Gastrointestinal Ecosystems, R.I. Mackie, B.A. White, and R.E. Isaacson (Eds.), *Ecology and Physiology of Gastrointestinal Microbes, Volume 2: Gastrointestinal Microbiology and Host Interactions*, Chapman and Hall, pp. 243-298.
6. Stahl, D.A., R.I. Amann, L.K. Poulsen, L. Raskin, and W.C. Capman (1995), The use of Fluorescent Probes for Determinative Microscopy, F.T. Robb, K.R. Sowers, S. DasSarma, A.R. Place, H.J. Schreier, and E.M. Fleischmann (Eds.), *Archaea: A laboratory manual*, Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY, pp. 111-121.
7. Rittmann, B.E., E.A. Seagren, B.A. Wrenn, A.J. Valocchi, C. Ray, and L. Raskin (1994), *In Situ Bioremediation*, 2nd Ed., Noyes Publications, Park Ridge, NJ, pp. 260.

Journal Articles

1. Haig, S.J., N. Kotlarz, J.J. LiPuma, L. Raskin (2018). A high-throughput approach for nontuberculous mycobacterial species and strain level identification in drinking water. *mBio*, in review
2. Kotlarz, N., N. Rockey, T.M. Olsen, S.J. Haig, L. Sanford, J.J. LiPuma and L. Raskin (2018). Biofilms in full-scale drinking water ozone contactors contribute viable bacteria to ozonated water. *ES&T*, accepted, DOI: 10.1021/acs.est.7b04212
3. Mohareb, E., M. Heller, P. Novak, B. Goldstein, X. Fonoll, L. Raskin (2017), Considerations for reducing food system energy demand while scaling up urban agriculture. *Environmental Research Letters*. 12(12):125004.
4. Shrestha, S., X. Fonoll, S.K. Khanal, L. Raskin (2017), Biological strategies for enhanced hydrolysis of lignocellulosic biomass during anaerobic digestion: current status and future perspectives, *Bioresource Technology*, 245:1245-57
5. Dai, D., L. Raskin, and C. Xi (2017), The effect of interactions between a bacterial strain isolated from drinking water and a pathogen surrogate on biofilms formation diverged under static vs flow conditions. *Journal of Applied Microbiology*, 123(6):1614-27.
6. Olson, T. M., M. Wax, J. Yonts, K. Heidecorn, S.-J. Haig, D. Yeoman, Z. Hayes, L. Raskin, and B. R. Ellis (2017). Forensic Estimates of Lead Release from Lead Service Lines during the Water Crisis in Flint, Michigan, *Environmental Science & Technology Letters*, DOI: 10.1021/acs.estlett.7b00226. **ES&T Letters Cover.**
7. Cook, S.M., S.J. Skerlos, L. Raskin, N.G. Love (2017). A stability assessment tool for anaerobic codigestion. *Water research*. 112:19-28. <https://doi.org/10.1016/j.watres.2017.01.027>
8. Smith A.L., T. Shimada, L. Raskin (2017), A comparative evaluation of community structure in full-scale digesters indicates that two-phase digesters exhibit greater microbial diversity than single-phase digesters. *Environmental Science: Water Research & Technology*. 3, 304-311. DOI: 10.1039/c6ew00320f

9. Marcus, D.N., A. Pinto, K. Anantharaman, S.A. Ruberg, E.L. Kramer, L. Raskin, and G.J. Dick (2017), Diverse manganese (II)-oxidizing bacteria are prevalent in drinking water systems. *Environmental Microbiology Reports*. 9(2), 120-128. DOI: 10.1111/1758-2229.12508
10. Vikesland, P.J., L. Raskin (2016), The drinking water exposome. *Environmental Science: Water Research & Technology*. 2(4):561-4.
11. Kotlarz, N., G. Upadhyaya, P. Togna, L. Raskin (2016), Evaluation of electron donors for biological perchlorate removal highlights the importance of diverse perchlorate-reducing populations, *Environmental Science: Water Research & Technology*, 2(6):1049-63. DOI: 10.1039/C6EW00181E
12. Webster, T.M., R. R. Reddy, J. Y. Tan, J. D. Van Nostrandt, J. Zhou, K. F. Hayes, and L. Raskin (2016). Anaerobic Disposal of Arsenic-Bearing Wastes Results in Low Microbially Mediated Arsenic Volatilization, *Environmental Science & Technology*, *Environ. Sci. Technol.*, 50 (20):10951–10959, DOI: 10.1021/acs.est.6b02286
13. Fei, X., D. Zekkos, L. Raskin (2016), Quantification of parameters influencing methane generation due to biodegradation of municipal solid waste in landfills and laboratory experiments. *Waste Management*. 55:276-87.
14. Caverly LJ, Carmody LA, Haig SJ, Kotlarz N, Kalikin LM, Raskin L, LiPuma JJ (2016). Culture-Independent Identification of Nontuberculous Mycobacteria in Cystic Fibrosis Respiratory Samples. *PloS One*. Apr 19;11(4):e0153876.
15. Webster, T. M., A. L. Smith, R. Reddy, A. J. Pinto, K. F. Hayes and L. Raskin. (2016) Anaerobic microbial community response to methanogenic inhibitors 2-bromoethanesulfonate and propynoic acid. *Microbiology Open*, March 1.
16. Snyder, K. V., T. M. Webster, G. Upadhyaya, K. F. Hayes, and L. Raskin. (2016) Vinegar-amended anaerobic biosand filter for the removal of arsenic and nitrate from groundwater. *Journal of Environmental Management*, 171, 21-28.
17. Pinto, A.J., D.N. Marcus, U.Z. Ijaz, Q. M. Bautista-de Iose Santos, G.J. Dick, L. Raskin (2016), Metagenomic Evidence for the Presence of Comammox *Nitrospira*-Like Bacteria in a Drinking Water System, *mSphere*, 1(1): :e00054-15.
18. Caverly L., T. Spilker, N. Kotlarz, S. Haig, L. Raskin, J.J. LiPuma (2015). Improving Nontuberculous Mycobacterial DNA Extraction From CF Respiratory Samples. *Pediatric Pulmonology*. Oct 1;50:331.
19. Clancy, T. M., K. V. Snyder, R. Reddy, A. Lanzirrotti, S. E. Amrose, L. Raskin and K. F. Hayes. (2015) Evaluating the cement stabilization of arsenic-bearing iron wastes from drinking water treatment. *Journal of Hazardous Materials*, 300(30), 522-529.
20. Delgado Vela, J., L. B. Stadler, K. J. Martin, L. Raskin, C. B. Bott, N. G. Love (2015), Prospects for biological nitrogen removal from anaerobic effluents during mainstream wastewater treatment: A Review, *ES&T Letters*, 2(9):234-44. **ES&T Letters Best Paper of 2015 Award.**
21. Upadhyaya, G., N. Kotlarz, P. Togna, and L. Raskin (2015), Carbohydrate-based electron donor for biological nitrate and perchlorate removal from drinking water, *J. AWWA*, 107(12): E674-E684.
22. Smith, A. L., Skerlos, S. J. and Raskin, L. (2015), Membrane biofilm development improves COD removal in an anaerobic membrane bioreactor wastewater treatment. *Microbial Biotechnology*, 8(5): 883–894.
23. Smith, A.L., S.J. Skerlos, and L. Raskin (2015), Anaerobic membrane bioreactor treatment of domestic wastewater at psychrophilic temperatures ranging from 15°C to 3°C *Environmental Science: Water Research & Technology*, 1(1): 56-64 – **Environmental Science: Water Research & Technology 2015 Most Downloaded Articles.**
24. Schroeder, J.L., M. Lunn, A.J. Pinto, L. Raskin, and W.T. Sloan (2015), Probabilistic Models to Describe the Dynamics of Migrating Microbial Communities. *PLoS ONE*. 10(3): e0117221. doi:10.1371/journal.pone.0117221
25. Fei, X., D. Zekkos, and L. Raskin (2015), Archaeal Community Structure in Leachate and Solid Waste is Correlated to Methane Generation and Volume Reduction during Biodegradation of Municipal Solid Waste, *Waste Management*, 36(2):184-190.
26. Fei, X., D. Zekkos, and L. Raskin (2014), An experimental setup for simultaneous physical, geotechnical, and biochemical characterization of municipal solid waste undergoing biodegradation in the laboratory. *ASTM Geotechnical Testing Journal*, 2014, 37(1): 1-12.
27. Pinto, A. J., J. Schroeder, M. Lunn, W. Sloan, , and L. Raskin (2014), Spatial-temporal survey and occupancy-abundance modeling to predict bacterial community dynamics in the drinking water microbiome, *mBio*, 5(3):e01135-14. DOI:10.1128/mBio.01135-14.

28. Smith, A. L., Stadler, L. B., Cao, L., Love, N. G., Raskin, L., and Skerlos, S. J. (2014), Navigating Wastewater Energy Recovery Strategies: A Life Cycle Comparison of Anaerobic Membrane Bioreactor and Conventional Treatment Systems with Anaerobic Digestion, *Environmental science & technology*, **48** (10): 5972-5981, DOI: 10.1021/es5006169
29. Luo, F., R. Gitiafroz, C. Devine, Y. Gong, L. Hug, L. Raskin, and E. Edwards (2014), Metatranscriptome of an Anaerobic Benzene-Degrading Nitrate-Reducing Enrichment Culture Reveals Role for Carboxylation in Benzene Ring Activation, *Applied and Environmental Microbiology*, **80**(14): 4095-4107.
30. Chiao, T.-H., T. M. Clancy, A. Pinto, C. Xi, and L. Raskin (2014). Differential resistance of drinking water bacterial populations to monochloramine disinfection, *Environmental Science & Technology*, **48** (7): 4038-4047, DOI: 10.1021/es4055725
31. Holder D., D. Berry, D. Dai, L. Raskin, C. Xi (2013), A dynamic and complex monochloramine stress response in *Escherichia coli* revealed by transcriptome analysis. *Water Research*. 47(14):4978-85.
32. Smith A.L., S.J. Skerlos, L. Raskin (2013), Psychrophilic anaerobic membrane bioreactor treatment of domestic wastewater. *Water Research*. 47(4):1655-65.
33. Brown M.N., A. Briones, J. Diana, L. Raskin (2013), Ammonia-oxidizing archaea and nitrite-oxidizing nitrospiras in the biofilter of a shrimp recirculating aquaculture system. *FEMS Microbiology Ecology*. 83(1):17-25.
34. Clancy, T.M., K.F. Hayes, and L. Raskin (2013), Arsenic waste management: A critical review of testing and disposal of arsenic-bearing wastes generated during arsenic removal from drinking water. *Environmental Science & Technology*, 47 (19): 10799–10812, DOI: 10.1021/es401749b
35. Smith, A.L., L. B. Stadler, N.G. Love, S. J. Skerlos, and L. Raskin (2012), Perspectives on Anaerobic Membrane Bioreactor Treatment of Domestic Wastewater: A Critical Review, *Bioresource Technology*, **122**, 149-159, doi: 10.1016/j.biortech.2012.04.055
36. Upadhyaya, G., T. M. Clancy, J. Brown, K. F. Hayes, and L. Raskin (2012), Optimization of Arsenic Removal Water Treatment System through Characterization of Terminal Electron Accepting Processes, *Environmental Science & Technology*, 46(12), 11702-11709, doi: 10.1021/es302145q.
37. Pinto, A. J., C. Xi, and L. Raskin (2012), Bacterial community structure in the drinking water microbiome is governed by filtration processes, *Environmental Science & Technology*, **46**(16): 8851–8859, DOI: 10.1021/es302042t.
38. Pinto, A. J., and L. Raskin (2012), PCR biases distort bacterial and archaeal community structure in pyrosequencing datasets, *PLoS One*, **7**(8), e43093, doi: 10.1371/journal.pone.0043093.
39. De Long, S. K., X. Li, S. Bae, J. C. Brown, L. Raskin, K.A. Kinney, and M. J. Kirisits (2012), Quantification of Genes and Gene Transcripts for Microbial Perchlorate Reduction in Fixed-Bed Bioreactors, *Journal of Applied Microbiology*, **112**(3): 579-592, doi:10.1111/j.1365-2672.2011.05225.x.
40. Li, X., W. Yuen, E. Morgenroth, and L. Raskin (2012), Backwash Intensity and Frequency Impact the Microbial Community Structure and Function in a Fixed-Bed Biofilm Reactor, *Applied Microbiology and Biotechnology*, **96**(3): 815-827, doi: 10.1007/s00253-011-3838-6
41. Upadhyaya, G., T. M. Clancy, K. V. Snyder, J. Brown, K. F. Hayes, and L. Raskin (2012), Effect of air-assisted backwashing on the performance of an anaerobic fixed-bed bioreactor that simultaneously removes nitrate and arsenic from drinking water sources, *Water Research*, **46**(4): 1309-1317. doi:10.1016/j.watres.2011.12.034
42. Shimada, T., E. Morgenroth, M. Tandukar, S. G. Pavlostathis, A. Smith, L. Raskin, and R. E. Kilian (2011), Syntrophic Acetate Oxidation in Two-Phase (Acid-Methane) Anaerobic Digesters, *Water Science & Technology*, **64**:9,1812-20.
43. Dai, D., D. Holder, L. Raskin, and C. Xi (2011), Separation of the bacterial species, *Escherichia coli*, from Mixed-Species Microbial Communities for Transcriptome Analysis, *BMC Microbiology*, **11**:59, doi:10.1186/1471-2180-11-59
44. Shimada, T., X. Li, J. L. Zilles, E. Morgenroth, and L. Raskin (2011), Effects of the antimicrobial tylosin on the microbial community structure of an anaerobic sequencing batch reactor, *Biotechnology and Bioengineering*, **108** (2): 296-305, doi: 10.1002/bit.22934.
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Abstracts and Papers in Conference Proceedings

