

DANIEL B. OERTHER, PhD, PE, BCEE

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CURRENT APPOINTMENTS

John A. and Susan Mathes Chair

Department of Civil, Architectural, and Environmental Engineering, Missouri University of Science and Technology

Director

Environmental Research Center, Missouri S&T

Professor

Department of Biological Sciences, Missouri S&T

Faculty Advisor

Student Chapter, Industrial Design Society of America, Missouri S&T

Adjunct Professor

Department of Biotechnology, Manipal University, India

Consultant

Future University, Egypt

LICENSURE

Board Certified Environmental Engineer (formerly DEE)

American Academy of Environmental Engineers, Member Number 05-10013

Professional Engineer

Ohio PE License Number 69266; Illinois EIT License Number 061-026304

CONTACT INFORMATION

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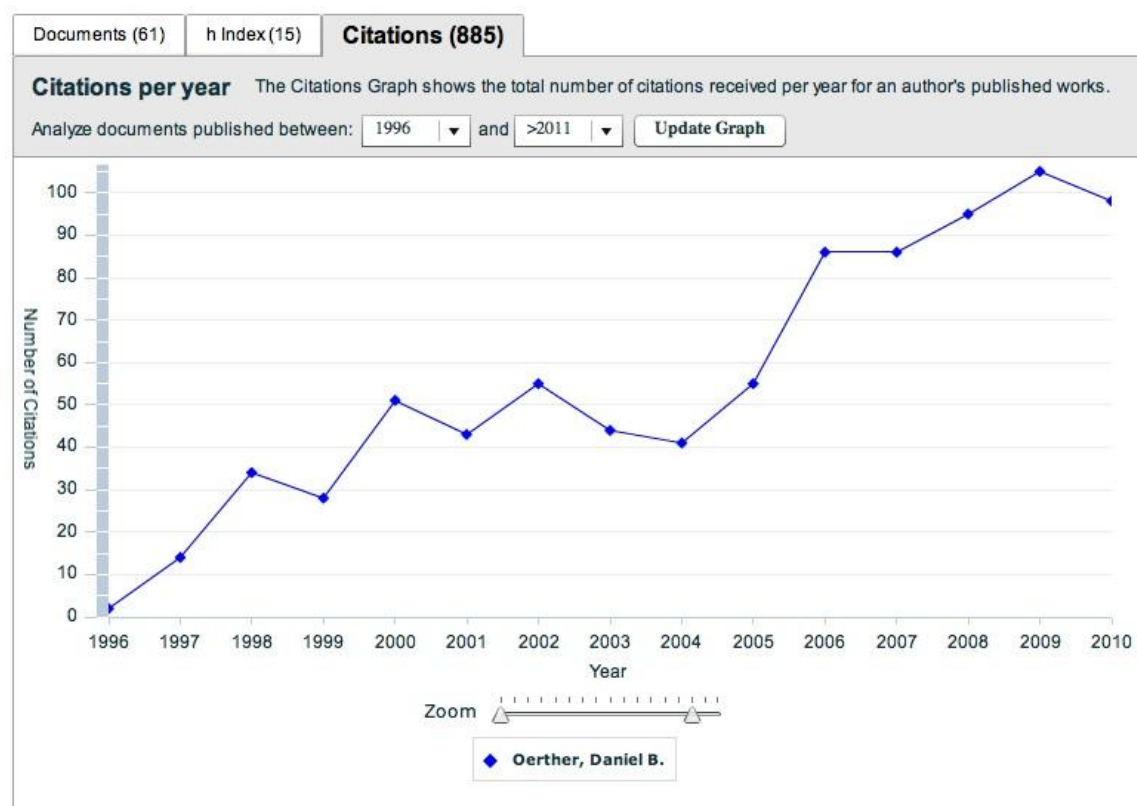
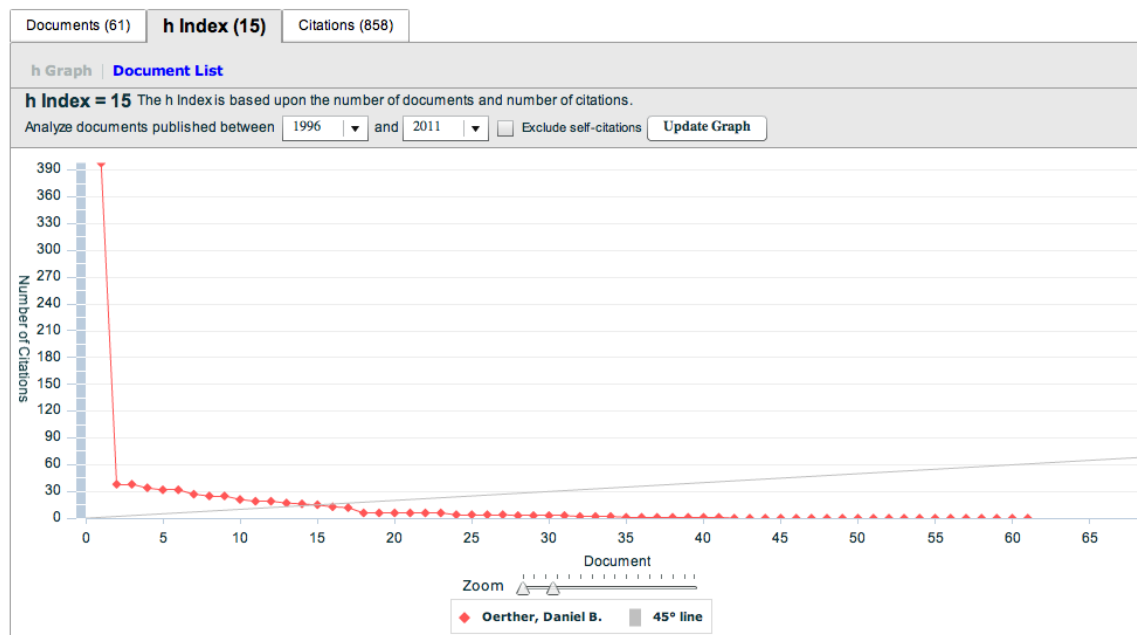
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EDUCATION

1995	BA	Biological Sciences	Northwestern University, Evanston, IL
1995	BS	Environmental Engineering	Northwestern University, Evanston, IL
1998	MS	Environmental Engineering	University of Illinois, Urbana-Champaign
2002	PhD	Environmental Engineering	University of Illinois, Urbana-Champaign

IMPACT OF PEER REVIEWED ARTICLES

Results from Scopus last updated on **April 27, 2011** with author search, “Oerther, D”



Please note: These metrics only measure one aspect of an author's performance. [Disclaimer](#)

HONORS AND SCHOLARLY AWARDS

- 1989 Eagle Scout, Boy Scouts of America
- 1994 University Undergraduate Research Award, Northwestern University, Evanston, IL
- 1997 Richard S. and Mary E. Engelbrecht Fellowship, Department of Civil and Environmental Engineering, University of Illinois, Urbana-Champaign, IL
- 1998 Mavis Memorial Fund Scholarship for Teaching, University of Illinois, Urbana-Champaign, IL
- 1998 Dissertation Travel Fellowship, University of Illinois, Urbana-Champaign, IL
- 1999 First Place, James M. Montgomery Consulting Engineers Master's Thesis Award, Association of Environmental Engineering and Science Professors
- 2002 Neil Wandmacher Teaching Award for Young Faculty, College of Engineering, University of Cincinnati, OH
- 2003 CAREER Award, National Science Foundation
- 2003 Office of Naval Research Fellowship
- 2003 Ohio Young Engineer of the Year, National Society of Professional Engineers.
- 2003 Best Research Paper – Environmental Engineering Division, American Society of Engineering Educators
- 2004 Principles and Practice of Engineering, Environmental Engineering PE Exam, Highest score, State of Ohio
- 2004 Outstanding Educator, Association of Environmental Engineering and Science Professors
- 2005 ExCEED New Faculty Excellence in Teaching Award, American Society of Civil Engineers
- 2005 Ohio Engineering Educator of the Year, National Society of Professional Engineers
- 2005 Invited Participant for the 3rd Annual National Academies Keck Futures Initiative Conference, "The Genomic Revolution: Implications for Treatment and Control of Infectious Disease"
- 2005 Elected membership in the Ohio Academy of Sciences
- 2005 Borchardt Memorial Lecture, Department of Civil and Environmental Engineering, University of Michigan, East Lansing, MI, February 24, 2005
- 2006 Fulbright Scholar, U.S. Department of State
- 2006 Pai Scholar, Manipal Academy of Higher Education, India
- 2006 Master Engineering Educator, College of Engineering, University of Cincinnati, OH (one of eight inaugural faculty selected for this bi-annual award)
- 2006 Inaugural IPWR Fellow, Institute for Public Health and Water Research
- 2007 UC|21 President's Excellence Award, University of Cincinnati, OH
- 2007 Research Award for Young Faculty, College of Engineering, University of Cincinnati, OH
- 2007 Fellow, Academy of Fellows for Teaching and Learning, University of Cincinnati, OH (one of twenty-two inaugural faculty selected to this honor)
- 2007 Distinguished Service Award for Outstanding Service as the Liaison between the Association and WEF, Association of Environmental Engineering and Science Professors

- 2007 Invited to deliver the Bruce Podwal Memorial Lecture, Department of Civil Engineering, City College of New York, NY, March 27, 2007
- 2008 Chair of the 130th Annual Meeting of the Ohio Society of Professional Engineers, May 16-17, 2008, Cincinnati, OH
- 2008 Rafiki Award for Service, Village Life Outreach Project, Cincinnati, OH
- 2009 Excellence in Environmental Engineering Award, Honor Award in University Research, American Academy of Environmental Engineers
- 2009 Student Activities and Leadership Development Student Group Advisor of the Year Honorable Mention, University of Cincinnati, OH
- 2010 Inaugural Recipient, Next Generation Leadership Award, LEGECY and the Northern Kentucky Chamber of Commerce
- 2010 John A. and Susan Mathes Chair of Environmental Engineering, Missouri University of Science and Technology, Rolla, MO
- 2010 Distinguished Service Award for Outstanding Service as Chief Information Officer and Member of the Board of Directors, Association of Environmental Engineering and Science Professors
- 2011 Honorary Membership, Sigma Theta Tau International Honor Society of Nursing

PHILOSOPHY OF RESEARCH, TEACHING, AND SERVICE

Environmental engineers are stewards of the environment and protectors of public health. We employ scientific principles (biology, chemistry, and physics), policies, and technologies to assess, protect, remediate and restore the air, soil, water, and wildlife (flora and fauna) following triple bottom line accounting (i.e., people, planet, and prosperity). As an interdisciplinary researcher, my scholarship focuses upon three thematic areas, namely: (1) environmental biotechnology; (2) urban sustainability; and (3) global development.