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1. Kotlarz, N., M. Zimbric, J. Errickson, L. Raskin, J. J. LiPuma, L. J. Caverly (2018), Municipal Drinking Water Treatment Practices and Risk of Nontuberculous Mycobacterial Infection, American Thoracic Society Conference, May 18-23, San Diego, CA
 2. Olson, T. M., S. J. Wright, R. Hardin, L. Raskin, B. Ellis, E. Schwartz, J. Abernethy, M. Kaufman, M. Wax, S.-J. Haig, J. Yonts, K. Heidecorn, N. Rockey, Y. Shen, D. Yeoman, Z. Hayes (2017), Effectiveness of Lead Pipe Replacement in Reducing Water Lead Levels, UM MCubed Symposium. Ann Arbor, MI. Nov. 1.
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4. Fonoll, X., S. Shrestha, M. Nielsen, L. Raskin. Dynamic membrane bioreactor based on rumen fermentation to improve hydrolysis in anaerobic digestion of lignocellulosic substrates. IWA 15th World Congress on Anaerobic Digestion. Beijing, China, Oct. 17-20, 2017
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8. Shen, Y., M. Wax, D. Yeoman, Z. Hayes, J. Yonts, N. Rockey, S.J. Haig, G. Burke, K. Heidecorn, T. Rosencrants, J. Abernethy, E. Schwartz, B. Ellis, K. Wigginton, M. Kaufman, L. Raskin, and T. Olson, Quantification of opportunistic bacterial pathogens and metal levels before and after lead service line replacement in Flint, Michigan, AEESP Conference. Ann Arbor, Michigan, June 2017
9. Fonoll, X., Shrestha, S., Nielsen, M., Raskin, L. Design of a novel dynamic membrane bioreactor based on rumen fermentation: Improving hydrolysis in anaerobic systems. AEESP Conference. Ann Arbor, Michigan, June 2017
10. Haig, S.J. N. Kotlarz, L.M. Kalikin, L. Caverly, J.J LiPuma, L. Raskin (2017). Searching for a Strain-Level Match: Is Drinking Water a Source of Clinically Relevant Cystic Fibrosis Opportunistic Bacterial Pathogens? AEESP Conference, Ann Arbor, Michigan. June 20-22.
11. Kotlarz, N., D. Berry, S.J. Haig, J.J LiPuma, L. Raskin (2017). Mycobacteria Upregulate Intracellular Parasitism Genes in Response to the Drinking Water Disinfectant Monochloramine. AEESP Conference, Ann Arbor, Michigan. June 20-22.
12. Rockey, N., H. Bischel, T. Kohn, M. Dodd, B. Pecson, N. Fontaine, L. Raskin, and K. Wigginton (2017), White Paper on the Application of Methods to Monitor Pathogens for Potable Reuse, AEESP Conference, Ann Arbor, Michigan. June 20-22.
13. Shen, Y., A. J. Prussin II., S.-J. Haig, L. Marr, L. Raskin (2017), Quantification of opportunistic pathogens in shower water and aerosols formed during showering, AEESP Conference, Ann Arbor, Michigan. June 20-22.
14. Shrestha, S., Fonoll, X., Mata-Alvarez, J., Dosta Parras, J., Khanal, S.K. & Raskin, L. Natural strategies for enhanced biogas production from anaerobic digestion of lignocellulosic biomass. To be presented at 3rd International Conference on Biogas Microbiology. Wageningen, The Netherlands, May 1-2, 2017
15. Haig, S.J., N. Kotlarz, L.M. Kalikin, L. Caverly, J.J LiPuma, L. Raskin (2017). Are Opportunistic Pathogens in Premise Plumbing the Source of Infection in Children with Cystic Fibrosis? UNC Water Microbiology Conference, Chapel Hill, North Carolina, May 15-19.
16. Kotlarz, N., D. Berry, S.J. Haig, J.J LiPuma, L. Raskin (2017). Mycobacteria Upregulate Intracellular Parasitism Genes in Response to the Drinking Water Disinfectant Monochloramine. UNC Water Microbiology Conference, Chapel Hill, North Carolina, May 15-19.
17. Crossette, E., Raskin, L., Duhaime, M., Wigginton, K. (2017), Quantitative metagenomic approach for classifying environmental reservoirs of antimicrobial resistance, 2017 Water Microbiology Conference and the 19th IWA-HRWM Symposium. Chapel Hill, NC, May 15-19, 2017.
18. Wax, M., D. Yeoman, Z. Hayes, J. Yonts, S.J. Haig, N. Rockey, G. Burke, K. Heidecorn, J. Abernethy, E. Schwartz, B. Ellis, M. Kaufman, L. Raskin and T. Olson (2017). Water quality characteristics before and after lead service line replacement in Flint, Michigan. AWWA International Symposium on Inorganics, Detroit, Michigan, March 21-22.
19. Yao, S., Raskin, L., Diana, J. (2017), Assessing nitrifying function and shrimp growth in an indoor brackish water recirculating aquaculture system. 24th Triennial Borchardt Conference, Ann Arbor, MI, February 21-22.
20. Reddy, R.R., G. A. van Velden, G. D. Rodriguez, M. R. Karim, M. J. Abedin, T. M. Webster, A. Agrawal, K. F. Hayes, L. Raskin (2017). The sustainability of safe drinking water rural Bangladesh. 24th Triennial Borchardt Conference, Ann Arbor, MI, February 21-22.
21. Van Steendam, C., T. Fairley, I. Smets, S. Skerlos, and L. Raskin, Pilot-scale Anaerobic Membrane Bioreactor for Low Temperature Domestic Wastewater, 24th Triennial Borchardt Conference, Ann Arbor, MI, February 21-22.

22. Haig, S.J., N. Kotlarz, N. Rockey, L.M. Kalikin, L. Caverly, J.J LiPuma, L. Raskin (2017). Residence Time, Pipe Material and Chemical Parameters Impact the Occurrence of Opportunistic Pathogens and Antibiotic Resistance Genes in Drinking Water. 24th Triennial Borchardt Conference, Ann Arbor, MI, February 21-22.
23. Kotlarz, N., N. Rockey, T.M. Olson, S.J. Haig, L. Sanford, J.J LiPuma, L. Raskin (2017). Opportunistic Pathogenic Bacteria Survive Ozone Disinfection: Observations from a Full-Scale Drinking Water Treatment Plant. 24th Triennial Borchardt Conference, Ann Arbor, MI, February 21-22.
24. Burke, G., D. Yeoman, Z. Hayes, S.J. Haig, Y. Shen, J. Yonts, M. Wax, N. Rockey, M. Kaufman, L. Raskin, and T. Olsen (2017). Water quality characteristics before and after lead service line replacement in Flint, Michigan, 24th Triennial Borchardt Conference, Ann Arbor, MI, February 21-22.
25. Shrestha, S., X. Fonoll, M. Nielsen, L. Raskin (2017). Production of platform chemicals from organic waste streams using novel anaerobic systems with dynamic membranes. 24th Triennial Borchardt Conference, Ann Arbor, MI, February 21-22.
26. Fonoll, X., S. Shrestha, B. Kunstman, J. Mata-Alvarez, S. Khanal, L. Raskin (2017). Natural strategies for enhanced biogas production from anaerobic digestion of lignocellulosic biomass. 24th Triennial Borchardt Conference, Ann Arbor, MI, February 21-22.
27. Crossette, E., Raskin, L., Wigginton, K. (2017), Extra and intracellular antimicrobial resistance genes and their fate in dairy cow manure treatment structures. 2017 Borchardt Conference, Ann Arbor, MI. February 21-22.
28. Fonoll, X., S. Shrestha, M. Nielsen, L. Raskin (2017). Production of platform chemicals from organic waste streams using novel anaerobic systems with dynamic membranes. Michigan University-wide Sustainability and Environment Conference (MUSE). Ann Arbor (USA), February 9-10.
29. Yonts, J., J. Christopher, N. Rockey, D. MacNevin, S. Haig, N. Kotlarz, R. Corona, M. Willett, M. Seedorf, K. Wigginton, L. Raskin, Corrosion Cause Determination and Control Strategies within a Centralized Domestic Hot Water System, Water Quality Technology Conference (WQTC), Indianapolis, IN, Nov. 13-17, 2016.
30. Rockey, N., J. Yonts, S.J. Haig, K. Wigginton, L. Raskin, Abundance of Opportunistic Bacterial Pathogens in a Domestic Hot Water Pipe Loop System, Water Quality Technology Conference (WQTC), Indianapolis, IN, Nov. 13-17, 2016.
31. Haig, S.J., N. Kotlarz, N. Rockey, L.M. Kalikin, L.J. Caverly, J.J. LiPuma and L. Raskin, Respiratory Tract Opportunistic Bacterial Pathogens in Premise Plumbing and Distribution System Water Correlate with Stagnation Time and Chemical Parameters, Water Quality Technology Conference (WQTC), Indianapolis, IN, Nov. 13-17, 2016.
32. Haig, S.-J., N. Kotlarz, N. Rockey, L.M. Kalikin, L.J. Caverly, J.J. LiPuma and L. Raskin, Stagnation Time, Pipe Material and Chemical Parameters Impact the Occurrence of Opportunistic Respiratory Pathogens in Drinking Water, Microbial Ecology and Water Engineering (MEWE) and Biofilms IWA Specialist Conference, Copenhagen, Denmark, Sept. 4-7, 2016.
33. Haig, S.-J., J. Yonts, N. Rockey, G. Burke, D. Yeoman, Z. Hayes, B. Eggleston, B. Warner, C. Wilhelm, B. Ellis, K. Wigginton, M. Kaufman, T. Olson, and L. Raskin, Linking opportunistic bacterial pathogens and metal levels in drinking water samples and corroded service lines in Flint, Michigan, USA, Microbial Ecology and Water Engineering (MEWE) and Biofilms IWA Specialist Conference, Copenhagen, Denmark, Sept. 4-7, 2016.
34. Kotlarz, N., N. Rockey, T.M. Olson, S.J. Haig, J.J. LiPuma, and L. Raskin (2016), Bacteria Survive Ozone Disinfection: Observations from a Full-Scale Drinking Water Treatment Plant., Microbial Ecology and Water Engineering (MEWE) and Biofilms IWA Specialist Conference, Copenhagen, Denmark, Sept. 4-7.
35. Crossette, E., D. Aga, L. Raskin, K. Wigginton (2016), The forms and persistence of antimicrobial resistance genes in dairy farm manure treatments, Environmental Sciences: Water, Gordon Research Conference, June 26-July 1. **Honorable Mention in Student Poster Competition.**
36. Haig, S.-J., N. Kotlarz, N. Rockey, L.M. Kalikin, L.J. Caverly, J.J. LiPuma and L. Raskin (2016), Linking the prevalence of opportunistic respiratory pathogens to physical and chemical characteristics in drinking water systems. The 5th Annual Sloan Microbiology of the Built Environment Conference, The University of Colorado, Boulder, CO, June 1-3.
37. Rockey, N., J. Yonts, S.J. Haig, K. Wigginton, L. Raskin (2016), Abundance of Opportunistic Bacterial Pathogens in a Hot Water Pipe Loop System with Observed Changes in Water Quality, UNC Water Microbiology conference, Chapel Hill, NC, May 17-19.

38. Van Steendam, C., A. Menefee, S. Skerlos, and L. Raskin (2016), Do Anaerobic Membrane Bioreactors Have a Sustainable Future for Low Temperature Domestic Wastewater Treatment? Michigan Meeting on Microbial Communities, Unseen Partners: Manipulating Microbial Communities that Support Life on Earth, Ann Arbor, MI, May 16-18.
39. Kotlarz N, Rockey N, Haig SJ, Olson TM, Sanford L, LiPuma JJ, Raskin L (2016). Inactivation of Bacterial Populations in a Full-scale Ozone Contactor at a Drinking Water Treatment Plant. Michigan Meeting on Microbial Communities. Unseen Partners: Manipulating Microbial Communities that Support Life on Earth, Ann Arbor, MI, May 16-18.
40. Kotlarz, N., G. Upadhyaya, P. Togna, L. Raskin (2016), Bacterial Communities in Perchlorate and Nitrate Reducing Bioreactors, AWWA International Symposium: Biological Treatment, Long Beach, Calif., January 27-28.
41. Raskin, L., G. Upadhyaya, N. Kotlarz, A. Estrella-You, M. J. Kirisits, K. Hayes (2016), Hexavalent Chromium Removal From Drinking Water Sources Using Fixed-Bed Bioreactors, AWWA International Symposium: Biological Treatment, Long Beach, Calif., January 27-28.
42. Fei, X., D. Zekkos and L. Raskin. Influential factors on methane generation and settlement of municipal solid waste during degradation - experiments and literature synthesis. 1st International Conference on Geo-Energy and Geo-Environment, ISSMGE. Dec. 4-5, 2015, Hong Kong, China.
43. Smith, A.L., T. Shimada, and L. Raskin (2015), Microbial community characteristics of full-scale two-phase and conventional anaerobic digesters, 14th World Congress on Anaerobic Digestion, Viña del Mar, Chile, Nov. 15-18.
44. Fonoll, X., S. Shrestha, B. Kunstman, J. Mata-Alvarez, S. Khanal, L. Raskin (2015), Anaerobic digestion of lignocellulosic substrates with cow manure and rumen as potential co-substrates, 14th World Congress on Anaerobic Digestion, Viña del Mar, Chile, Nov. 15-18.
45. Shrestha, S., X. Fonoll, J. Mata-Alvarez, S. Khanal, L. Raskin (2015), Use of rumen content to enhance anaerobic digestion of lignocellulosic biomass, 14th World Congress on Anaerobic Digestion, Viña del Mar, Chile, Nov. 15-18.
46. Van Steendam, C., S. Skerlos, I. Smets, and L. Raskin (2015), Biofilm-Enhanced Anaerobic Membrane Bioreactor for Treatment of Domestic Wastewater in Cold to Moderate Climates, 14th World Congress on Anaerobic Digestion, Viña del Mar, Chile, Nov. 15-18.
47. Caverly, L.J., T. Spilker, N. Kotlarz, S. Haig, L. Raskin, J.J. LiPuma (2015) Improving nontuberculous mycobacterial DNA extraction from CF sputum samples for culture-independent analyses, 29th Annual North American Cystic Fibrosis Conference, Oct. 8-10, Phoenix, AZ.
48. Reddy, R., J. Tan, A. Kabir, S. Uddin, A. Shamim Khan, W. Ullah, A. Haqim, K. F. Hayes, L. Raskin, T.M. Clancy (2015), Safe handling and disposal of arsenic-bearing drinking water treatment wastes in Bangladesh, Fourth University of Oklahoma International WaTER Conference Sept. 21-23, Norman, Okla.
49. Pinto, A.J., D.M. Marcus, U.Z. Ijaz, G. Dick, and L. Raskin (2015), Leveraging metagenomics to elucidate bacterial dynamics in drinking water systems, IWA Specialty Conference, Biofilms in Drinking Water Systems From Treatment to Tap, Arosa, Switzerland, Aug. 23-26.
50. N. Kotlarz, S. J. Haig, J. R. Yonts, A. J. Pinto, J. LiPuma, L. Raskin (2015), Environmental Mycobacteria in Chloraminated Drinking Water, IWA Specialty Conference, Biofilms in Drinking Water Systems From Treatment to Tap, Arosa, Switzerland, Aug. 23-26.
51. Delgado Vela, J., K. J. Martin, A. McFarland, N. Beaton, L. B. Stadler, S. J. Skerlos, L. Raskin, C. B. Bott, N. G. Love (2015), Removing Nitrogen from Effluents of Anaerobic Wastewater Treatment Processes: Understanding Control and Operation through Biofilm Modeling, 250th ACS National Meeting & Exposition, August 16-20, Boston, Massachusetts
52. Haig, S.-J., N. Kotlarz, J. J. LiPuma, and L. Raskin (2015), From Source to Tap: Linking the Drinking Water Microbiome to Human Health, The 4th Annual Sloan Microbiology of the Built Environment Conference, The University of Colorado, Boulder, CO, July 15-18.
53. Kotlarz, N., S. Haig, J. Yonts, J. LiPuma, L. Raskin (2015), Nucleic acid recovery of Mycobacterium spp. from drinking water, 2015 AEESP Research and Education Conference, New Haven, June 13-16.
54. Delgado Vela, J., K. J. Martin, A. McFarland, N. Beaton, L. B. Stadler, C. B. Bott, L. Raskin, S. J. Skerlos, N. G. Love (2015), Removing Nitrogen and Dissolved Methane from Dilute Anaerobic Effluents, 2015 AEESP Research and Education Conference, New Haven, June 13-16.
55. Kotlarz, N., S. Haig, J. LiPuma, L. Raskin (2015), Nucleic acid extractions from Mycobacteria in drinking water systems,. 115th American Society of Microbiology General Meeting, New Orleans, LA, May 30-June 2.

56. Shrestha, S., Fonoll, X., Mata-Alvarez, J., Raskin, L., Khanal, S.K., Anaerobic digestion of lignocellulosic biomass using rumen contents for enhanced biogas production. Poster presentation at S-1041 Annual Meeting and Symposium, Ohio. Aug 2015
57. Shrestha, S., Fonoll, X., Raskin, L., Khanal, S.K., Anaerobic digestion of lignocellulosic biomass using rumen contents for enhanced biogas production. Podium presentation at 24th Annual CTAHR Student Research Symposium, Honolulu, Hawaii. Apr 2015
58. Grobbel, L., L. Raskin, J. Diana (2015), Urban Revitalization through Aquaculture: Detroit Shrimp, Aquaculture America 2015, New Orleans, LA, Feb. 21.
59. Delgado Vela J., Martin, K. J., Beaton, N., McFarland, A., Stadler, L., Bott, C. B., Raskin, L., Skerlos, S.J., Love, N.G. (2014) Nitrogen Removal Downstream of an Anaerobic Membrane Bioreactor for Domestic Wastewater Treatment. Global Challenges: Sustainable Wastewater Treatment and Resource Recovery. Kathmandu, Nepal, October 26-30.
60. Delgado Vela, J., Martin, K.J., Stadler, L.B., Bott, C. Skerlos, S.J., Raskin, L., Love, N.G. (2014), Nutrient Removal from Mainstream Anaerobic Effluents: Linking Biofilm Modeling to Experimental Design. 87th Annual Water Environment Federation Technical Exhibition and Conference (WEFTEC), New Orleans, LA, September 28-October 1.
61. Dapcic, A.D., N. G. Love, L. Raskin, T. Rauch-Williams, R. Reardon, S. Hough (2014), Carbon Management during Wastewater Treatment to Improve Energy Recovery. 87th Annual Water Environment Federation Technical Exhibition and Conference (WEFTEC), New Orleans, LA, September 28-October 1.
62. Smith, A. L., Q. Imran, J. Pierce, S. J. Skerlos, and L. Raskin (2014), Membrane Biofilm Enhancement for Improved Domestic Wastewater Treatment at Low Temperatures using Anaerobic Membrane Bioreactor. 87th Annual Water Environment Federation Technical Exhibition and Conference (WEFTEC), New Orleans, LA, September 28-October 1.
63. Rauch-Williams, T., L. Raskin, S. Skerlos, N.G. Love, C. Bott, T. Shimada (2014), Low Energy Alternatives for Activated Sludge – Anaerobic Membrane Bioreactor Treatment, CWEA Annual conference, Santa Clara, CA, April 29 - May 2.
64. Fei, X., D. Zekkos and L. Raskin. Impact of composition of municipal solid waste on methane generation rate and volume in laboratory batch and simulator tests. *Proceeding of GeoShanghai 2014*, CISMGE. Shanghai, China, May 26-28, 2014.
65. Pinto, A.J., D. Marcus, G. Dick, L. Raskin (2014), Metagenomic Insights into Bacteria that Dominate Drinking Water Bacterial Communities. *Water quality and Technology Conference*. New Orleans, Louisiana, Nov. 16-20.
66. Clancy, T.M., R. Reddy, J. Tan, K. F. Hayes, and L. Raskin (2014), Linking Microbial Activity with Arsenic Fate during Cow Dung Disposal of Arsenic-Bearing Wastes, AGU Fall Meeting, San Francisco, CA, Dec. 15-19.
67. Kotlarz, N., D. Marcus, L. Kalikin, J. LiPuma, A. Pinto, L Raskin (2014), Biogeography of drinking water bacteria along a premise plumbing flow path, International Symposium for Microbial Ecology (ISME). Seoul, South Korea, August 24-29.
68. Pinto, A. J., J. Schroeder, M. Lunn, W. Sloan, and L Raskin (2014), Predicting bacterial community dynamics in drinking water systems, International Symposium for Microbial Ecology (ISME). Seoul, South Korea, August 24-29.
69. Rausch-Williams, T., R. Reardon, N.G. Love, L. Raskin, A. Dapcic, S. Grandhi (2014), Carbon Management in BNR Wastewater Treatment to Improve Energy Self-sufficiency 11th IWA Leading Edge Conference on Water and Wastewater Technologies (LET 2014), Abu Dhabi (United Arab Emirates), May 26-29.
70. Stadler, L. B., Smith, A. L., Jain, A. K., Martin, K. J., Delgado Vela, J., Puente, P., Cao, L., Frenette, S., Bott, C. B., Rauch-Williams, T., Shimada, T., Salveson, A., Love, N. G., Raskin, L., and Skerlos, S. J. (2014), Integrating Life Cycle Assessment and Experimental Research: Evaluating Anaerobic Membrane Bioreactors in Domestic Wastewater Treatment for Energy Recovery. 23th Triennial Borchardt Conference, Ann Arbor, MI, Feb. 25 – 26.
71. Kabir, A., T. M. Clancy, S. Uddin, A. S. Khan, W. Ullah, K. F. Hayes, and L. Raskin (2014), Field assessment of arsenic-bearing waste treatment options in Bangladesh, 23th Triennial Borchardt Conference, Ann Arbor, MI, Feb 25-26.
72. Kotlarz, N., D. Marcus, J. Zhao, C. Xi, A. Pinto, J. LiPuma, L Raskin (2013), Biogeography of Cystic Fibrosis Opportunists in Drinking Water, UM MCubed Symposium. Ann Arbor, MI. Nov. 15.