- My research program in environmental biotechnology integrates ecological theory, modeling approaches from bioprocess engineering, and genome-enabled molecular biology tools to identify, enumerate, and determine the spatial organization and metabolic activity of phylogenetically-defined microbial populations in natural, built, and clinical environments. Our current areas of active research include: (1) evaluating the environmental determinants of the obesity epidemic; and (2) understanding the initiation of biofouling in membrane systems.
- My research in urban sustainability includes directing the multi-disciplinary Environmental Research Center at S&T where I provide oversight of a diverse research seed grant program, educational outreach, and a number of parallel activities engaging citizen groups throughout the State of Missouri. I have also engaged the practical aspects of a sustainable lifestyle through the creation of a 501c3 non profit, choose intentional living.com. Two areas of active research include: (1) urban food systems; and (2) transportation networks linking pedestrian, bicycle, mass transit, and automotive options.
- My research in global development identifies culturally appropriate, cost effective technology for water management, sanitation, and community organization in emerging economies (e.g., India) and less developed countries (e.g., Kenya, Tanzania, and Guatemala). Current research is focused upon: (1) public health measurements in Guatemala; and (2) the creation of Pula Cloud which is a web-based IT platform linking human intelligence tasks with computational tasks to create a system to engage villagers from developing countries in the modern, global, information economy.

I am a passionate teacher of undergraduate and graduate students as well as adult practitioners of environmental engineering and science. My classroom style can be defined as ‘open-ended’ and ‘active’ because I expect to prepare students to be effective life-long learners. In the transition to a knowledge economy, faculty are challenged with adapting away from a Transmittal Model of instruction (i.e., ‘sage on the stage’) and engaging students as adults through Active Learning pedagogies (i.e., ‘guide on the side’). Problem-Based Learning (PBL), where teams collaboratively solve challenges with expert guidance, has been shown to be an effective means of knowledge generation within engineering, science, and technology students. For faculty, two major challenges include: (1) identifying authentic problems that suitably serve the learning needs of the students; and (2) integrating diverse areas of academic scholarship (i.e., teaching, research, and service) to teach a PBL course effectively. In my classroom, I have found that synchronicity, or “the meaningful coincidences between inner states of mind and outer events to which they are not causally related”, is an effective pedagogy that solves both of these challenges. In other words, a

successful course is achieved when the apparently random developments in the classroom and the guidance of the instructor converge to grow knowledge in the consciousness of the students; whereas an unsuccessful course fails to achieve convergence and appears to students as a collection of unrelated exercises (i.e., a disorganized instructor or course).

Recently, I have begun to engage an alternative pedagogical approach, namely Blended Learning, where technologies for asynchronous, distance learning are used to reduce face to face classroom time. Coupled with Flipping, where class time is spent on problem solving and out of class time is spent on the review of material, I am working to create a pedagogical approach that is well suited for introducing the content of Fundamentals of Environmental Engineering and Science to a diverse student population.

Service to my colleagues, professional peers, and the general public is important because the academy is one of the custodians of society's collective knowledge. I believe it is important to actively participate in the citizenship of one's department and university to set an example of one's values, and to promote excellence in achieving one's goals. Further, I believe that faculty have an obligation to engage their local, regional, and international stakeholder communities both as objective experts as well as passionate advocates. The mission, vision, and values of the Missouri University of Science and Technology are well aligned with my personal value system, and therefore I am pleased to contribute informally as a peer leader as well as formally in my roles as the John A. and Susan Mathes Chair of Environmental Engineering and Director of the Environmental Research Center.

PROFESSIONAL EXPERIENCE

- 1995 – 1999; Graduate Research Assistant; Department of Civil and Environmental Engineering, College of Engineering, University of Illinois, Urbana-Champaign, IL; Lutgarde Raskin, Ph.D., Advisor
- 1998; Visiting Scholar; Department of Molecular Ecology, Max Planck Institute for Marine Microbiology; Germany; Rudolf Amann, Ph.D., Advisor
- 2000 – 2004; Assistant Professor; Department of Civil and Environmental Engineering, College of Engineering, University of Cincinnati, OH
- 2003; Visiting Scholar; Microbial Diversity Course, Marine Biological Laboratory, Woods Hole, Mass; Caroline Harwood, Ph.D., and Alfred Sporman, Ph.D., Advisors
- 2003 – 2005; Adjunct Assistant Professor; Department of Biological Sciences, McMicken College of Arts and Sciences, University of Cincinnati, OH
- 2004 – 2005; Chair; Institutional Biosafety Committee, University of Cincinnati, OH
- 2004 – 2009; Affiliate; Center for Environmental Studies, McMicken College of Arts and Sciences, University of Cincinnati, OH
- 2005 – 2007; Associate Professor (with tenure); Department of Civil and Environmental Engineering, College of Engineering, University of Cincinnati, OH
- 2006; Visiting Lecturer; Department of Civil Engineering, School of Mechanics, Indian Institute of Science, Bangalore, India
- 2006; Pai Scholar; Department of Biotechnology, Kasturba Medical College, Manipal, India
- 2006 – 2007; Inaugural Master Engineering Educator; College of Engineering, University of Cincinnati, OH
- 2006 – 2007; Adjunct Associate Professor; Department of Biological Sciences, McMicken College of Arts and Sciences, University of Cincinnati, OH
- 2007 – 2009; Director; Ohio Center of Excellence for Sustainable Urban Environments, University of Cincinnati, OH
- 2007 – 2009; Adjunct Professor; Department of Biotechnology, School of Biotechnology, Manipal University, India
- 2008 – 2009; Head; Department of Civil and Environmental Engineering, College of Engineering, University of Cincinnati, OH
- 2008 – 2009; Professor (with tenure); Department of Civil and Environmental Engineering, College of Engineering, University of Cincinnati, OH
- 2008 – 2009; Adjunct Professor; Department of Biological Sciences, McMicken College of Arts and Sciences, University of Cincinnati, OH
- 2008 – 2009; Executive Committee; Nanobiomedical Center, University of Cincinnati, OH
- 2010 – present; John A. and Susan Mathes Chair (with tenure); Department of Civil, Architectural, and Environmental Engineering, Missouri University of Science and Technology, Rolla, MO
- 2010 – present; Director; Environmental Research Center, Missouri University of Science and Technology, Rolla, MO
- 2010 – present; Professor (courtesy appointment); Department of Biology, Missouri University of Science and Technology, Rolla, MO
- 2011 – present; Consultant, Future University, Egypt, New Cairo

PEER REVIEWED ARTICLES

1. Alm, E.W., **Oerther, D.B.**, Larsen, N., Stahl, D.A., and Raskin, L., 1996, "The Oligonucleotide Probe Database," *Applied and Environmental Microbiology*, 62:3557-3559.
2. de los Reyes III, F., **Oerther, D.B.**, de los Reyes, M.F., Hernandez, M. and Raskin, L., 1998, "Characterization of Filamentous Foaming in Activated Sludge Systems Using Oligonucleotide Hybridization Probes and Antibody Probes," *Water Science and Technology*, 37(4-5):485-493.
3. **Oerther, D.B.**, Danalewich, J., Dulekgurgen, E., Leveque, E., Freedman, D.L., and Raskin, L., 1998, "Bioaugmentation of Sequencing Batch Reactors for Biological Phosphorus Removal: Comparative rRNA Sequence Analysis and Hybridization with Oligonucleotide Probes," *Water Science and Technology*, 37(4-5):469-473.
4. **Oerther, D.B.**, de los Reyes III, F., Hernandez, M., and Raskin, L., 1999, "Simultaneous Application of Oligonucleotide Probes and an Antibody Stain for *In Situ* Detection of *Gordona* spp.," *FEMS Microbiology Ecology*, 29:129-136.
5. **Oerther, D.B.**, de los Reyes III, F., and Raskin, L., 1999, "Interfacing Phylogenetic Oligonucleotide Probe Hybridizations with Representations of Microbial Populations and Specific Growth Rates in Mathematical Models of Activated Sludge Processes," *Water Science and Technology*, 39(1):11-20.
6. **Oerther, D.B.**, Pernthaler, J., Schramm, A., Amann, R., and Raskin, L., 2000, "Monitoring Precursor 16S rRNA of *Acinetobacter* spp. In Activated Sludge Wastewater Treatment Systems," *Applied and Environmental Microbiology*, 66:2154-2165.
7. **Oerther, D.B.** and de los Reyes III, F., 2001, "Molecular Methods in Biological Systems," *Water Environment Research*, 73(5):116-150.
8. **Oerther, D.B.**, de los Reyes III, F., de los Reyes, M.F., and Raskin, L., 2001, "Quantifying Filamentous Microorganisms in Activated Sludge Before, During, and After an Incident of Foaming by Oligonucleotide Probe Hybridizations and Antibody Staining," *Water Research*, 35:3325-3336.
9. Frigon, D.O., **Oerther, D.B.**, Morgenroth, E., and Raskin, L.R., 2002, "Oligonucleotide Probe Hybridization and Modeling Results Suggest that Populations Consuming Readily Degradable Substrates in Plug-Flow Reactors have high Cellular RNA Levels," *Water Science and Technology*, 45(6):115-126.
10. **Oerther, D.B.**, van Loosdrecht, M. C. M., and Raskin, L., 2002, "Quantifying the Impact of Wastewater Micronutrient Composition on the *In Situ* Growth Activity of *Acinetobacter* spp.," *Water Science and Technology*, 46(1-2):443-447.
11. Frigon, D.O., Arnaiz, E., **Oerther, D.B.**, and Raskin L., 2002, "Who Eats What? Classifying Microbial Populations Based on Diurnal Profiles of rRNA Levels," *Water Science and Technology*, 46(1-2):1-9.
12. **Oerther, D.B.**, Jeyanayagam, S., and Husband, J., 2002, "FISHing for Fingerprints in BNR Systems!," *Water Environment and Technology*, 14:22-27.
13. **Oerther, D.B.**, and de los Reyes III, F., 2002, "Molecular Methods in Biological Systems," *Water Environment Research*, 74(4):71-105.
14. **Oerther, D.B.**, 2002, "Introducing Molecular Biology to Environmental Engineers Through Development of a New Course," *CEE: Chemical Engineering Education*, 36(4):258-263.

15. Eluru, H.B., Jing, G., Polaczyk, A., Kinkle, B., **Oerther, D.B.**, and Papautsky, I., 2002, "Fabrication of Culture-Based Biochips for Detecting Microorganisms in Environmental Samples," *IEEE Engineering in Medicine and Biology*, 2:1688-1689.
16. **Oerther, D.B.**, 2002, "Principles of Biology in Environmental Engineering: Molecular Biology-based Identification of Microorganisms," *American Society for Engineering Education*, Montreal, QUE, p 3649-3655.
17. Eluru, H., Polaczyk, A., Kinkle, B., **Oerther, D.B.**, and Papautsky, I., 2002, "Culture-based Biochips for Detecting Nocardioforms in Environmental Samples," *Northeast Bioengineering*, p 131-132.
18. Stroot, P.G. and **Oerther, D.B.**, 2003, "Elevated Precursor 16S rRNA Levels Suggest the Presence of Growth Inhibitors in Wastewater," *Water Science and Technology*, 47(11):241-250.
19. de los Reyes III, F., **Oerther, D.B.**, and Angenent, L., 2003, "Molecular Methods in Biological Systems," *Water Environment Research*, 75(CD-ROM supplement):65-139.
20. Saikaly, P., E., **Oerther, D.B.**, 2003, "Modelling Bacterial Competition in Activated Sludge Using Non-Linear Dynamics and Monod Kinetics," *IASTED Modelling and Simulation*, p 203-208.
21. **Oerther, D.B.**, 2003, "NSF CCLI: Development a Molecular Biology Lab Course in Environmental Engineering and Science," *American Society for Engineering Education*, Nashville, TN, p 1841-1846.
22. **Oerther, D.B.**, 2003, "Integrating Biological Principles in Environmental Engineering Education: Summary Results of a Three-Year Pilot Study," *American Society for Engineering Education*, Nashville, TN, p 1847-1854.
23. **Oerther, D.B.**, and Love, N.L., 2004, "The Value of Applying Molecular Biology Tools in Environmental Engineering: Academic and Industry Perspective in the U.S.A.," *Reviews in Environmental Science and Bio/Technology*, 2:1-8.
24. Saikaly, P., and **Oerther, D.B.**, 2004, "Bacterial Competition in Activated Sludge: Theoretical Impact of Varying Solids Retention Time on Diversity," *Microbial Ecology*, 48(2):274-284.
25. Jing, G., Hollis, G., Polaczyk, A., Eluru, H.B., Kinkle, B., Mast, D., **Oerther, D.B.**, and Papautsky, I., 2004, "Developing Rapid Detection of Mycobacteria Using Microwaves," *The Analyst*, 129(10):963-969.
26. de los Reyes III, F., **Oerther, D.B.**, and Angenent, L., 2004, "Molecular Methods in Biological Systems," *Water Environment Research*, 76(6):605-667.
27. **Oerther, D.B.**, Jeyanayagam, S., and Husband, J., 2004, "New Tools for the Trade: Molecular biology, microelectrodes, and lab-on-a-chip devices can help environmental professionals better manage complex treatment systems," *Water Environment and Technology*, 16(9):42-44,47.
28. Jing, G., **Oerther, D.B.**, Papautsky, I., 2004, "Culture-Based Biochip for Environmental Monitoring," *International Society for Optical Engineering*, 5345:68-77.
29. Choi, H., Zhang, K., Dionysiou, D.D., **Oerther, D.B.**, Sorial, G.A., 2005, "Influence of Cross-Flow Velocity on Membrane Performance During Filtration of Biological Suspension," *Journal of Membrane Science*, 248:189-199.
30. Jing, G., Eluru, H.B., Polaczyk, A., Kinkle, B., **Oerther, D.B.**, and Papautsky, I., 2005, "Culture-Based Detection of Mycobacteria in Environmental Samples," *Journal of Micromechanics and Microengineering*, 15:1-7.

31. Choi, H., Zhang, K., Dionysiou, D.D., **Oerther, D.B.**, and Sorial, G.A., 2005, "Effect of Permeate Flux and Tangential Shear on Membrane Fouling for Wastewater Treatment," *Separation and Purification Technology*, 45:68-78.
32. Saikaly, P., Stroot, P.G., and **Oerther, D.B.**, 2005, "Assessing the Impact of Solids Retention Time on Activated Sludge Bacterial Diversity by 16S rRNA Gene Terminal Restriction Fragment Analysis," *Applied and Environmental Microbiology*, 71(10):5814-5822.
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34. Love, N.G., **Oerther, D.B.**, and Ross, B., 2005, "Editorial: Evolving to Serve You Better," *Water Environment Research*, 77(1):3.
35. Angenent, L., de los Reyes, F., **Oerther, D.B.**, and McMahon, K., 2005, "Molecular Methods in Biological Systems," *Water Environment Research*, 77(6):718-779.
36. Kukreti, A., Islam, S., **Oerther, D.B.**, Davis, K., Turner, M.G., Maltbie, C., and Fowler, T.W., 2005, "Investigating Student Interest in Post-Secondary STEM Education," *American Society for Engineering Education*, Portland, OR, 9021-9036.
37. Zhang, K., Choi, H., Dionysiou, D., Sorial, G., and **Oerther, D.B.**, 2006, "Identifying Pioneer Bacterial Species Responsible for Biofouling Membrane Bioreactors," *Environmental Microbiology*, 8(3):433-440.
38. Rittmann, B.E., Hausner, M., Löffler, F., Love, N.G., Muyzer, G., Okabe, S., **Oerther, D.B.**, Peccia, J., Raskin, L., and Wagner, M., 2006, "A Vista for Microbial Ecology and Environmental Biotechnology," *Environmental Science and Technology*, 40(4):1096-1103.
39. Cai, Z., Kim, D., Sorial, G.A., Saikaly, P.E., Zein, M.M., and **Oerther, D.B.**, 2006, "Performance and Microbial Diversity of Trickle-Bed Air Biofilter Under Interchanging Contaminants," *Engineering in Life Sciences*, 6(1):37-42.
40. Polaczyk, A., Kinkle, B., Papautsky, I., and **Oerther, D.B.**, 2006, "Culture-based MEMS Device to Track *Gordonia* in Activated Sludge," *Environmental Science and Technology*, 40(7):2269-2274.
41. **Oerther, D.B.**, 2006, "Integrating Molecular Biology Research, Teaching, and Professional Outreach in Environmental Engineering and Science," *Journal Environmental Engineering Science*, 23(3):451-460.
42. Choi, H., Zhang, K., Dionysiou, D.D., **Oerther, D.B.**, and Sorial, G.A., 2006, "Membrane filtration performance with activated sludge of CSTR and PFR for the treatment of paper mill wastewater," *Chemosphere*, 63(10):1699-1708.
43. **Oerther, D.B.**, 2006, "Editorial: Anaerobic Treatment in the 21st Century," *Water Environment Research*, 78(5):459.
44. Simpson, J.M., Stroot, P.G., Butler, R., Gelman, S. Beydilli, I., Dudley, S., and **Oerther, D.B.**, 2006, "16S rRNA Tools Demonstrate an Unexpected Predominance of Paenibacillus-like Bacteria in an Industrial Activated Sludge System," *Water Environment Research*, 78(8):864-871.
45. Smith, R., and **Oerther, D.B.**, 2006, "Microbial Community Development in a Laboratory-scale Nitrifying Activated Sludge System with Input from a Side-stream Bioreactor Treating Digester Supernatant," *Water Science and Technology*, 54(1):209-216.

46. **Oerther, D.**, Maltbie, C., Li, B., Li, J., Pruden, A., and Stroot, P., 2006, "Disseminating Molecular Biology for Environmental Engineers with NSF CCLI Support," *American Society for Engineering Education*, Chicago, IL, 6p.
47. Pumphrey, S., Hoessle, A., and **Oerther, D.B.**, 2006, "Service Learning at Cincinnati: Researching Water Treatment for Emerging Economies," *American Society for Engineering Education*, Chicago, IL, 11p.
48. Kukreti, A., McNerney, P., Soled, S., Obarski, K., Lu, M., Miller, R., **Oerther, D.**, and Fowler, T., 2006, "An Engineering Research Experience for Teachers: Implementation and Assessment," *American Society for Engineering Education*, Chicago, IL, 12p.
49. **Oerther, D.**, Carlarne, C., Maurer, E., Lamendella, R., and Pumphrey, S., 2006, "Using Phosphorus Recovery from Wastewater as a Context for Teaching Sustainable Development with USEPA P3 Support," *American Society for Engineering Education*, Chicago, IL, 6p.
50. Vogel, J.R., Stoeckel, D.M., Lamendella, R., Zelta, R.B., Santo Domingo, J., Walker, S.R., and **Oerther, D.B.**, 2007, "Identifying Fecal Sources in a Selected Catchment Reach Using Multiple Source-Tracking Tools," *Journal of Environmental Quality*, 36(3):718-729.
51. Lamendella, R., Santo Domingo, J.W., **Oerther, D.B.**, Vogel, J.R., and Stoeckel, D.M., 2007, "Assessment of Fecal Source Pollution in a Small Northern-plains Watershed Using PCR and Phylogenetic Assays of *Bacteroidetes* 16S rDNA," *FEMS Microbiology Ecology*, 59(3):651-660.
52. Jing, G., Polaczyk, A., Kinkle, B., **Oerther, D.B.**, and Papautsky, I., 2007, "Development of a Microfluidic Biosensor for Detection of Environmental Mycobacteria," *Sensors & Actuators: B*, 123:614-629.
53. Lu, T., Saikaly, P.E., and **Oerther, D.B.**, 2007, "Modeling Competition of Aerobic Heterotrophs for Complementary Nutrient in a Biofilm Reactor: Effect of Hydraulic Retention Time on Coexistence," *Water Science and Technology*, 55(8-9):227-235.
54. Zhang, K., Choi, H., Wu, M., Sorial, G.A., Dionysiou, D., and **Oerther, D.B.**, 2007, "An Ecology-based Analysis of Irreversible Membrane Biofouling in MBRs," *Water Science and Technology*, 55(8-9):395-402.
55. Wu, M.Y., Suryanarayanan, K., van Ooij, W.J., and **Oerther, D.B.**, 2007, "Using Microbial Genomics to Evaluate the Effectiveness of Silver to Prevent Biofilm Formation," *Water Science and Technology*, 55(8-9):413-419.
56. Humringhouse, B.W., Santo Domingo, J.W., Revetta, R.P., Lamendella, R., Kelty, C.A., and **Oerther, D.B.**, 2007, "Microbial Characterization of Drinking Water Systems Receiving Groundwater and Surface Water as the Primary Sources of Water," *Water Distribution Systems Analysis*, Cincinnati, OH, p 159.
57. Mack, K.L., Peterson, E.T.K., Papautsky, I., Kinkle, B., and **Oerther, D.B.**, 2007, "An Innovative Approach to Detecting Mycobacterium in Drinking Water Systems," *Water Distribution Systems Analysis*, Cincinnati, OH, p 160.
58. Lamendella, R., Santo Domingo, J.W., Kelty, C., and **Oerther, D.B.**, 2008, "Occurrence of Bifidobacteria in Feces and Environmental Waters," *Applied and Environmental Microbiology*, 74(3):575-584.
59. Smith, R.C., Saikaly, P.E., Zhang, K., Tomatos, S., and Oerther, D.B., 2008, "Ecological Engineering of Bioaugmentation from Side-stream Nitrification," *Water Science and Technology*, 57(12):1927-1933.