73. Upadhyaya, G., N. Kotlarz, K. F. Hayes, L. Raskin, J. Brown (2013), Efficient Removal Of Multiple Contaminants Using Two-Stage Biologically Active Carbon Bioreactors, 2013 Water Quality Technology Conference, Long Beach, California, November 3-6.
74. Clancy, T.M., K. V. Snyder, K. F. Hayes, L. Raskin (2013), Assessing chemical and microbial processes affecting arsenic stability in concrete containing arsenic-bearing wastes from drinking water treatment, 246th American Chemical Society National Meeting, Indianapolis, IN, Sept. 8-12.
75. Stadler, L.B., A.L. Smith, L. Cao, N.G. Love, L. Raskin, and S.J. Skerlos (2013), Energy Recovery from Wastewater: Life Cycle Comparison of Carbon Removal Technologies Upstream of Autotrophic Nitrogen Removal. *WEF/IWA Nutrient Removal and Recovery 2013: Trends in Resource Recovery and Use*, Vancouver, British Columbia, Canada, July 28-31
76. Kotlarz, N., G. Upadhyaya, P.Togna, and L. Raskin (2013), Alternative Electron Donors for Simultaneous Removal of Perchlorate and Nitrate from Drinking Water Sources, 5th International Conference, Microbial Ecology and Water Engineering 2013 (MEWE 2013), Ann Arbor, Michigan, July 7 – 10.
77. Smith, A.L., T. Shimada, and L. Raskin, Syntrophic Interactions in Full-Scale Two-Phase Anaerobic Digesters Determined by Pyrosequencing, 5th International Conference, Microbial Ecology and Water Engineering 2013 (MEWE 2013), Ann Arbor, Michigan, July 7 – 10, 2013.
78. Clancy, T.M., K. V. Snyder, K. F. Hayes, L. Raskin, Microbial activity related to arsenic-bearing waste stability in disposal environments, 5th International Conference, Microbial Ecology and Water Engineering 2013 (MEWE 2013), Ann Arbor, Michigan, July 7 – 10, 2013.
79. Pinto, A.J., J. Schroeder, M. Lunn, W. Sloan, L. Raskin, Bacterial community dynamics in drinking water systems, 5th International Conference, Microbial Ecology and Water Engineering 2013 (MEWE 2013), Ann Arbor, Michigan, July 7 – 10, 2013.
80. Clancy, T.M., K. V. Snyder, K. F. Hayes, L. Raskin Evaluating the use of concrete stabilized arsenic-bearing waste, 2013 AEESP 50th Anniversary Conference, Environmental Engineers and Scientists of 2050: Education, Research, and Practice, July 14 - 16, 2013.
81. Stadler, L.B., A. L. Smith, L. Cao, N. G. Love, L. Raskin, and S. J. Skerlos, Life Cycle Comparison of Emerging and Established Wastewater Energy Recovery Systems, 2013 AEESP 50th Anniversary Conference, Environmental Engineers and Scientists of 2050: Education, Research, and Practice, July 14 - 16, 2013.
82. Fei, X., D. Zekkos and L. Raskin (2013), Current research on energy recovery from waste biodegradation and the impact on the waste's mechanical properties. 23rd Annual Solid Waste Technical Conference, Michigan Waste Industries Association. East Lansing, MI, April 16-17.
83. Clancy, T.M., T. Chiao, A. Pinto, C. Xi, and L. Raskin, "Differential disinfection resistance of bacterial populations in effluent from biologically active carbon (BAC) filter", American Water Works Association Biological Treatment Symposium, Denver, Colorado, Mar 28-29, 2013.
84. Upadhyaya, G., N. Kotlarz, K.F. Hayes, L. Raskin, and J. Brown "Fixed-Bed Biologically Active Carbon (BAC) Bioreactors Remove Multiple Contaminants Simultaneously", American Water Works Association Biological Treatment Symposium, Denver, Colorado, Mar 28-29, 2013.
85. Cao, L., L. Raskin, J. Diana, G. Keoleian, Farming Shrimp in the United States: Is Local Better?, World Aquaculture Society, Aquaculture 2013, Nashville, Tennessee, Feb. 21-25, 2013
86. Stadler, L. B., Smith, A. L., Cao, L., Love, N. G., Raskin, L., and Skerlos, S. J. Life cycle comparison of emerging and established wastewater energy recovery systems. In Mainstream Anaerobic Treatment Systems for Energy Neutral Wastewater Management Workshop at the 86th Annual Water Environment Federation Technical Exhibition and Conference (WEFTEC), Chicago, IL, October 5 – 9, 2013.
87. Fei, X., Zekkos, D., and Raskin, L. (2013). A laboratory landfill simulator for physical, geotechnical, chemical and microbial characterization of solid waste biodegradation processes. *Proceedings of Technical Committee 215 Coupled Phenomena in Environmental Geotechnics Symposium 2013*, ISSMGE, Torino, Italy, July 1-3 Taylor & Francis Group, London.
88. Fei, X., Zekkos, D., Tibbetts, S., and Raskin, L. (2013). "Characterization of Microbial Community During Anaerobic Digestion of the Organic Fraction of Municipal Solid Waste in Bioreactor Landfill Simulators." *13th World Congress on Anaerobic Digestion*. Santiago de Compostela, Spain, June 25-28.
89. Smith, A.L., L. Raskin, R.E. Kilian, and T. Shimada (2013), Microbial Community Structure in Two-Phase (Acid-Methane) Anaerobic Digesters, *13th World Congress on Anaerobic Digestion*. Santiago de Compostela, Spain, June 25-28.

90. Smith, A.L., A. Hammerbeck, S.J. Skerlos, and L. Raskin (2012), Psychrophilic Anaerobic Membrane Bioreactor Treatment of Domestic Wastewater: Evaluation of Performance and Methanogenic Activity at Varying Temperatures and Hydraulic Retention Times, *85th Annual Water Environment Federation Technical Exhibition and Conference (WEFTEC)*, New Orleans, LA, Sept. 29-Oct. 3, 2012.
91. Smith, A. L., L. B. Stadler, L. Raskin, and S. J. Skerlos (2012), Comparative LCA of Conventional and Novel Domestic Wastewater Treatment Schemes, University of Michigan LCA Symposium, Ann Arbor, MI, May 31.
92. Smith, A.L., N.G. Love, S.J. Skerlos, and L. Raskin (2012), Effects of Temperature and HRT on Performance and Environmental Impacts of Anaerobic Membrane Bioreactors for Domestic Wastewater: Treatment, International Water Association Leading Edge Technology (LET) Conference, Brisbane, Australia, June 3-7, 2012.
93. Raskin, L., K. Hayes, J. Brown, G. Upadhyaya, P. Ghosh, T. Clancy, J. Jackson, A. Jenkins, T. Chiao, M. Poll, A. Trese, K. Snyder, X. Chu, Biologically-Mediated, Simultaneous Removal of Nitrate and Arsenic from Drinking Water Sources – NSF Award CBET 0967707, NSF CBET PI Meeting, June 6-8, 2012.
94. Kotlarz, N., Upadhyaya, G., A. Hammerbeck, X. Chu, P. Togna, and L. Raskin, Alternate electron donors for biologically-mediated simultaneous removal of nitrate and perchlorate from drinking water sources, American Water Works Association Annual Conference & Exposition (ACE), Dallas, Texas, June 10-14, 2012.
95. Clancy, T., T.-H. Chiao, A. Pinto, C. Xi, L. Raskin, Tracking the survival of bacteria exposed to monochloramine disinfection in drinking water treated by a biologically active filter, ISME 14, Copenhagen, Denmark, August 19-24, 2012.
96. Schroeder, J., A. Pinto, M. Lunn, L. Raskin, and W. Sloan, Theoretical models for bacterial communities in drinking water as they travel and evolve through drinking water distribution systems, ISME 14, Copenhagen, Denmark, August 19-24, 2012.
97. Pinto, A., J. Schroeder, M. Lunn, W. Sloan, and L. Raskin, Evaluating process-related and seasonal changes in bacterial community in drinking water treatment and distribution systems, ISME 14, Copenhagen, Denmark, August 19-24, 2012.
98. Upadhyaya, G., N. Kotlarz, A. Hammerbeck, X. Chu, P. Togna, and L. Raskin, Alternate electron donors for biologically-mediated simultaneous removal of nitrate and perchlorate from drinking water sources, Michigan Section AWWA Annual Conference, Bellaire, Michigan, September 11-14, 2012.
99. Upadhyaya, G., P.K. Ghosh, K. F. Hayes, and L. Raskin, Drinking Water Production Using An Anaerobic Fixed-Bed Bioreactor From Water Sources Contaminated With Nitrate And Uranium, Water Quality Technology Conference & Exposition, Toronto, Ontario, Canada, Nov. 4-8, 2012.
100. Upadhyaya, G., N. Kotlarz, A. Hammerbeck, X. Chu, P. Togna, and L. Raskin, Alternate electron donors for biologically-mediated simultaneous removal of nitrate and perchlorate from drinking water sources, Water Quality Technology Conference & Exposition, Toronto, Ontario, Canada, Nov. 4-8, 2012.
101. Ghosh, P.K., G. Upadhyaya, L. Raskin, and K. F. Hayes, Comparison of uranium and nitrate removal from simulated groundwater using mixed microbial consortia in the presence and absence of iron, International Water Association, Conference on Microbes in Wastewater and Waste Treatment, Bioremediation, and Energy Production, BITS – Pilani, Goa campus, Goa, India, January 24 – 27, 2011.
102. Chiao, T.-H., A. Pinto, C. Xi, and L. Raskin, A Culture-Independent Method to Assess Inactivation Kinetics of Drinking Water, Michigan AWWA & MWEA Joint Expo, Lansing, MI, Feb. 8, 2011.
103. Upadhyaya, G., T.M. Clancy, J.C. Brown, K.F. Hayes, and L. Raskin, Simultaneous Removal of Nitrate and Arsenic from Drinking Water Using Fixed-bed Anaerobic Bioreactor System, 22nd Triennial Borchardt Conference, Ann Arbor, MI, Feb. 23-24, 2011.
104. Smith, A.L., H. Dorer, N.G. Love, S.J. Skerlos, and L. Raskin, Energy Recovery from Domestic Wastewater using Anaerobic Membrane Bioreactors, 22nd Triennial Borchardt Conference, Ann Arbor, MI, Feb. 23-24, 2011.
105. Brown, J.C., G. Upadhyaya, T. M. Clancy, K. F. Hayes, and L. Raskin, Simultaneous Removal of Multiple Contaminants from Drinking Water Using Fixed-bed Anaerobic Bioreactors, International Water Association Leading Edge Technology (LET) Conference, Amsterdam, The Netherlands, June 6-10, 2011.