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61. Zhang, K., Choi, H., Dionysiou, D.D., and **Oerther, D.B.**, 2008, "Application of Membrane Bioreactors in the Preliminary Treatment of Early Planetary Base Wastewater for Long Duration Space Missions," *Water Environment Research*, 80(12):2209-2218.
62. Lu, T., Stroot, P.G., and **Oerther, D.B.**, 2009, "Reverse Transcription of 16S rRNA to Monitor Ribosome Synthesizing Bacterial Populations in the Environment," *Applied and Environmental Microbiology*, 75(13): 4589-4598.
63. Lamendella, R., Santo Domingo, J.W., Yannarell, A.C., Ghosh, S., Di Giovanni, G., Mackie, R.I., and **Oerther, D.B.**, 2009, "Evaluation of Swine-Specific PCR Assays Used for Fecal Source Tracking and Analysis of Molecular Diversity of Bacteroidales-swine Specific Populations," *Applied and Environmental Microbiology*, 75(18): 5787-5796.
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65. Laseke, I., Korte, J., Lamendella, R., Parshionikar, S.U., Kaneshiro, E.S., Marciano-Cabral, F., **Oerther, D.B.**, 2010, "Identification of *Naegleria fowleri* in Warm Groundwater Aquifers," *Journal of Environmental Quality*, 39:147-153.
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88. **Oerther, D.B.**, "Ecological Considerations in Bioreactor Design: Genomics, Modeling, and Theory," Department of Energy, Environment, and Chemical Engineering, Washington University in St. Louis, October 13, 2006.
89. **Oerther, D.B.**, "Microbial Ecology, Bioprocess Engineering, Sensors, and the Developing World," Department of Civil Engineering and Geological Sciences, University of Notre Dame, South Bend, IN, January 30, 2007.
90. **Oerther, D.B.**, "Evaluating Membrane Bioreactors for Biological Nutrient Removal and Biofouling," Bruce Podwal Memorial Lecture, Department of Civil Engineering, City College of New York, March 27, 2007.
91. **Oerther, D.B.**, "A Framework for Sustainable Urban Engineering," Sustainability Forum, College of Design, Art, Architecture, and Planning, University of Cincinnati, August 10, 2007.
92. **Oerther, D.B.**, "Introduction of Robert Neuwirth: Shadow Cities," UC International, University of Cincinnati, November 14, 2007.
93. **Oerther, D.B.**, "It's a Marathon not a Sprint: A Discussion of International Sustainability and Partnerships in Tanzania," Cincinnati Children's Hospital Seminar Series, September 19, 2008.
94. **Oerther, D.B.**, "Quantifying Active Bacterial Populations in Environmental Samples," Department of Chemical and Biomedical Engineering, University of South Florida, September 26, 2008.

95. **Oerther, D.B.**, "Center for Sustainable Urban Environments at the University of Cincinnati," Campus Sustainability Day Celebration, University of Cincinnati, October 22, 2008.
96. **Oerther, D.B.**, "The Importance of Sustainability and Partnerships in Global Development," UC Chapter of Engineers Without Borders, October 30, 2008.
97. **Oerther, D.B.**, "Environmental Biotechnology, Sustainable Urban Engineering, and Global Development," Sponsored Research Services Lunch and Learn Series, University of Cincinnati, December 4, 2008.
98. **Oerther, D.B.**, "Highlights of the Department of Civil and Environmental Engineering, University of Cincinnati," Keynote Address for the Lecture Series on Environmental Issues and Remedies, Institute of Science and Technology for Advanced Studies, Sardar Patel University, December 24, 2008.
99. Armstrong, L., Weitkamp, T., and **Oerther, D.B.**, "Multidisciplinary Problem-based Service Learning in Developing Countries," NAFSA, Cincinnati, OH, November 9, 2009.
100. Brawn, D., Mehta, R., and **Oerther, D.B.**, "Honors Capstone Courses at the University of Cincinnati," NAFSA, Cincinnati, OH, November 11, 2009.
101. **Oerther, D.B.**, "The Three D's of Sustainability: Diet, Density, and Development," Department of Earth and Environmental Engineering, Columbia University, April 3, 2009.
102. **Oerther, D.B.**, "The Three D's of Sustainability: Diet, Density, and Development," Trans-disciplinary Lecture Series, Center for Sustainable Urban Engineering, University of Cincinnati, April 10, 2009.
103. **Oerther, D.B.**, "The Three D's of Sustainability: Diet, Density, and Development," Focus the Nation, University of Cincinnati, April 16, 2009.
104. **Oerther, D.B.**, "Think global, act local: Bringing sustainable development home to Cincinnati, OH, USA," Pecha Kucha seminar series, Cincinnati Art Museum, August 5, 2009.
105. **Oerther, D.B.**, "Ethical Research and Social Responsibility in Sustainable Development," Department of Civil and Environmental Engineering, University of Cincinnati, OH, November 6, 2009.
106. **Oerther, D.B.**, "Sustainable Living," 3rd Annual International Education Summit, "Global Health: Issues and Opportunities," Northern Kentucky University, November 13, 2009.
107. **Oerther, D.B.**, "Social Entrepreneurship for the Developing World," College of Business, University of Cincinnati, OH, January 23, 2010.
108. **Oerther, D.B.**, "Integrating Microbial Genomics with Sustainable Development to Ensure Water Quality," Department of Civil and Environmental Engineering, Rensselaer Polytechnic Institute, February 2, 2010.
109. **Oerther, D.B.**, "Environmental Biotechnology for Masdar," MIST Program, Massachusetts Institute of Technology, February 11, 2010.
110. **Oerther, D.B.**, "Applications of Biotechnology for Environmental Systems," Department of Civil, Architectural, and Environmental Engineering, Missouri University of Science and Technology, February 24, 2010.
111. **Oerther, D.B.**, "Successful Graduate Studies at the University of Cincinnati: A Perspective by Dr. Oerther," Graduate Student Recruitment Weekend Keynote Address, University of Cincinnati, March 5, 2010.

112. **Oerther, D.B.**, “A Vision for the School of Global Sustainability at the University of South Florida,” University of South Florida, June 24, 2010.
113. **Oerther, D.B.**, “Kicking the Tires: Strategic Thoughts for the S&T Environmental Portfolio,” Missouri University of Science and Technology, September 9, 2010.
114. **Oerther, D.B.**, “Moving the Chains: Summarizing 2010 and Looking Ahead to 2011,” Missouri University of Science and Technology, February 4, 2011.
115. **Oerther, D.B.**, “Molecular Microbial Ecology of Waste Treatment as a Model System to Understand the Role of Microbiology in the Obesity Epidemic,” Food Systems and Bioengineering Seminar, University of Missouri, Columbia, February 8, 2011.
116. **Oerther, D.B.**, “S&T Earth Day Luncheon: Our Common Research Agenda,” Missouri University of Science and Technology, April 22, 2011.

PATENTS

- University of Cincinnati Invention Disclosure, “BioMEMS Device for Quantifying Mycobacteria and Nocardioforms.” Co-Inventors: 34% D.B. Oerther; 33% I. Papautsky; and 33% B. Kinkle. February 15, 2001.
- University of Cincinnati Invention Disclosure, “Molecular Bioindicator for Toxicity in Wastewater Treatment.” Co-Inventors: 51% D.B. Oerther; and 49% P. Stroot. May 2, 2001.
- University of Cincinnati Invention Disclosure, “Molecular Bioindicator to Measure Disinfection Efficacy in Water and Wastewater Treatment.” Co-Inventors: 51% D.B. Oerther; and 49% P. Stroot. May 2, 2001.
- University of Cincinnati Invention Disclosure, “Rapid Detection of Microorganisms Using Microwaves.” Co-Inventors: 33% D.B. Oerther; 33% G. Hollis; 34% I. Papautsky. March 11, 2002.
- University of Cincinnati Invention Disclosure, “Retarding Microbially-Induced Corrosion with Silane Films.” Co-Inventors: 33% D.B. Oerther; 33% K. Suryanarayanan; 34% W. van Ooij. April 19, 2004.
- Provisional Patent, Serial No. 60/673,229, entitled “Paraffin Culture-Based Microfluidic Biochip Detection of Mycobacteria in Clinical Samples” filed April 20, 2005. (UC IDF No. 105-030)
- Provisional Patent, Serial No. 60/658,693, entitled “Culture-Based Microfluidic Biochip” filed March 4, 2005 (UC IDF No. 105-016)