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157. Malaisamy, R., D. Berry, D. Holder, L. Raskin, L. Lepak, and K.L. Jones (2008), Modification of Microfiltration Membranes: Implications for Biofouling, Flux Recovery and Antibacterial Properties, International Conference on Membranes and Membrane processes, ICOM-2008, Honolulu, HI, July 12-18.
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- Albuquerque, NM, Jan. 27-29.
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 173. Berry, D., D. Holder, D. Dai, C. Xi, and L. Raskin (2007), Effect of bacterial specific growth rate and growth in biofilms on kinetics of inactivation with monochloramine, 233rd American Chemical Society National Meeting, Chicago, IL, March 25-29.
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 181. Zhou, Z., L. Raskin, J. Zilles (2007), Cumulative Effects of Land Application of Manure on Levels of Antimicrobials and Antimicrobial Resistant Bacteria in Soils, 107th American Society of Microbiology General Meeting, Toronto, Canada, May 21-25.
 182. Borrell, T., T. Jackson, S. Padmasiri, C. Plugge, E. Morgenroth, S. Skerlos, and L. Raskin (2007), Environmentally sustainable treatment of domestic wastewater using anaerobic membrane bioreactors, Association of Environmental Engineering and Science Professors (AEESP) Conference – Interactions at the Interface, Blacksburg, VA, July 28-Aug. 1.
 183. Li, X., G. Upadhyaya, J. Brown, E. Morgenroth, and L. Raskin (2007), Biological treatment of perchlorate-contaminated drinking water – Scale-up study to evaluate backwash strategies, Association of Environmental Engineering and Science Professors (AEESP) Conference – Interactions at the Interface, Blacksburg, VA, July 28-Aug. 1.
 184. Berry, D., D. Holder, D. Dai, C. Xi, and L. Raskin (2007), Elucidating the Molecular Mechanisms of Bacterial Resistance to Disinfection with Monochloramine, Association of Environmental Engineering and Science Professors (AEESP) Conference – Interactions at the Interface, Blacksburg, VA, July 28-Aug. 1.
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199. Morgenroth, E., C. Criddle, L. Raskin, A. Spormann, D. Yeh, M. Fitch, R. Hickey, Y. Lee, B. Norddahl, S. Padmasiri, P. Wong, C.H. Yeung, G. Wells, J. Zhang, and A. Ng (2005), "Water Reuse through Membrane Biotechnology as a New Source of Drinking Water," *WaterCAMPWS 2nd Annual Symposium*, Atlanta, GA, April 13-15.
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201. Padmasiri, S.I., A. Zhang, M. Fitch, E. Morgenroth, and L. Raskin (2005), Microbial Community Characterization during Startup of an Anaerobic Membrane Bioreactor (AnMBR) Treating Swine Waste. 105th American Society of Microbiology General Meeting, Atlanta, GA, June 5-9.
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304. Zheng, D., L. Angenent, S. Sung, and L. Raskin. (1998), Microbial Community Structure in Anaerobic Migrating Blanket Reactor, Eight International Symposium on Microbial Ecology, Halifax, Canada, Aug. 9-14.
305. Rothauszky, D., F. de los Reyes, and L. Raskin (1998), Simultaneous In Situ Detection and Quantification of Two Filamentous Foam-Formers in Activated Sludge, Eight International Symposium on Microbial Ecology, Halifax, Canada, Aug. 9-14.
306. Crawford, J.J., F.W. Simmons, and L. Raskin (1998), Microbiological Evaluation of the Anaerobic Aquatic Metabolism Protocol Required for Herbicide Registration, Eight International Symposium on Microbial Ecology, Halifax, Canada, Aug. 9-14.
307. Mau, M., K. Hristova, D. Zheng, R. Aminov, R. Gaskins, R. Mackie, and L. Raskin (1998), Quantification of Sulfate-Reducing Bacteria Using Oligonucleotides and Fluorescence Energy Transfer (FRET), Eight International Symposium on Microbial Ecology, Halifax, Canada, Aug. 9-14.
308. Hristova, K., M. Mau, D. Zheng, R. Aminov, R. Mackie, L. Raskin, and R. Gaskins (1998), Ecology of Sulfate-Reducing Bacteria in Mammalian Intestine, Eight International Symposium on Microbial Ecology, Halifax, Canada, Aug. 9-14.
309. de los Reyes, M.F., M. Hernandez, and L. Raskin (1997), Are *Gordona amarae* Strains Abundant in Activated Sludge Foams? An Assessment Using Oligonucleotide Probe Hybridizations, 97th American Society of Microbiology General Meeting, Miami Beach, FL, May 4-8.
310. Zheng, D. and L. Raskin (1997), Development of Genus- and Species-Specific Hybridization Probes for *Methanosaeta* spp. and *Methanobrevibacter* spp. to Determine the Microbial Composition of Anaerobic Granular Sludge, 97th American Society of Microbiology General Meeting, Miami Beach, FL, May 4-8.

311. Sauer, K.D., and L. Raskin (1997), Study of Population Dynamics of Syntrophic Bacteria in Anaerobic Systems using Native and In Vitro Transcribed rRNA, 97th American Society of Microbiology General Meeting, Miami Beach, FL, May 4-8.
312. Dulekgurgen, E., D.B. Oerther, J. Danalewich, and L. Raskin (1997), Design and Characterization of Oligonucleotide Hybridization Probes to Evaluate the Competitiveness of *Acinetobacter* spp. in Activated Sludge Systems after Bioaugmentation, 97th American Society of Microbiology General Meeting, Miami Beach, FL, May 4-8.
313. Danalewich, J.R., D.B. Oerther, R.L. Belyea, M.E. Tumbleson, and L. Raskin (1997), Start-Up of Bioaugmented Sequencing Batch Reactors for Biological Phosphorus Removal, 70th Annual Conference Water Environment Federation, Chicago, IL, Oct. 18-22.
314. Oerther, D., E. Dulekgurgen, E. Leveque, D.L. Freedman, and L. Raskin (1997), Evaluation of Bioaugmentation of Sequencing Batch Reactors for Biological Phosphorus Removal Using Comparative rRNA Sequence Analysis and Phylogenetic Hybridization Probes, Second International Conference on Microorganisms in Activated Sludge and Biofilm Processes, Berkeley, CA, July 21-23.
315. Sauer, K.D., P. Stroot, R.I. Mackie, and L. Raskin (1997), Microbial Population Dynamics Linked to Performance During Anaerobic Co-Digestion of Municipal Solid Waste and Sewage Sludge, 8th International Conference on Anaerobic Digestion, Sendai, Japan, May 25-29.
316. de los Reyes, F.L., D. Oerther, M.F. de los Reyes, M. Hernandez, and L. Raskin (1997), Characterization of Filamentous Foaming in Activated Sludge Systems Using Oligonucleotide Hybridization Probes and Antibody Probes, Second International Conference on Microorganisms in Activated Sludge and Biofilm Processes, Berkeley, CA, July 21-23.
317. de los Reyes, M.F., F.L. de los Reyes, M. Hernandez, and L. Raskin (1997), Identification and Quantification of *Gordona amarae* Strains in Activated Sludge Systems Using Comparative rRNA Sequence Analysis and Phylogenetic Hybridization Probes, Second International Conference on Microorganisms in Activated Sludge and Biofilm Processes, Berkeley, CA, July 21-23.
318. Stroot, P., J.A. Barrios-Perez, J.R. Danalewich, K.D. Sauer, D.E. Schumacher, L. Raskin, R.I. Mackie, and B.A. White (1996), Start-Up and Performance of Anaerobic Co-Digestion of Municipal Solid Waste and Sewage Sludge Under Mixing and Non-Mixing Conditions, pp. 211-222. Proceedings of the Water Environment Federation 69th Annual Conference & Exposition, Volume 1, Dallas, TX, Oct. 5-9.
319. Papagiannis, T., J. Danalewich, L. Raskin, M. Tumbleson, R. Belyea, R. Gerards, and L. Vriens (1996), Biological Nutrient Removal from Food Processing Plant Wastewater, Corn Utilization Conference VI, St. Louis, MO, June 4-6.
320. Papagiannis, T., J. Danalewich, L. Raskin, M. Tumbleson, R. Belyea, R. Gerards, and L. Vriens (1996), Biological Nutrient Removal from Milk Processing Plant Wastewater, Purdue Industrial Waste Conference, West Lafayette, IN, May 6-8.
321. Kuhner, C.H., H.L. Drake, E.W. Alm, and L. Raskin (1996), Methane Production and Oxidation by Soils from Acidic Forest Wetlands of East-Central Germany, 96th American Society of Microbiology General Meeting, New Orleans, LA, May 19-23.
322. Alm, E.W., D.B. Oerther, N. Larsen, L. Raskin, and D.A. Stahl (1996), The Oligonucleotide Database, 96th American Society of Microbiology General Meeting, New Orleans, LA, May 19-23.
323. Oerther, D.B. and L. Raskin (1996), Use of 5-Nitroindole in Universal Oligonucleotide Probe Design for Quantitative Molecular Microbial Ecology Studies, 96th American Society of Microbiology General Meeting, New Orleans, LA, May 19-23.
324. de los Reyes, F.L., W. Ritter, L. Raskin, and R.I. Amann (1996), Group-Specific Small Subunit rRNA Hybridization Probes to Characterize Filamentous Foaming in Activated Sludge Systems, 96th American Society of Microbiology General Meeting, New Orleans, LA, May 19-23.
325. Zheng, D., L. Raskin, E.W. Alm, and D.A. Stahl (1996), Characterization of Small Subunit rRNA Universal Probes for Quantitative Molecular Microbial Ecology Studies, 96th American Society of Microbiology General Meeting, New Orleans, LA, May 19-23.
326. Malkos, E.V., D.K. Mann, G.K. Sims, and L. Raskin (1995), Factors Controlling Bioremediation of Petroleum Hydrocarbons in Soil, 1995 American Society of Agronomy, Crop Science Society of America, Soil Science Society of America Annual Meetings, St. Louis, MO, Oct. 29-Nov. 3.
327. Zheng, D., M.E. Griffin, P.G. Stroot, P. Misra, and L. Raskin (1995), Quantification of Microbial Groups in Anaerobic Sludge Digesters by Oligonucleotide Probe Hybridization, 95th American Society of Microbiology General Meeting, Washington, D.C., May 21-25.

328. Griffin, M.E., T. Wada, L. Raskin, R.I. Mackie, and B.A. White (1995), Evaluation of Anaerobic Co-Digestion of Municipal Solid Waste and Sewage Sludge Using Molecular Tools, OSWR Solid Waste Research Symposium, Rosemont, IL, March 28-29.
329. Griffin, M.E., T. Wada, L. Raskin, and R.I. Mackie (1995), Use of Molecular Tools to Evaluate the Start-Up and Performance of Anaerobic Digestion: Co-Digestion of Municipal Solid Waste and Sewage Sludge, 68th Annual Conference Water Environment Federation, Miami, FA, Oct. 21-25.
330. Raskin, L., D. Zheng, M.E. Griffin, and F. de los Reyes (1995), Molecular Studies of Microbial Population Dynamics in Biological Treatment Systems, 9th Forum for Applied Biotechnology, Gent, Belgium, Sept. 27-29.
331. Raskin, L., M.E. Griffin, and D. Zheng (1995), Use of Ribosomal RNA-Based Methods to Study Microbial Population Dynamics in Anaerobic Bioreactors, 1995 Society for Industrial Microbiology Annual Meeting, San José, CA, Aug. 6-11.
332. Raskin, L., D. Zheng, M.E. Griffin, P.G. Stroot, and P. Misra (1995), Characterization of Microbial Communities in Anaerobic Bioreactors Using Molecular Probes, International Meeting on Anaerobic Processes for Bioenergy and Environment, Copenhagen, Denmark, Jan. 25-27.
333. Raskin, L., B.E. Rittmann, and D.A. Stahl (1994), Use of Ribosomal RNA Based Molecular Probes for Characterization of Complex Microbial Communities During a Long-Term Study of Anaerobic Biofilm Reactors, International Research Seminar on Biological Degradation of Organic Chemical Pollutants in Biofilm Systems, Copenhagen, Denmark, May 19-21.
334. Raskin, L., B.E. Rittmann, and D.A. Stahl (1994), Molecular Studies Suggest Direct Competition Between *Desulfovibrio* and *Methanobacteriales* During a Long-Term Study of Anaerobic Biofilm Reactors, 94th American Society of Microbiology General Meeting, Las Vegas, NV, May 23-29.
335. Stahl, D.A., W. Capman, L. Raskin, E. Alm, N. Fry, and L. Poulsen (1993), Molecular Studies of Microbial Community Population Ecology and Response to Perturbation, Abstracts of the European Community Meeting on Biosafety and Microbial Ecology, Granada, Spain, Oct. 24-27.
336. Stahl, D.A., W. Capman, L. Poulsen, L. Raskin, and J. Risatti (1993), Overview of Nucleic Acid-Based Molecular Probes, Abstracts of the NATO Advanced Research Workshop on Structure, Development and Environmental Significance of Microbial Mats, Arcachon, France, Sept. 27-Oct 1.
337. Kane, M.D., L. Raskin, and D.A. Stahl (1992), Quantitative Aspects of Using Ribosomal RNA-Targeted Hybridization Probes for Studies in Microbial Ecology, p. 345, 92nd American Society of Microbiology General Meeting, New Orleans, LA, May 26 - 30.
338. Raskin, L., A. Teske, S. Toze, J. Regan, D.A. Stahl, and B.E. Rittmann (1992), A molecular Framework for the Study of Competition Between Heterotrophs and Nitrifying Autotrophs, Troisième Congrès de la Société Française de Microbiologie, Lyon, France, April 21-24.
339. Stahl, D.A., M.D. Kane, R.I. Amann, L. Raskin, R. Key, and J.M. Stromley (1991), Use of Phylogenetic Probes to Study the Relationship Between Methanogens and Sulfidogens in Multispecies Biofilms, Annual Scientific Meeting of the Australian Society for Microbiology, Gold Coast, Australia.
340. Raskin, L., D.A. Stahl, and B.E. Rittmann (1991), Mathematical Modeling of Anaerobic Biofilm Reactors, The University of Illinois Allerton Research Conference, Urbana, IL, Oct. 26-27.
341. Kane, M.D., J.M. Stromley, L. Raskin, and D.A. Stahl (1991), Molecular Analysis of the Phylogenetic Diversity and Ecology of Sulfidogenic and Methanogenic Biofilm Communities, p. 309, 91st American Society of Microbiology General Meeting, Dallas, TX, May 5-9.
342. Stahl, D.A., J.M. Stromley, L. Raskin, R.I. Amann, and M.D. Kane (1990), Molecular Analyses of the Effect of Sulfate Availability on Community Structure of Multispecies Anaerobic Biofilms, American Society of Microbiology International Conference on Multicellular Behavior of Bacteria in Nature, Industry and the Laboratory, Marine Biological Laboratory, Woods Hole, MA.

Other Publications

1. Raskin, L., Hayes, K.F., Brown, J.C., Upadhyaya, G., Clancy, T. M., Snyder, K.V. (2014). Nitrate and Arsenic Removal from Drinking Water with a Fixed-Bed Bioreactor, Water Research Foundation, Report 4293, Denver, CO, pp. 37.
2. Lauderdale, C., Scheitlin, P., Nyfennegger, J., Upadhyaya, G., Brown, J., Raskin, L., Chiao, T., Pinto, A.J. (2014) Optimizing Engineered Filtration. Water Research Foundation, Denver, CO, pp. 247.

3. Skerlos, S.J., L. Raskin, N.G. Love, A.L. Smith, L.B. Stadler, and L. Cao, 2013. Challenge Projects on Low Energy Treatment Schemes for Water Reuse, Phase 1 (WateReuse-10-06D). WateReuse Research Foundation, Alexandria, Virginia.
4. Raskin, L., S. Skerlos, N.G. Love, A.L. Smith (2012), Anaerobic Membrane Bioreactors for Sustainable Wastewater Treatment, Water Environment Research Foundation Final Report UN4R08, IWA Publishing, London, United Kingdom.
5. Raskin, L., Hayes, K.F., Brown, J.C., Upadhyaya, G., Clancy, T. M., Jenkins, A., Snyder, K.V., Chu, X. and Hammerbeck, A. (2011). Development and optimization of a fixed-bed bioreactor system for the simultaneous removal of nitrate and arsenic from drinking water. *Drinking Water Research*, 21(4), 14-15.
6. Brown, Jess, Chance Lauderdale, Gregorio Estavo, Axel Etori, Winnie Shih, Sean Poust, Steven Walker, Lutgarde Raskin, Giridhar Upadhyaya, Xu Li, Eberhard Morgenroth (2008), Direct Fixed-Bed Biological Perchlorate Destruction Demonstration, ESTCP Project ER-0544
7. Lutgarde Raskin, Giridhar Upadhyaya, Kim Hayes, Jess Brown, System and Method for Simultaneous Biologically Mediated Removal of Contaminants from Contaminated Water, US Patent US 2011/0017663, Published on Jan. 27, 2011.
8. M. Fitch, A. Zhang, S. Padmasiri, L. Raskin, and E. Morgenroth, "Measuring Shear in Real Systems" Presented to the Graduate Environmental Engineering Seminar Series at the University of Missouri-Rolla, Rolla, MO, Jan. 30, 2004.
9. The article "Turning manure to fuel is making a comeback" published in Illinois Agrinews, Sept. 10, 1999, p. A6, described my research on anaerobic treatment of animal waste.
10. The article "Microbiologists Explore Life's Rich, Hidden Kingdoms" by Robert F. Service, published in *Science*, Vol. 275, March 21, 1997, 1740-1742, featured a section describing my research.
11. System Removes Nutrients from Food Processing Wastewater, *Industrial Bioprocessing*, Vol. 18, No. 8, 7-8, 1996 (L. Raskin, L. Vriens, and L. Ceyskens).

CONSULTING

Digested Organics, LLC

Design and startup evaluation of anaerobic digestion system for dairy waste treatment, 2015.

Technical Advisory Committee, Water Research Foundation Project 4459 Development of a Biofiltration Knowledge Base, 2013.

Carollo Engineers, Dallas, TX

Microbiological analyses of manganese oxidizing biological filtration systems, 2011.

Doosan Hydro Technology, Inc., Tampa, FL

Anaerobic membrane bioreactor development, March 2011.

Carollo Engineers, Dallas, TX

Microbiological analyses of anaerobic digester samples, 2010.

Carollo Engineers, Sarasota, FL

Microbiological analyses of drinking water samples and samples from BAC bioreactors, 2004, 2007.

City of Detroit Wastewater Treatment Plant, Detroit, MI 48209

Microscopic analysis of activated sludge samples, 2001, 2003, 2004.

Abbott Laboratories, Puerto Rico

Filament identification and quantification in foam samples from wastewater treatment plant, 2000.

Abbott Laboratories, North Chicago, IL 60064-4000

Filament identification and quantification in foam samples from wastewater treatment plant, 2000.

Seghers Better Technology, Wespelaar, Belgium

Evaluation of fermentation wastewater characteristics and potential for biological treatment, 1996.
Biodegradability test for biological wastewater treatment of malt wastewater, 1997.

Aurora International, Inc., Deerfield Beach, FL 33442

Bioaugmentation and biological wastewater treatment, 1994-1995.

N.V. Recyclage Gielen, Kortesseem, Belgium

Use of newsprint waste as cattle bedding and soil additive, 1994.

SERVICE

Public Service and Outreach

I organized Environmental Engineering recruitment day for four high school students, March 25, 2016; met with prospective CoE students and parents, April 2016.

I organized (with colleagues Ellis, Kerkez, McCormick, Wigginton, and graduate students) *The 2nd Annual Civil and Environmental Engineering High School Career Internship Program* for rising 11th and 12th grade high school student, June 20-24, 2016.

I developed and organized (with colleagues Athanasopoulos-Zekkos, El-Tawil, Kerkez, McCormick, Wigginton, Zekkos, and graduate students) *The 1st Annual Civil and Environmental Engineering High School Career Internship Program* for rising 11th and 12th grade high school student (June 22-26, 2015) – 16 participants.

Faculty advisor for Xplore Engineering Camp *Bacteria Run the World*, a Workshop for alumni and their children entering 4th through 7th grade, to get hands-on experience in engineering. August 9, 2013; June 26-27, 2014; June 25-26, 2015.

A collaboration with an NGO in Bangladesh (Asia Arsenic Network - AAN) has been supported through a NSF-USAID PEER grant awarded to AAN. Ph.D. student Tara Clancy and I developed this grant with our collaborators at AAN. Tara Clancy and Raghav Reddy have continued to work closely with researchers from AAN to oversee the research. Two of AAN's scientists, S. Udin and A. Shamim Khan spent a month in our laboratories to learn methods relevant for the work in Bangladesh.

With graduate students Roya Gitiafroz, Adam Smith, and Dongjuan Dai, Dr. Raskin organized participation in "World Water Monitoring Day (WWMD)" for 50 elementary school children (grades 3-4) in Ann Arbor, MI, June 2009. The students learned about the importance of water quality for all and sampled and analyzed Huron river water on a field trip. They submitted their data and a report to the WWMD website (<http://www.worldwatermonitoringday.org/>).

Dr. Raskin developed and delivered, with help from graduate student Lynn Williams, two 90-min science lessons (wastewater treatment and drinking water treatment) for two groups of 25 elementary school children (grades 3-4) in Ann Arbor, MI, April 2009. The students subsequently made a field trip to local wastewater and drinking water treatment plants.

Presented two seminars for approx. 500 water and wastewater treatment plant operators on "Pharmaceutical and Personal Care Products (PPCPs) in Drinking Water and Wastewater Treatment", MI American Water Works Association/MI Water Environment Association Joint Expo, Operator Day, Lansing, MI, Feb. 3, 2009.

In cooperation with the Eastern Michigan University GEAR UP project (<http://emugearup.org/>), Dr. Raskin presented "on being an environmental engineer" to three groups of approx. 15 middle school students, June 26, 2007.