SUMMARY OF COURSES TAUGHT AND DEVELOPED

<u>Number</u>	<u>Title</u>	<u>Hours</u>	<u>Term</u>	<u>Year</u>	<u>Size</u>	<u>Evaluation</u> ^a
<i>Courses offered at the University of Cincinnati</i>						
CEE600*	Chem. & Micro. of Env. Systems	3 hr	Winter	01	2	Undetermined
CEE725*	Molecular Methods in Env. Eng.	4 hr	Spring	01	15	4.9/5
CEE471*	Intro. to Env. Eng.	3 hr	Summer	01	19	4.0/5
CEE600	Chem. & Micro. of Env. Systems	3 hr	Winter	02	10	4.2/5
CEE601*	Chem. & Micro. Laboratory	1 hr	Winter	02	9	4.6/5
CEE619	Molecular Methods in Env. Eng.	4 hr	Spring	02	8	4.8/5
CEE471	Intro. to Env. Eng.	3 hr	Summer	02	15	4.4/5
CEE600	Chem. & Micro. of Env. Systems	3 hr	Winter	03	12	4.6/5
CEE601	Chem. & Micro. Laboratory	1 hr	Winter	03	10	4.7/5
CEE619	Molecular Methods in Env. Eng.	4 hr	Spring	03	21	4.7/5
CEE175*	Computer Applications in CEE	3 hr	Autumn	03	19	4.3/5
CEE600	Chem. & Micro. of Env. Systems	3 hr	Autumn	03	5	4.0/5
CEE601	Chem. & Micro. Laboratory	1 hr	Autumn	03	5	Undetermined
CEE619	Molecular Methods in Env. Eng.	4 hr	Winter	04	24	4.3/5
CEE646*	(Micro)Biological Prin. Env. Sys.	4 hr	Winter	04	24	4.3/5
CEE600	Chem. & Micro. of Env. Systems	3 hr	Autumn	04	18	4.5/5
CEE601	Chem. & Micro. Laboratory	1 hr	Autumn	04	18	Undetermined
CEE101*	Civil Engineering Seminar	1 hr	Winter	05	65	4.4/5
CEE619	Molecular Methods in Env. Eng.	4 hr	Winter	05	5	Undetermined
CEE646	(Micro)Biological Prin. Env. Sys.	4 hr	Winter	05	20	4.4/5
CEE600	Chem. & Micro. of Env. Systems	3 hr	Autumn	05	12	4.6/5
CEE601	Chem. & Micro. Laboratory	1 hr	Autumn	05	12	Undetermined
CEE619	Molecular Methods in Env. Eng.	4 hr	Winter	06	8	4.3/5 ^b
CEE646	(Micro)Biological Prin. Env. Sys.	4 hr	Summer	06	2	4.8/5
CEE100*	Introduction to Civil Engineering	3 hr	Autumn	06	58	4.8/5
CEE600	Chem. & Micro. of Env. Systems	3 hr	Autumn	06	8	3.3/5
CEE601	Chem. & Micro. Laboratory	1 hr	Autumn	06	8	Undetermined
ENVS397H*	Environ. Challenges in India	3 hr	Autumn	06	22	4.2/5
CEE619	Molecular Methods in Env. Eng.	4 hr	Winter	07	5	3.8/5 ^c
CEE103	Introduction to CEE: Math	1 hr	Autumn	07	58	3.3/5
CEE397H*	Environ. Challenges in India	3 hr	Autumn	07	16	4.7/5
CEE600	Chem. & Micro. of Env. Systems	3 hr	Autumn	07	20	4.4/5
CEE601	Chem. & Micro. Laboratory	1 hr	Autumn	07	19	4.7/5
CEE619	Molecular Methods in Env. Eng.	4 hr	Winter	06	6	Undetermined ^c
CEE676	Env Eng Seminar	1 hr	Winter	08	37	Undetermined
CEE472H*	Practical Aspects Bldg Nrg Audit	3 hr	Spring	08	14	4.7/5 ^d
CEE100	Introduction to CEE	1 hr	Autumn	08	91	3.8/5
CEE103	Introduction to CEE Math	1 hr	Autumn	08	91	3.9/5
CEE398H*	Readings in Sustain Urban Eng	3 hr	Autumn	08	20	4.3/5
CEE600*	Millennium Development Goal 7	3 hr	Autumn	08	15	4.6/5 ^e
CEE601*	MDG7 Lab	1 hr	Autumn	08	15	4.0/5
CEE600H*	Millennium Development Goal 7	3 hr	Autumn	08	15	5.0/5 ^e

CEE601H*	MDG7 Lab	1 hr	Autumn	08	15	5.0/5
CEE398H*	Readings in Sustain Urban Eng	3 hr	Spring	09	20	4.1/5 ^f
CEE472	Practical Aspects of Bldg Nrg Audit	3 hr	Spring	09	18	4.8/5 ^d
CEE100	Introduction to CEE	1 hr	Autumn	09	58	3.3/5
CEE103	Introduction to CEE Math	1 hr	Autumn	09	58	3.9/5
CEE398H	Readings in Sustain Urban Eng	3 hr	Autumn	09	23	4.8/5
CEE600	Millennium Development Goal 7	3 hr	Autumn	09	16	4.4/5 ^g
CEE601	MDG7 Lab	1 hr	Autumn	09	16	Undetermined
CEE600H	Millennium Development Goal 7	3 hr	Autumn	09	9	3.8/5 ^g
CEE601H	MDG7 Lab	1 hr	Autumn	09	9	Undetermined

Courses offered at the Indian Institute of Science, Bangalore, India

CE258*	Water and Sewage Plants	3 hr	Winter	06	8	4.8/5
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Courses offered at the Manipal Academy of Higher Education, Manipal, India

Biotech*	Enzymology	3 hr	Winter	06	20	4.9/5
Biotech	Enzymology	3 hr	Winter	07	17	4.8/5

Courses offered at the Missouri University of Science and Technology

CE261*	Intro Env Eng and lab	3 hr	Spring	11	83	3.14/4
CE261*	Intro Env Eng and lab	3 hr	Summer	11	15	in progress
CE261	Intro Env Eng and lab	3 hr	Autumn	11	85	in progress

* Note: Represents a new course preparation.

^a Note: For the University of Cincinnati, The Indian Institute of Science, and the Manipal Academy of Higher Education evaluations are scored with 5 as excellent; 3 as acceptable; and 1 as poor. For the Missouri University of Science and Technology evaluations are scored with 4 as excellent; 2 as acceptable; and 0 as poor.

^b Note: Course offered by graduate students Rob Smith and Kai Zhang using materials prepared by Dan Oerther

^c Note: Course offered by graduate students Mau Yi Wu and Ting Lu using materials prepared by Dan Oerther

^d Note: Course co-taught with Joe Harrell, Facilities Management, UC

^e Note: Course co-taught with Eric Mauer, College of Arts and Sciences, UC

^f Note: Course co-taught with Eric Gruenstein, College of Medicine, UC

^g Note: Course co-taught with Eric Mauer, College of Arts and Sciences, and Raj Metha, College of Business, UC

SHORT COURSE PREPARATION / CONFERENCE ORGANIZATION

- “Molecular Biology in Environmental Engineering Workshop,” National Science Foundation, Alexandria, VA, April 25 – 26, 2002.
- “Understanding Modern Microbial Identification Technologies in Environmental Settings,” National Science Foundation and University of Kenitra, Morocco, April 16 – 25, 2003.

- “Applications of Genomics in Water Quality,” Ohio Environmental Education Fund sponsored workshop, University of Cincinnati, Cincinnati, OH, May 31 – June 2, 2003.
- “FISHing for Bacteria in Activated Sludge,” Water Environment Federation, Preconference Technical Workshop, WEFTEC, Los Angeles, CA, October 11, 2003.
- “FISHing for Bacteria in Activated Sludge,” Water Environment Federation Preconference Technical Workshop, WEFTEC, New Orleans, LA, October 3, 2004.
- “SWOWEA Monthly Business Meeting,” Ohio Water Environment Association Business Meeting and Workshop, Cincinnati, OH, September 15, 2005.
- “FISHing for Bacteria in Activated Sludge,” Water Environment Federation Preconference Technical Workshop, WEFTEC, Washington, DC, October 30, 2005.
- “GK-12 International Activities Supplement for Project STEP: Building STEM Cincinnati,” National Science Foundation, Shirati, Tanzania, December 9, 2007 – January, 13, 2008.
- “Partnership for Sustainability,” Annual Meeting of the Ohio Society of Professional Engineers, Cincinnati, OH, May 16-17, 2008.
- “Celebrating Sustainability,” Annual Meeting of the Center for Sustainable Urban Engineering, Cincinnati, OH, November 18, 2008.
- “Assessing the Design Portfolio of Missouri S&T,” site visit by Kate Hanisian and Ramsey Ford, Design Impact, Rolla, MO, October 28-30, 2010.
- “Environmental Summit,” Rolla, MO, December 15, 2010.
- “Short Course in Environmental Biotechnology,” Rolla, MO, June 7-15, 2011.

STUDENT ADVISING

Visiting Scholars

Melanie Head, Ph.D. Candidate in Environmental Engineering, University of Manitoba, Winnipeg, MB, Canada, June 2001.

Keith Sears, Ph.D. Candidate in Environmental Engineering, Purdue University, West Lafayette, IN, April 2002.

Pete Wilkie, B.S. Candidate in Civil Engineering, University of Newcastle upon Tyne, Newcastle, England, June – September 2002.

Sharon Bachman, 11th-12th grade biochemistry/biophysics teacher at Hughes Center/CAMUS, June, 2005 – May, 2006.

Allison Ross, B.A. Candidate in Environmental Studies, University of Chicago, Chicago, IL, June – September, 2006.

Neal Grabowski, B.S. Candidate in Mechanical Engineering, University of Illinois, Urbana-Champaign, IL, June – September, 2006.

High School students

Charles Cain, January, 2003 – September, 2004

Lucas Nerbert, July, 2003 – September, 2004

David Nerbet, July, 2003 – September, 2003

Neal Grabowski, July, 2005 – September, 2005

Zhi Yuan Lu, July, 2007 – September, 2007

Srecharon Gorukanti, May, 2011 – July, 2011

Katherine Lee, May, 2011 – July, 2011

Bachelor

	<u>Employed</u>	<u>Graduation</u>
RoxAnne Butler	Sept., 2001 – June, 2003	June, 2003
Anna Hoessle	October, 2000 – June, 2004	June, 2004
Ian Laseke	Sept. 2003 – June, 2004	June, 2004
Sarah Pumphrey	January, 2003 – June, 2005	June, 2005
David Bailey	June, 2003 – June, 2005	June, 2007
Chris Luedeker	October, 2003 – June, 2006	June, 2006
Anne Ryan	April, 2005 – March, 2006	June, 2006
MaryKate Henrickson	June, 2005 – Sept., 2005	June, 2009
Dan Divelbiss	June, 2006 – Sept., 2006	June, 2006
Neil Schaner	Sept. 2006 – May, 2007	June, 2009
Elizabeth Dixon	Sept. 2007 – June, 2009	June, 2009
Daniel McCurry	Sept. 2007 – June, 2010	June, 2011
Andrew Schriner	May, 2008 – Sept., 2008	June, 2009
David Hackney	May, 2011 – August, 2011	May, 2012

Master

	<u>Enrollment</u>	<u>Graduation</u>
Neeraja Iyer	September, 2001	August 2, 2004
Kai Zhang	September, 2002	August 26, 2004
Yanping Chen	September, 2002	May 25, 2005
Mark Simcoe	September, 2003	* withdrawn January, 2004
Crystal High	September, 2003	January 10, 2006
Regina Lamendella	September, 2004	December 21, 2005
Alicia Mansour	September, 2004	* dismissed January, 2007
Ting Lu	September, 2004	November 3, 2006
Ian Laske	September, 2004	December 19, 2006
Anna Hoessle	September, 2005	* withdrawn July, 2006
Mike Parsons	September, 2005	February 7, 2007
Kristin Mack	September, 2005	April 27, 2007
Sarah Pumphrey	September, 2005	July 30, 2008
Ben Humringhouse	September, 2005	May 21, 2010
Fikile Mtshiya	September, 2007	* changed advisors July, 2010
Zhouyang Liu	September, 2007	* changed advisors July, 2010
Daniel Divelbiss	September, 2009	May 6, 2011

Doctoral

	<u>Enrollment</u>	<u>Graduation</u>
Peter Stroot	September, 2000	December 6, 2003
Pascal Saikaly	September, 2000	July 11, 2005
Amy Polaczyk	November, 2001	* withdrawn April, 2003
Mau Yi Wu	September, 2003	July 30, 2010
Robert Smith	September, 2003	May 10, 2010

Kai Zhang	September, 2004	July 3, 2007
Regina Lamendella	September, 2005	November 12, 2009
Ting Lu	September, 2006	June 18, 2010
Shreya Ghosh	September, 2007	May, 2012 (anticipated)
Nichole Brinkman	September, 2008	* changed advisors, July, 2010
Maria RamirezBernal	September, 2009	* dismissed June, 2011
Andrew Schriener	September, 2009	June, 2013 (anticipated)

OTHER TEACHING RELATED ACTIVITY

- Electronic Classroom Training by ECSS and UCit, January 1, 2001.
- Utilizing BLACKBOARD Software for Classes by CET&L, March 1, 2001.
- Podcasting by UCit, July 17, 2007.
- How to Develop and Assess Learning Portfolios by CET&L, August 12, 2009.
- BLACKBOARD Basics by EdTech, August 10, 2010.
- Video Communication Center Open House, August 11, 2010.
- eFellows Community of Practice, Spring 2011.

COMMITTEE SERVICE

Doctoral Thesis Committees

	<u>Advisor</u>	<u>Proposal</u>	<u>Final</u>
<i>Department of Civil and Environmental Engineering, University of Cincinnati</i>			
Ann Gunkel	Bishop	March, 2001	May 9, 2002
Amy Pruden	Suidan	March, 2002	July 18, 2002
Chris Green	Scarpino	June, 2001	August 2, 2002
Peter Stroot	Oerther	March, 2002	December 4, 2003
Jian Wang	Bishop	November, 2002	April 18, 2005
Sylvia Rodriguez	Bishop	October, 2002	April 27, 2005
Pascal Saikaly	Oerther	June, 2003	July 11, 2005
Peng Jin	Bishop	January, 2003	February 13, 2007
Robert Smith	Oerther	August, 2005	May 10, 2010
Qiang Zhang	Suidan	December, 2005	March 27, 2009
Kai Zhang	Oerther	September, 2006	July 3, 2007
Regina Lamendella	Oerther	December, 2007	November 12, 2009
Mau Yi Wu	Oerther	September, 2007	July 30, 2010
Ting Lu	Oerther	November, 2007	June 18, 2010
Tianze Xu	Wei	---	February 3, 2009
Andrew Schrinier	Oerther/Uber	---	---

Other Departments at the University of Cincinnati

	<u>Advisor</u>	<u>Department</u>	<u>Final</u>
Prosenjit Mal	Fred Beyette	Electrical Engineering	Jan 22, 2004
Sabrina Mueller	Brian Kinkle	Biological Sciences	Jan 23, 2006
Nancy Burton	Tiina Reponen	Environmental Health	May 29, 2007

Department of Civil, Architectural, and Environmental Engineering, Missouri University of Science and Technology

Shreya Ghosh	Oerther	---	---
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External/Invited Examiner at Other Universities

	<u>Advisor</u>	<u>University</u>	<u>Final</u>
Melanie Head	Jan Oleszkiewicz	University of Manitoba	Jan, 2004

Master Thesis Committees

Department of Civil and Environmental Engineering, University of Cincinnati

	<u>Advisor</u>	<u>Proposal</u>	<u>Final</u>
Amy Polaczyk	Scarpino	June, 2001	April 23, 2002
Denise Gillam	Bishop	November, 2002	November 6, 2003
Neeraja Iyer	Oerther	January, 2003	August 2, 2004
Kai Zhang	Oerther	November, 2003	August 26, 2004
Yanping Chen	Oerther	March, 2004	May 25, 2005

Melissa Hoffman	Scarpino	March, 2005	December 21, 2005
Regina Lamendalla	Oerther	May, 2005	December 21, 2005
Crystal High	Oerther	September, 2004	January 10, 2006
Craig Davidson	Pat Scarpino	July, 2005	July 28, 2006
Ian Laseke	Oerther	<i>informal</i>	December 19, 2006
Ting Lu	Oerther	August, 2006	November 3, 2006
Sarah Pumphrey	Oerther	October, 2007	July 30, 2008
Mike Parsons	Oerther	<i>informal</i>	February 7, 2007
Ben Humringhouse	Oerther	<i>informal</i>	May 21, 2010
Daniel Divelbiss	Oerther/Boccelli	March, 2010	May 6, 2011

Other Departments at the University of Cincinnati

	<u>Advisor</u>	<u>Department</u>	<u>Final</u>
Grant Hollis	Ian Papautsky	Electrical Engineering	March 7, 2003
Gaoshan Jing	Ian Papautsky	Electrical Engineering	Aug 4, 2004
Jill Brannock	Jodi Shann	Biological Sciences	Nov 9, 2004
Nichole Brinkman	Brian Kinkle	Biological Sciences	Feb 22, 2007
Kristin Mack	Brian Kinkle	Biological Sciences	April 27, 2007

University of Cincinnati Committees

- Fiscal Coordinating Committee, 2008.
- USO Centers of Excellence Committee, 2008.
- Committee for International Affairs, 2008.
- Faculty Senate, 2007, 2008, 2009 Senator-at-large.
- Chair, Budget and Priorities Standing Committee of the Faculty Senate, 2008.
- Representative, NSF Regional Grants Conference, October 11-13, 2000
- Assessor, Cincinnati Scholarship Program, 2001.
- Grant reviewer, Pilot Project Program, Department of Environmental Health, 2001, 2002, 2003, 2005.
- Institutional Biosafety Committee, 2003, 2004 Chair, 2005 Chair, 2006 Chair.
- UC|21 Implementation Committee, "Academic Excellence", 2004, 2005.
- UC, NKU, and Xavier efforts for Long-term Tsunami relief, 2005.
- UC AAUP Dispute Review Panel in the matter of Office of the Dean of the College of Medicine and Professor John MacLennan, 2005 Chair.
- UC Honors Council, 2007, 2008, 2009.

College of Engineering Committees (Cincinnati)

- Curriculum: 2005, 2006
- *Ad Hoc* Committees:
 - Freshman "Soft landing": 2003
- Host for:
 - Dr. Bordogna, Ph.D., Deputy Director, National Science Foundation, April 18, 2002.

Department of Civil and Environmental Engineering Committees (Cincinnati)

- Curriculum: 2000, 2001, 2002, 2003, 2004 Chair, 2005 Chair, 2006, 2007.
- Faculty Search: 2002 Solid and Hazardous Waste; 2007 Director Center for Sustainable Urban Engineering.
- Advisor: Civil Engineering Class of 2001 – 2006; Civil Engineering Class of 2007 - 20011.
- Advisory Board Outreach: 2002, 2003, 2004, 2005, 2006, 2007.
- Reappointment, Promotion, and Tenure: 2006, 2007.
- *Ad Hoc* Committees:
 - URC Summer Graduate Student Fellowships Selection, 2001, 2002.
 - Evaluation of TA Policy for CEE Department, 2003, 2004.
 - Evaluation of Joint B.S./M.S. in Environmental Engineering, 2001.
 - Preparation of Posters for Department Homecoming Event, 2001.
 - Preparation of Posters for Baldwin Hall Rededication Event, 2002.
 - ABET2000 Evaluation and Assessment Committee: 2002, 2003, 2004 Co-Chair, 2005 Co-Chair, 2006 Co-Chair.
- Host for:
 - Professor Vernon Snoeyink, Ph.D., NAE, University of Illinois at Urbana-Champaign, Association of Environmental Engineering and Science Professors Distinguished Lecturer, 2001.
 - Glen Daigger, Ph.D, P.E., DEE, NAE, CH2MHill, Kappe Lecturer of the American Academy of Environmental Engineers, September 25, 2001.
 - Professor Bruce Rittmann, Ph.D., NAE, Northwestern University, Association of Environmental Engineering and Science Professors Distinguished Lecturer, June 12, 2003.
 - Gary Logsdon, Ph.D., P.E., DEE, Black and Veatch, Kappe Lecturer of the American Academy of Environmental Engineers, December 3, 2004.

Environmental Engineering and Science Program (Cincinnati)

- Curriculum: 2002, 2003.
- Outreach/Admission: 2004 Chair, 2005 Chair.
- *Ad Hoc* Committees:
 - Evaluation of GA vs. TA Policy, 2001.
 - Graduate Student Awards Selection, 2001.
- Host for:
 - Fall picnic 2000; spring picnic 2001; spring picnic 2002.
 - Professor Francis de los Reyes, Ph.D., North Carolina State University, March 15, 2001.
 - Sam Jeyanayagam, Ph.D., P.E., DEE, Malcolm Pirnie, Inc., April 20, 2001.
 - Professor Dan Noguera, Ph.D., University of Wisconsin, Madison, March 29, 2002.

Missouri University of Science and Technology Committees

- Strategic Planning Committee, 2011.
- Research Centers Directors, 2010, 2011.

Department of Civil, Architectural, and Environmental Engineering Committees (Missouri)

- Vision 2020 Strategic Planning Committee: 2010,2011.
- FE Exam Review Task Force: 2011.
- Promotion and Tenure Committee: 2010, 2011.
- *Ad Hoc* Committees:
 - FE Exam Review Task Force: 2011.
 - Third year P&T review for Leslie Sneed: 2011.
- Host for:
 - Jim Ford, March 22, 2011.
 - Wayne Laufer, April 15, 2011.