Dr. Raskin developed and delivered, with help from Diane Holder, David Berry, and a teacher, seven science lessons around water issues for two groups of 15 elementary school children (grades K-2 and 3-5) in Ann Arbor, MI, Jan. and Feb. 2006. The topics of the lessons were: Preventing Disease - students learned how illness-causing bacteria and viruses are spread; Amazing Water - students learned how actions in the home and yard affect water quality; Sum of the Parts - students learned about pollution of a river and how it can be reduced; Poison Pump - students discovered that (polluted) water can also produce negative effects for people; Water in Motion - students learned to appreciate the movement and sound of water in their environment; The Pucker Effect - students observed how ground water transports pollutants and discovered the source of contamination;

Reaching Your Limits - students experienced the effort involved in meeting drinking-water quality standards.

Panel Discussion Participant, Emerging Trends in Corn Industry - Environmental Issues, Corn Utilization & Technology Conference, St. Louis, MO, June 1-3, 1998.

Seminar/Discussion, Livestock Waste Management, Role of Microbial Ecologists and Environmental Biotechnologists, Illinois House-Senate Joint Livestock Advisory Committee, July 10, 1997.

Professional Service

Editorial Boards and Editorships of Scientific Journals

Associate Editor, *Environmental Science & Technology*, 2016-present

Member, Editorial Board, *mSphere*, 2015-present.

Member, Editorial Board, *npj Biofilms and Microbiomes*, 2015-present

Member, Editorial Advisory Board *Environmental Science: Water Research & Technology*, 2016-present

Member, Editorial Board *Environmental Science: Water Research & Technology*, 2014-2016

Guest Editor for Themed Issue Drinking Water Exposome *Environmental Science: Water Research & Technology* with Peter Vikesland, 2015-2016 (Vikesland PJ, Raskin L. The drinking water exposome. *Environmental Science: Water Research & Technology*. 2016;2(4):561-4.)

Member, Editorial Board *Microbial Biotechnology*, 2011-present

Member, Editorial Board *Frontiers in Microbiology, Antimicrobials, Resistance, and Chemotherapy*, 2011-2015

Member, Editorial Board *Biodegradation*, 1997-present

Associate Editor, *Water Research*, 2001-2006

Member, Editorial Board *Archives of Microbiology*, 2001-2004

Member, Editorial Board *FEMS Microbiology Letters*, 1997-2000

Water Environment Federation (WEF) and Water Environment Research Foundation (WERF)

Co-organizer, Workshop, WEFTEC 2013, Oct. 5-9, 2013, Chicago, IL, Mainstream Anaerobic and Nutrient Removal Systems for Energy Neutral Wastewater Management.

Member, WERF Paul L. Busch Awardee Selection Committee, 2013-2015.

Member, WEF Fellow Program Selection Committee, 2011, 2013-2015.

Member, WEF Fellows Task Force, Fall 2009-Fall 2010.

Member, WEF Academic Relations Advisory Committee, Fall 2008-present.

Session Co-Chair (Anaerobic Treatment), 67th, 68th, 69th Annual Conference Water Environment Federation, Oct. 1994, Oct. 1995, Oct 1996.

Project Subcommittee Member, WERF - Evaluate Feasibility of Methods to Minimize Biomass Production from Biotreatment, 1999-2005.

Committee Member, WERF Workshop - Biotechnology/Industrial Ecology - A Look into the Future for Wastewater Treatment, Sept. 12-14, 1998.

International Water Association (IWA)

Member Scientific Committee, 15th IWA World Congress on Anaerobic Digestion (AD-15), Beijing, China, Oct 17-20, 2017.

Member IWA Specialist Group Leadership Committee on Microbial Ecology and Water Engineering (MEWE), 2016-present.

Member Program and Organizing Committee – Microbial Ecology and Water Engineering (MEWE) and Biofilms IWA Specialist Conference, Copenhagen, Denmark, Sept. 4-7, 2016.

Member IWA Specialist Group Leadership Committee on Anaerobic Digestion (AD), 2015-present.

Member International Program and Scientific Expert Committees, 14th IWA World Congress on Anaerobic Digestion, Anaerobic Digestion: Closing cycles for sustainability, Viña del Mar, Chile, Nov. 10-13, 2015.

Member Scientific Committees, IWA Specialty Conference, Biofilms in Drinking Water Systems From Treatment to Tap, Arosa, Switzerland, Aug. 23-26, 2015.

Member Program Committee – 10th IWA Leading Edge Technology (LET) Conference, June 3-6, 2013, Bordeaux, France.

Member Program and Organizing Committee – IWA SG Conference, Microbial Ecology and Water Engineering, June 2013, Ann Arbor, MI.

Member Program Committee – 9th IWA Leading Edge Technology (LET) Conference, June 3-7, 2012, Brisbane, Australia.

Co-chair Workshop Anaerobic Treatment of Low-Strength Wastewaters (with Adam Smith and Damien Batstone), 9th IWA Leading Edge Technology (LET) Conference, June 3-7, 2012, Brisbane, Australia.

Member Program Committee – IWA Leading Edge Technology (LET) Conference, May 31-June 30, 2011, Amsterdam, The Netherlands.

Chair Symposium Biological Drinking Water Treatment, IWA Leading Edge Technology (LET) Conference, May 31-June 30, 2011, Amsterdam, The Netherlands.

Member Program Committee – IWA The Water Research Conference, 11 – 14 April 2010, Lisbon, Portugal.

Member Program Committee – IWA Leading Edge Technology (LET) Conference, June 2-4, 2010, Phoenix, Arizona.

Chair Workshop Biological Drinking Water Treatment, IWA Leading Edge Technology (LET) Conference, June 2-4, 2010, Phoenix, Arizona.

Member International Program and Scientific Expert Committees, 11th World Congress on Anaerobic Digestion, Anaerobic Digestion 2007 – *Bio-energy for our Future*, Brisbane, Australia, Sept. 23-27, 2007.

Member Scientific Committee, 10th World Congress on Anaerobic Digestion, Anaerobic Digestion 2004 - *Anaerobic Bioconversion for Sustainability*, Montreal, Canada, Aug. 29-Sept. 2, 2004.

Session Chair, Anaerobic Digestion, World Congress, Montreal, Canada, Aug. 29-Sept. 2, 2004.

Session Chair, Anaerobic Digestion, World Congress, Antwerp, Belgium, Sept. 2-5, 2001.

American Water Works Association (AWWA) and Water Research Foundation

Invited workshop participant, Advancing understanding of Microbiomes in Drinking Water Distribution Systems and Premise Plumbing Using Meta-omics Techniques, National Science Foundation and Water Research Foundation, Nov. 10-11, 2017, Portland Oregon.

Member, Project Advisory Committee (PAC) “Biological Filtration: NDMA Control or Source of Precursors?”, Water Research Foundation, Feb. 2016-present.

Session Chair, AWWA International Symposium: Biological Treatment, Long Beach, Calif., January 27-28, 2016.

Session Chair, Microbiological Aspects of Biotreatment, Biological Treatment Symposium, AWWA, March 28-29, 2013, Denver, CO

Contributing Author, Research Needs for Opportunistic Pathogens in Premise Plumbing: Experimental Methodology, Microbial Ecology and Epidemiology, Project 4379 Water Research Foundation, 2011-2012.

Member, Project Advisory Committee (PAC) “Assessing Performance of Biofilm Sampling Approaches”, Water Research Foundation, Feb. 2011-April 2015.

Invited workshop participant, Biological Drinking Water Treatment, Water Research Foundation, Jan. 20-21, 2010, Denver, Colorado

Member, Biological Drinking Water Treatment Committee, Fall 2008 – present.

Member, Michigan AWWA, Research & Technical Practices (RTP) Committee, Fall 2007 – present.

Association of Environmental Engineering and Science Professors (AEESP)

Member Core Committee, AEESP Conference – Ann Arbor, MI, June 20-22, 2017

Member, Board of Directors (2016-present)

Invited workshop participant, “I’ve Got Tenure, So Now What?: Managing the Triad of Teaching, Research, and Service Post-Tenure.” June 20, 2017. AEESP Conference – Ann Arbor, MI, June 20-22, 2017.

NSF CAREER Workshop, AEESP Conference – Interactions at the Interface, Blacksburg, VA, July 28-Aug. 1, 2007.

AEESP PhD dissertation committee (member, 2000-2001; chair 2002).

National Science Foundation – review panels and workshops

NSF Environmental Sustainability Program review panel, May 18-19, 2010.

NSF Environmental Engineering Program review panel, Feb. 5-6, 2008.

NSF Workshop on Frontier Research Directions in Civil and Environmental Engineering, Arlington, VA, June 4-5, 2007.

NSF Environmental Engineering Program review panel, Dec. 13-14, 2006.
NSF Biocomplexity Program (GEN-EN) review panel, May 7-8, 2002.
NSF Workshop, "Application of Molecular Biology Tools in Environmental Engineering," Washington, D.C., April 25-26, 2002.
NSF Biocomplexity Program (IDEA) review panel, June 14-15, 2001.

Other national and international service activities

Invited Workshop Participant, ARPA-E Rewiring Anaerobic Digestion Workshop, Arlington, VA, October 27-28, 2016
Co-chair, organizer, and reviewer for three scientific sessions on Microbial Ecology meets Environmental Biotechnology at 16th International Symposium on Microbial Ecology, ISME, Aug. 21-26, 2016, Montreal, CA
Co-chair Plenary Session The Urban Water Cycle Microbiome, ASM Microbe 2016, June 18, 2016, Boston, MA.
Conference Co-Chair, 24th Triennial Borchardt Conference, Ann Arbor, MI, Feb. 21-22, 2017.
Invited Workshop Participant, Developing the Structure of a National Energy Positive Water Resource Recovery Facility Test Bed Network, June 20-21, 2016. Denver Metro Wastewater Reclamation District, 6450 York Street, Denver, CO 80229
Partnerships for Enhanced Engagement in Research (PEER), U.S. National Academy of Sciences (NAS) Review Panel, June 6, 2016
Invited participant, The 5th Annual Sloan Microbiology of the Built Environment Conference, University of Colorado, Boulder, CO, June 1-3, 2016.
Invited Workshop Participant, From Watersheds to Shower Heads: A workshop on Legionella Research and Policy, Sponsored by the Alfred P. Sloan Foundation, May 25-26, Emory Conference Center, Atlanta, GA
Reviewer for Department of Energy, Bioenergy Technologies Office (BETO) FY17 proposals (May-June, 2016).
Reviewer for Department of Energy, SBIR/STTR FY 2016 Phase I, December 2015.
Invited Colloquium participant, FAQ: Microbiology of Built Environments, American Academy of Microbiology, Washington, DC, September 9, 2015
Invited participant, The 4th Annual Sloan Microbiology of the Built Environment Conference, July 15-18, 2015, University of Colorado Boulder
Invited NSF Workshop Participant, Closing the Human Phosphorus Loop, June 8-9, 2015, Arlington Virginia
Invited Workshop Participant, Hydrogen, Hydrocarbons, and Bioproduct Precursors from Wastewaters, National Renewable Energy Laboratory Offices, Washington DC, March 18-19, 2015
External Committee Member for Ph.D. student Qirong Dong, Department of Civil and Environmental Engineering, University of Waterloo, Waterloo, Ontario, Canada, Feb. 3, 2015.
Invited Workshop Participant, Sustainable and Resilient Water Solutions for Rural Communities, University of Glasgow, April 29-May 2, 2014
Conference Committee Member, 23rd Triennial Borchardt Conference, Ann Arbor, MI, Feb., 2014.
External Committee Member for Ph.D. student Alexandru Dumitrache, Department of Chemical Engineering, University of Toronto, Canada, January 20, 2014.
Member of Committee on Elections of American Academy of Microbiology Fellows, July 1 2013-present.
Invited Colloquium participant, Microbes in Pipes: The Microbiology of the Water Distribution System, American Academy of Microbiology, Boulder, Colorado April, 2012
Science Foundation Ireland, Research Frontiers Programme, Ecology, Evolutionary, Environmental and Organismal Biology (EOB) review panel, December 2010.
Conference Committee Member, 22nd Triennial Borchardt Conference, Ann Arbor, MI, Feb., 2011.
Academic mentor for Assistant Professor April Gu, Department of Civil and Environmental Engineering, Northeastern University, 2009-2013
External member of Environmental Biotechnology Faculty Search Committee, Tampere University, Finland, Jan. 2009-March 2009.
Chair of Faculty Interview Committee, King Abdullah University of Science and Technology (KAUST), Fall 2008.