PROFESSIONAL AFFILIATIONS

- American Academy of Environmental Engineers (AAEE)
 - Member since 2005
 - Board Certified Environmental Engineer (BCEE, formerly DEE) since 2006
 - Member, Membership Committee, 2009 – present
- American Biological Safety Association (ABSA)
 - Member 2004 – 2006
- American Society of Civil Engineering (ASCE)
 - Member since 2000
 - Member, scientific advisory panel for EvTech evaluation of In-Pipe Technology (IPT), 2001 – 2002.
 - Associate Editor, *Journal of Environmental Engineering, ASCE*, 2006 – 2009
- American Association of Engineering Education (ASEE)
 - Member since 2001
- Association of Environmental Engineering and Science Professors (AEESP)
 - Member since 1996
 - Conference Planning Committee, 2002 – present.
 - Education Committee, 2003 – 2009.
 - Awards Committee: 2006 Vice Chair; 2007 Chair
 - Board of Directors: 2007 – 2010; Chief Information Officer, 2009-2010
 - Tau Chi Alpha Supreme Council Representative: 2009 – 2012
- City of Cincinnati, Office of the Mayor
 - Climate Protection Steering Committee: member 2007 – 2008
 - Green Cincinnati Steering Committee: member 2009
 - Food Access Task Force: co-chair 2009
 - Climate Protection Food Task Team: co-chair 2009
- Community Partnership
 - Community Builders, 2010 – present
- Engineers without Borders

- Faculty mentor, University of Cincinnati student chapter, 2005 – 2009
- Faculty advisor, Missouri University of Science and Technology student chapter, 2010 – present
- Fulbright Program
 - Member, Friends of Fulbright of India, since 2006
 - Member, Fulbright Association, since 2006
- Industrial Design Society of America
 - Faculty mentor, Missouri University of Science and Technology student chapter, 2011 – present
- International Water Association
 - Member since 1997
- National Society of Professional Engineers (NSPE)
 - Member since 1996
 - Member, Board of Directors of the Cincinnati Chapter, 2003 – 2009
 - Vice President, Cincinnati Chapter, 2004
 - President, Cincinnati Chapter, 2005, 2007
- Ohio Academy of Sciences
 - Member 2005 – 2009
- Order of the Golden Shillelagh, Missouri University of Science and Technology
 - Member since 2010
- Sigma Xi, The Scientific Society
 - Member since 2002
 - Treasurer, Cincinnati Chapter, 2004 – 2008
- Standard Methods for the Examination of Water and Wastewater (APHA, AWWA, WEF)
 - Member since 2000
 - Chair, Sub Task 9000 committee to integrate techniques from molecular biology into Standard Methods for the Examination of Water and Wastewater. 2001 – 2007.
- Water Environment Federation (WEF)
 - Member since 1995
 - Founding author, annual literature review, “Molecular Methods in Biological Systems,” 2001 – 2006
 - Member, WEFTEC Program Committee, Research Symposium, 2002 – 2007
 - Vice Chair, WEFTEC Program Committee, Research Symposium, 2003
 - Chair, WEFTEC Program Committee, Research Symposium, 2004 – 2007
 - Associate Editor, *Water Environment Research*, 2004 – 2008
 - Member, *Ad Hoc* Membership Recruitment Subcommittee, 2006
 - Chair, Academic Stakeholders Committee, 2007
- Water Environment Research Foundation (WERF)

- Invited participant, “Workshop on Indicators for Pathogens in Wastewater, Biosolids, and Stormwater,” December 11-12, 2004, San Antonio, TX.
- Invited participant and associate moderator, “Sustainable Technology for Achieving Low TN and TP Effluents WERF Project # 02-CTS-1,” January 13-14, 2004, Washington, D.C.
- Project Subcommittee (PSC) for 03-CTS-2S, “Identify, Screen, and Treat Contaminants in Water/Wastewater,” 2003 – 2008.
- Project Subcommittee (PSC) for 04-CTS-3T, “Phase 2: Understanding Mechanisms and Methods to Mitigate Survival, Reactivation and Regrowth,” 2004 – 2009.
- Village Life Outreach Project (VLOP)
 - Member, 2005 – 2009
 - Advisory council, 2007 – 2009

REVIEWER

- American Water Works Association Research Foundation (AwwaRF) Unsolicited Review Panel Committee (URPC) June 9, 2003
- American Society of Civil Engineers - *Journal of Environmental Engineering*
- American Society for Microbiology - *Applied and Environmental Microbiology*
- CICEET Unsolicited Grant Proposals, 2004, 2006.
- Federation of European Microbiology Societies - *FEMS Microbiology Letters*
- International Water Association (formerly IAWQ) - *Water Research*
- U.S. Environmental Protection Agency – STAR Grant Program
- Water Environment Research Foundation (WERF)
 - Project Subcommittee (PSC) for 03-CTS-2S, “Identify, Screen, and Treat Contaminants to Ensure Wastewater Security.”
- National Science Foundation
 - *Ad Hoc* Peer Review for Grants Submitted to the Biology Directorate
 - *Ad Hoc* Peer Review for Grants Submitted to the Bioengineering and Environmental Science Program
 - Unsolicited Review Panel December 10-12, 2002 for the Bioengineering and Environmental Science Program
 - CAREER Review Panel November 16 – 18, 2003 for the Bioengineering and Environmental Science Program
 - SENSORS Review Panel May 2 – 4, 2005 for the Bioengineering and Environmental Science Program

CONFERENCE SESSIONS CHAIRED

- Session Organizer, Special Session on Molecular Tools in Environmental Engineering, Research Symposium, WEFTEC, Water Environment Federation, Atlanta, GA, October 13 – 17, 2001.
- Workshop organizer, NSF-sponsored workshop (BES-0116929) entitled, “Applying Molecular Biology Tools in Environmental Engineering,” Washington, D.C., April 25 – 26, 2002.

- Session Presider, Chemical/Physical Processes, Research Symposium, WEFTEC, Water Environment Federation, Chicago, IL, September 27 – October 2, 2002.
- Session Co-Presider, Recycle and Fate in Biological Nutrient Removal, WEFTEC, Water Environment Federation, Chicago, IL, September 27 – October 2, 2002.
- Session Co-Moderator, Micro-scale Biosensors for Environmental Monitoring, Environmental Chemistry and Analytical Chemistry, ACS Annual Spring Meeting, New Orleans, LA, March 23 – 27, 2003.
- Workshop organizer, NSF-sponsored international workshop (MCB-0306927) entitled, “Workshop to Expand the Understanding of Modern Microbial Identification Technologies in Environmental Settings,” Kenitra, Morocco, April 14 – 15, 2003.
- Session Presider, Membrane Bioreactors, Research Symposium, WEFTEC, Water Environment Federation, Los Angeles, CA, October 11 – 15, 2003.
- Session Co-Presider, Novel Treatment Technologies, Research Symposium, WEFTEC, Water Environment Federation, Los Angeles, CA, October 11 – 15, 2003.
- Session Co-Presider, Fate, Transport, and Destruction of Emerging Micropollutants, Research Symposium, WEFTEC, Water Environment Federation, New Orleans, LA, October 2-6, 2004.
- Session Presider, Advances in Anaerobic Treatment, Research Symposium, WEFTEC, Water Environment Federation, Washington, D.C., October 29 – November 3, 2005.
- Session Presider, DCWASA Drinking Water Research, Research Symposium, WEFTEC, Water Environment Federation, Washington, D.C., October 29 – November 3, 2005.
- Session Chair, Bioreactor Processes, Biofilm VI, International Water Association, Amsterdam, The Netherlands, September 25 – 27, 2006.
- Session Presider, Biological Phosphorus Removal, Research Symposium, WEFTEC, Water Environment Federation, San Diego, CA, October 13 – 17, 2007.
- Workshop organizer, NSF-sponsored workshop (DGE-0538532) entitled, “NSF Project STEP International Supplement for Teacher Professional Development in Roche, Tanzania,” Shirati and Roche, Tanzania, December 29, 2007 – January 14, 2008.

CONSULTING ACTIVITIES

- May, 2011 – present. Consultant with Future University, Egypt reporting directly to Anthony Perzigian, Advisor to Chairman of the Board of Trustees; voice:(+202) 38286536 Ext:1108; email: aperzigian@fue.edu.eg. Major activities include ABET-like evaluation of engineering college and supporting the development of a baccalaureate program in petroleum engineering.
- January, 2011 – December, 2012. Consultant with Greater Cincinnati Metropolitan Sewer District reporting directly to Ting Lu, Wastewater Treatment Division; voice: (513) 244-5137; email: Ting.Lu@cincinnati-oh.gov. Major activities include chairing the scientific advisory committee on the Duck Creek/Little Miami Watershed source tracking project.
- November, 2010 – present. Co-Owner (minority partner), Missouri EDGE, LLC reporting to Sarah Oerther, President and CEO; email:

sarah.oerther@missouriedge.com. Major duties include communication, business plan development, and product line development for energy audits and Pula Cloud.

TEACHING AND RESEARCH GRANTS AND CONTRACTS (50+ total projects, 35+ as PI, \$13,000,000+ total value, \$3,000,000+ shared credit)

1. Molecular Microbial Ecology in Environmental Engineering: T-RFLP of 16S rDNA to Quantify Microorganisms in Biotechnology Processes, University Research Council, University of Cincinnati, \$5,000, (100% D.B. Oerther, PI), January, 2001 – December, 2001.
2. Learning Quantitative Digital Image Analysis for Measuring Bacteria, Faculty Development Council, University of Cincinnati, \$5,000, (100% D.B. Oerther, PI), January, 2001 – December, 2001.
3. Advanced Training for Learning State of the Art Instrument for Measuring Environmentally Hazardous Contaminants in Water, Faculty Development Council, University of Cincinnati, \$7,500, (33% D.B. Oerther; 34% D. Dionysiou, PI; and 33% G. Sorial), March, 2001 – February, 2002.
4. 68-C-00-159 Task Order Number Seven, Testing the Resource Ratio Theory as a Framework Supporting Bioremediation Strategy for Clean-up of Crude Oil-Contaminated Environments, U.S. Environmental Protection Agency, \$256,109, (20% D.B. Oerther; and 80% M. Suidan, PI), April, 2001 – April, 2003.
5. P42-ES04908-15S2, Health Effects and Biodegradation of Complex Mixtures, Superfund Basic Research Program, NIEHS, \$3,592,180, (5% D.B. Oerther; 20% K. Dixon, PI; 5% G. Talaska; 10% P. Bishop, 10% A. Puga; 10% J. Stringer; 10% B. Kinkle; 10% J. Shann; 10% J. Caruso; 10% J. Martin), April, 2001 – March, 2006.
6. Evaluating Wastewater Treatment Using Molecular Tools, CH2M Hill, \$15,300, (100% D.B. Oerther, PI), June, 2001 – August, 2001.
7. BES-0116912, SGER: Rapid Identification, Enumeration, and Characterization of Mycobacteria and Nocardioforms in Environmental Samples Using BioMEMS, National Science Foundation, \$99,294, (34% D.B. Oerther, PI; 33% B. Kinkle; and 33% I. Papautsky), September, 2001 – November, 2003.
8. BES-0116929, Workshop to Explore the Value of Applying Molecular Biology Tools in Environmental Engineering, National Science Foundation, \$23,250, (100% D.B. Oerther, PI), September, 2001 – September, 2003.
9. Developing Culture-Based BioMEMS Prototype, Emerging Concepts, Inc., \$15,025, (100% D.B. Oerther, PI), October, 2001 – April, 2002.
10. Preliminary Evaluation of a New Technique for Linking Picoplankton Community Structure with Function in Aquatic Environments, National Oceanographic and Atmospheric Administration, \$9,820, (100% D.B. Oerther, PI), February, 2002 – January, 2003.
11. DUE-012729, CCLI: Integrating Genomics Research in the Undergraduate Engineering Curriculum in Environmental Engineering, National Science Foundation, \$74,232, (100% D.B. Oerther, PI), March, 2002 – February, 2004.
12. 68-C-00-159 Task Order Twenty-two, Development of Precursor rDNA Probes to Enumerate Active *Mycobacteria* spp. in Drinking Water Biofilms, U.S. Environmental Protection Agency, \$85,646, (90% D.B. Oerther, PI; and 10% M. Suidan), April, 2002 – July, 2003.

13. Preventing the Initiation of Biofouling of Membrane Bioreactors in Wastewater Treatment, U.S. Geological Survey, \$239,430, (34% D.B. Oerther, PI; 33% D. Dionysiou; and 33% G. Sorial), May, 2002 – April, 2003.
14. DUE-0230535, Science and Mathematics Authentic inquiry-based Teaching: Project SMART, National Science Foundation, \$100,000, (10% D.B. Oerther; 20% A. Kukreti, PI; 10% K. Davis; 20% T. Fowler; 10% S. Islam; 10% C. Maltbie; 10% R. Miller; 10% E. Prather), September, 2002 – August, 2003.
15. Educating Ohioans in State-of-the-art Applications of Genomics in Water Quality to Protect Against Bioterrorism, Ohio Environmental Protection Agency, \$49,970, (100% D.B. Oerther, PI), November, 2002 – April, 2005.
16. ACTION Fund to Support NSF CAREER, Ohio Board of Regents, \$120,000, (100% D.B. Oerther, PI), January, 2003 – December, 2007.
17. DEB-0306927, MO/MIP: Workshop to Expand the Understanding of Modern Microbial Identification Technologies in Environmental Settings, National Science Foundation, \$25,000, (100% D.B. Oerther, PI), January, 2003 – December, 2003.
18. BES-0238858, CAREER: Challenging the Structure-Function Relationship of Nitrifiers and Nitrification in Activated Sludge Using Molecular Biology and Modeling Tools, National Science Foundation, \$400,000, (100% D.B. Oerther, PI), January, 2003 – May, 2008.
19. BES-0335883, REU Supplement: CAREER, National Science Foundation, \$7,500, (100% D.B. Oerther, PI), January, 2003 – June, 2004.
20. 68-C-00-159 Task Order Number Forty-six, Continuing Testing the Resource Ratio Theory as a Framework Supporting Bioremediation Strategy for Clean-up of Crude Oil-Contaminated Environments, U.S. Environmental Protection Agency, \$128,054, (20% D.B. Oerther; 80% M. Suidan, PI), April, 2003 – April, 2004.
21. Microbial Diversity Course at Woods Hole, MA, Faculty Development Council, University of Cincinnati, \$5,000, (100% D.B. Oerther, PI), June, 2003 – May, 2004.
22. Training in Biologic Threat Agents, National Institute of Allergy and Infectious Disease, \$2,400,000, (31 faculty participants; A. Weiss, PI), July, 2003 – June, 2008.
23. Evaluating the Utility of Fluorescence In Situ Hybridizations as a Regular Process Monitoring Tools to Improve Reliable Wastewater Treatment, U.S. Geological Survey, \$25,190, (100% D.B. Oerther, PI), March, 2004 – February, 2005.
24. Preliminary Data to Evaluate the Use of Precursor 16S rDNA as an Indicator of Viable Waterborne Pathogens in the Environment, National Oceanographic and Atmospheric Administration, \$9,910, (100% D.B. Oerther, PI), March 2004 – February, 2005.
25. PR-OH-03-00572 Identification and Characterization of Bacterial Communities Within Warm Water Aquifers, U.S. Environmental Protection Agency, \$74,500, (100% D.B. Oerther, PI), March, 2004 – February, 2005.
26. 68-C-00-159 Task Order Number Sixty-three, Methods for Pathogen Detection, U.S. Environmental Protection Agency, \$330,000, (95% D.B. Oerther, PI; 5% M.T. Suidan), May, 2004 – April, 2006.
27. 68-C-00-159 Task Order Number Sixty-three Supplemental Funding, Methods for Pathogen Detection, U.S. Environmental Protection Agency, \$65,000, (95% D.B. Oerther, PI; 5% M.T. Suidan), May, 2004 – April, 2006.
28. ACTION Fund to Support USEPA Methods for Pathogen Detection, Ohio Board of Regents, \$120,000, (100% D.B. Oerther, PI), May, 2004 – April, 2006.

29. P3: Phosphorus Recovery from Sewage, U.S. Environmental Protection Agency, \$10,000, (100% D.B. Oerther, PI), October, 2004 – May, 2005.
30. BES-0428600, SENSORS: Rapid, Culture-Based Sensor with Direct Electronic Imaging to Track Environmental Microorganisms, \$367,295, (33% D.B. Oerther; 34% I. Papautsky, PI; 33% D. Mast), December, 2004 – November, 2008.
31. DUE-0511160, CCLI: A&I: Collaborative Research: Molecular Biology for Environmental Engineers, \$200,000, (20% D.B. Oerther, PI; 20% B. Li; 20% J. Li; 20% A. Pruden; 20% P. Stroot), June, 2005 – May, 2008.
32. BES-0535423, REU Supplement: CAREER, National Science Foundation, \$8,000, (100% D.B. Oerther, PI), June, 2005 – May, 2006.
33. BES-0542052, GRS Supplement: CAREER, National Science Foundation, \$39,120, (100% D.B. Oerther, PI), June, 2005 – May, 2006.
34. P3: Phosphorus Recovery from Sewage, U.S. Environmental Protection Agency, \$10,000, (10% D.B. Oerther; 80% C. Carlarne, PI; 10% E. Maurer), October, 2005 – May, 2006.
35. Molecular Analysis of Denitrifying Bacteria Populations, District of Columbia Water and Sanitation Association (DCWASA), \$25,028, (100% D.B. Oerther, PI), October, 2005 – December, 2005.
36. Collecting Preliminary Experimental Data in Support of an NIH R21 Application to Identify Changes in Predominant Bacterial Communities in the GI Tracts of Patients Undergoing GI-bypass Surgery, University Research Council, University of Cincinnati, \$6,500, (100% D.B. Oerther, PI), January, 2006 – December, 2006.
37. Identifying Predominant Bacteria in Activated Sludge, CH2M Hill, \$7,684, (100% D.B. Oerther, PI), February, 2006 – April, 2006.
38. Understanding Sustainable Water Quality in Africa, Faculty Development Council, University of Cincinnati, \$4,000, (100% D.B. Oerther, PI), March, 2006 – February, 2007.
39. Identifying Predominant Bacteria in Activated Sludge Part II, CH2M Hill, \$15,368, (100% D.B. Oerther, PI), March, 2006 – May, 2006.
40. EP-C-05-056 Work Assignment Number Four, Test Virus for Measuring Biosolids Treatment Efficiency, U.S. Environmental Protection Agency, \$114,444, (95% D.B. Oerther, PI; 5% M.T. Suidan), March, 2006 – September, 2007.
41. Characterizing and Controlling Membrane Biofouling, U.S. Geological Survey, \$84,000, (50% D.B. Oerther, PI; 50% D. Dionysiou), April, 2006 – March, 2007.
42. R01ES015448, Bacterial Diversity as a BioMarker of Soil Health, Superfund Basic Research Program, NIEHS, \$964,199, (80% D.B. Oerther, PI; 20% B. Kinkle), May, 2006 – April, 2010.
43. DGE-0538532, Track 2 NSF GK-12 Fellows Project STEP (Science and Technology Enhancement Program): Building "STEMcincinnati City", National Science Foundation, \$1,898,330, (20% D.B. Oerther; 20% A. Kukreti, PI; 20% S. Soled; 20% T. Fowler; 20% R. Miller), May, 2006 – April, 2011.
44. DUE-0618571, CCLI Phase 2: A National Model for Engineering Mathematics Education, \$500,000 (\$200,003 UC Share), (33% D.B. Oerther, Co-PI; 34% A. Kukreti, PI; 33% R. Miller, Co-PI), August, 2006 – July, 2010.

45. Health Implications of Point of Use Water Treatment in India, Institute of Public Health and Water Research, \$50,000, (100% D.B. Oerther, PI), September, 2006 – August, 2008.
46. Building New Faculty Capabilities for Multi-Disciplinary Studies of Sustainable Metropolitan Development, Faculty Development Council, University of Cincinnati, \$10,000, (20% D.B. Oerther, Co-PI; 20% J. Uber, PI; 20% C. Chifos, Co-PI; 20% M. Romanos, Co-PI; 20% A. Minai, Co-PI), July, 2007 – June, 2008.
47. DGE- 0538532, Project STEP International Activities Supplement, National Science Foundation, \$81,700, (50% D.B. Oerther; 50% A. Kukreti, PI), October, 2007 – June, 2008.
48. DUE-0817332, CCLI Phase 3: A National Model for Engineering Mathematics Education, \$580,230, (\$50,000 UC Share), (33% D.B. Oerther Co-PI; 34% A. Kukreti, PI; 33% R. Miller, Co-PI), August, 2008 – July, 2011
49. Green Infrastructure: Improving Regional Understanding of Performance and Policy, \$25,000, (33% D.B. Oerther, Co-PI; 34% D. Boccelli, PI; 33% V. Russell, Co-PI), September, 2009 – August, 2010.
50. Redeveloping a Second Year Required Course, CE261 Fundamentals of Environmental Engineering and Science, Employing Online Expert Lectures, Face-to-face Faculty-led Open-ended Wet-laboratories, and Peer-to-Peer Design Clinics, eFellows Program, Missouri University of Science and Technology, \$12,000, (100% D.B. Oerther, PI), January, 2011 – December, 2011.
51. Microbiological Characterization and Ecological Control of Membrane Biofouling in Side Stream Municipal Sewage Treatment Reactors Operated for Nitrification, U.S. Geological Survey, \$132,000, (100% D.B. Oerther, PI), May, 2011 – April, 2013 (tentative).
52. Mizzou Advantage Network Proposal 2nd Round, Missouri Metagenomics Symposium, \$20,000, (50% J.F. Taylor, PI; 10% J.C. Schultz, Co-PI; 10% M.A. McIntosh, Co-PI; 10% M.J. Calcutt, Co-PI; 10% G. Stacey, Co-PI; 10% D.B. Oerther, Co-PI), August, 2011 – July, 2012.

LAST REVISION DATE

June 27, 2011