Michigan Economic Development Corporation (MEDC), Water Technologies Cluster, Winter 2008-2010.

NIH Microbiology and Infectious Diseases Research (MID) Proposal Review Committee, June 12, 2008

Participant in Discussions Sessions: (i) Sustainable Control of Water-Associated Diseases: A Systems Approach, (ii) Spread of Antibiotic Resistance in Water Environments and Impacts on Human Health, and (iii) Global Sustainable Water Systems: Acknowledging Wastewater as a Resource, Graham Environmental Sustainability Institute (GESI), Water, Health, + the Environment Conference, Establishing the Research Agenda, Ann Arbor, MI, March 26-27, 2008.

Committee Member for Ph.D. student Roya Gitiafroz, Department of Chemical Engineering, University of Toronto, Canada, March 17, 2008, March 10, 2009.

Conference Committee Member, 21st Triennial Borchardt Conference, Ann Arbor, MI, Feb. 27-28, 2008.

Member Scientific Advisory Board of research program '*Genomics Applications for Water Management*', Institute for Inland Water Management and Waste Water Treatment RIZA, The Netherlands, Jan.-May 2007.

Member Programme Progress Assessment, Science Foundation Ireland, National University of Ireland, Galway, Oct. 25-26, 2007.

Workshop "Bridging the gap in engineered biological treatment systems – putting research into practice," Bowmore, Islay, Scotland, Oct. 3-4, 2006.

Metropolitan Water Reclamation District of Greater Chicago, examiner, civil service exams for Research Scientist II and III, Chicago, IL, June 10-11, 2005.

Workshop "Vistas in Microbial Ecology and Environmental Biotechnology," Arizona State University, April 20-21, 2005.

NASA Microbial Biology Review Panel, "Biological and Fluid Physics Research for Human Support Technology," Jan. 13-14, 2005.

Session Co-Chair, Mathematical modeling of community interactions, 103rd American Society of Microbiology General Meeting, Washington D.C., May 18-22, 2003.

External Examiner for Ph.D. of Annette Muttray, Department of Microbiology, University of British Columbia, Vancouver, Canada, Dec. 2000.

Member, Committee on Environmental Remediation at Naval Facilities, National Research Council, Water Science and Technology Board, 1997.

Invited Censor for Ph.D. of Anders Hay Sørensen, Institute of Environmental Science and Engineering, Technical University of Denmark, April 1996.

Session Chair (Molecular Tools in Environmental Biotechnology), 9th Forum for Applied Biotechnology, Gent, Belgium, Sept. 27-29, 1995.

Ad-hoc reviewer for journals

Anaerobe, Applied and Environmental Microbiology, ASCE Journal of Environmental Engineering, Biodegradation, Bioremediation Journal, Biotechnology and Bioengineering, BioTechniques, Biotechnology Progress, Chemosphere, Environmental Microbiology, Environmental Science and Technology, Environmental Toxicology and Chemistry, FEMS Microbiology Letters, FEMS Microbiology Ecology, ISME Journal, Journal of Industrial Microbiology and Biotechnology, Microbiology, Microbial Biotechnology, PLOS One, Water Research, Waste Management, Water Environment Research.

Ad-hoc reviewer for research proposals

Illinois-Indiana Sea Grant Program; Institute of Water Resources, The University of Connecticut; Natural Environment Research Council (U.K.); Natural Sciences and Engineering Research Council of Canada, NSF Division of International Programs; NSF Microbial Genetics Program; NSF Environmental Engineering Program; NSF Life in Extreme Environments (LEExEn), NSF Systematic Biology Program, UIUC Research Board, UIUC Critical Research Initiative, USDA NRI Value-Added Products Program, Strategic Environmental Research and Development Program (DoD), Research Council K.U.Leuven (Leuven, Belgium).

University of Michigan Service

Department of Civil and Environmental Engineering

Member, Graduate Committee, Fall 2017-present
Member, Facilities and Research Committee, Fall 2017-present
Member, Ad Hoc One-Year M.S. Committee, 2015 – 2016.
Member, CEE Executive Committee, Fall 2013-Summer 2015, Winter 2016-Summer 2016.
EWRE Graduate Program Advisor, Winter 2016-present.
GSI OET North Campus, May 5, 2015.
Chair, Casebook Committee for Krista Wigginton reappointment committee, 2015-2016
Member, Casebook Committee for Glen Daigger's candidacy as Professor of Practice, 2014-2015
Chair, Graduate Committee, Winter-Summer 2010, Fall 2014-Summer 2017
Master's Chair, Graduate Committee, Fall 2012-Winter 2014.
Member, LAUNCH Mentoring Committee Brian Ellis, Sept 2014-May 2015.
Member, LAUNCH Mentoring Committee Krista Wigginton, Jan 2013-May 2014.
Chair, Faculty Search Committee Water-Geo-Energy Search, Fall 2013-Winter 2014.
Member, Promotion Casebook Review Committee (promotion to Professor), Dr. Jerry Lynch, Summer 2013-Fall 2013.
Member, Space Committee, Fall 2012-Summer 2013.
Member, Research/Equipment Committee, Fall 2010-Winter 2011.
Faculty advisor for MI WEA/AWWA UM student group, Winter 2009-present.
Faculty advisor for GrEENPEAS UM student group, Fall 2009-present.
Program Director, Environmental and Water Resources Engineering (EWRE) Program, Fall 2007-Summer 2011.
Member, Students Elements Committee, 2009
Member, CEE Executive Committee, Fall 2007-Summer 09.
Chair, Honors & Awards Committee, Fall 2008-Summer 12.
Member, Curriculum Committee, Fall 2005-Summer 08.
Member, Safety Committee, Fall 2005-Summer 07.
Chair, EWRE graduate admissions committee, Fall 2005-Winter 2006, Fall 2007-Winter 2008.
Chair, Reappointment Casebook Review Committee, Dr. Anna Michalak, Winter 2007.
Member, Promotion and Tenure Casebook Review Committee (promotion to Associate Professor), Dr. Aline Cotel, Fall 2006.

College of Engineering

Member, Ad Hoc Committee to Advise the College of Engineering on Appointments to Named Professorships, Fall 2017
Faculty Reviewer, 2015 NextProf Workshop.
Member, Promotion and Tenure Casebook Review Committee (promotion to Associate Professor), Dr. Xiaoxia (Nina) Lin, Summer 2013-Fall 2013.
Member, CEE Dept. Chair Search Committee, Summer 2011-Fall 2012.
Member, CoE Responsible Conduct of Research and Scholarship Task Force, Winter 2010-Summer 2012.
Member, Selection Committee Weber Award in Environmental and Energy Sustainability, Winter 2010.
Member, Reappointment Casebook Review Committee, Dr. Xiaoxia (Nina) Lin, Winter 2010.
Member, CEE Internal Review Committee, Winter 2008-Fall 2008.
Member, Faculty Discipline Committee, Fall 2005-Winter 2006.
Presentation for National Advisory Committee "Global Water Sustainability", April 7, 2006.
Chair, CEE Dept. Chair Search Committee, Winter 2006-Winter 2007.

University

Reviewer, External Dow Postdoctoral Fellowship applications, Graham Environmental Sustainability Institute, 2015
Member, Program Advisory Committee, Integrated Training in Microbiol Systems (ITiMS), Fall 2014-present.
Member, LAUNCH Mentoring Committee Rose Cory, Fall 2013-Winter 2014.
Reviewer, International Institute Individual Fellowship, University of Michigan, March 2014
Reviewer, Dow PhD Fellowship applications, Graham Environmental Sustainability Institute, 2013

Reviewer, UROP Fellowship applications, Summer 2013.
Member, Biomedical Research Council (BMRC), Summer 2011-Summer 2012.
Member, Advisory Board, MAC-EPID, Fall 2008-present.
Member, Microbial Ecology Cluster Hire Search and Mentoring Committee, Winter 2008-present.
Member, Executive Committee for the Graham Environmental Sustainability Institute, Winter 06-Summer 08.
Promotion casebook reader, Office of the Provost, Winter 2008-Winter 2009.
Co-leader Water Quality Sector, National Summit on Coping with Climate Change, University of Michigan, May 8-10, 2007.

Graduate Student Recruitment

Seminar Graduate Studies at the University of Michigan, University of Hawaii at Manoa, Manoa, HI, April 6, 2015.
Seminar Graduate Studies Information, CEE 200, Department of Civil and Environmental Engineering, UM, April 15, 2015.

UIUC Service

Department of Civil and Environmental Engineering

Organized Symposium:

Applications of Molecular Techniques in Environmental Engineering: A Symposium in Honor of Richard S. Engelbrecht, March 17-18, 1994 (with D.L. Freedman).

Faculty mentor, Eberhard Morgenroth, Fall 2000-present.

Faculty mentor, Tami Bond, Spring 2004-present.

Esmilla Award Committee, 2003-present.

Langelier Scholarship Award Committee, 1997-2005.

Faculty member responsible for EE&S Laboratories, Fall 1998-Summer 2002.

Faculty member responsible for EE&S Computer Lab, Fall 1993-Summer 1998.

Faculty Search Committees:

Ad-hoc EE&S, chair, Fall 2003-Spring 2004.

Environmental Council, Dept. of CEE, Dept. of Animal Sciences, Fall 1998-Spring 2000.

Department of CEE, Spring-Summer 1994, Spring 1995-Spring 1996.

Promotions & Tenure Committee, Spring 2004-Spring 2005.

Advisory Committee, Fall 1998-Spring 1999.

Student Awards Committee, Fall 1994-Spring 1997.

Curriculum Committee, Fall 1994-Spring 1996.

College of Engineering

College of Engineering Task Force on Biotechnology, Fall 1998-Spring 1999.

Organized environmental engineering demos for the "1994 Take Your Daughter to Work Day".

Campus

Faculty Search Committees

Department of Microbiology, chair, Fall 2004-Spring 2005.

WaterCAMPWS, chair, Fall 2004-Spring 2005.

Department of Agricultural Engineering, Fall 1998-Spring 1999.

Critical Research Initiative (CRI) Review Committee, Fall 2000-Spring 2002.

Udall Scholarship Review Committee, Spring 2001.

Cross-Campus Initiatives Retreat: Positioning the Campus for the Future. Feb. 27, 2002.

College of ACES Committee on UIUC Farms Waste Handling, Fall 1998-Spring 2000.

CNRS-UIUC workshop, Environmental Biotechnology at the University of Illinois, Paris, France, Sept. 9-10, 1997.

Interview Committee for FIPSE (Funding Improvement of Post Secondary Education) program to select UIUC awardees (International Programs and Studies), Spring 1994.