

Curriculum Vitae

PETER A. NOBLE

Professor of Biological Sciences
 PhD Program in Microbiology
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Academic Background

Ph.D.	University of Saskatchewan	1994
Teaching Certification	University of British Columbia	1986
M.Sc.	Memorial University of Newfoundland	1984
B.Sc. (Honors)	Memorial University of Newfoundland	1982
Ph.D. Dissertation	Theoretical and practical aspects of impedance microbiology - Dr. William L. Albritton (University of Alberta), Thesis advisor	

Professional History

Professor, Ph.D. Microbiology Program, Alabama State University, Montgomery, AL, 2014-now.

Associate Professor, Ph.D. Microbiology Program, Alabama State University, Montgomery, AL, 2009-2014.

Affiliate Associate Professor, Department of Periodontics, School of Dentistry, University of Washington, Seattle, WA 2010-now.

Adjunct Associate Professor, Department of Microbiology, University of Alabama, Birmingham, AL 2011-now.

Visiting Professor, Max-Planck-Institute for Evolutionary Biology, August-Thienemannstrasse, Ploen, Germany, May to August, 2010 and May, 2011.

Research Assistant Professor, Department of Civil and Environmental Engineering, University of Washington, Seattle, WA, 2001-2009.

Visiting Professor, Institute for Genetics, University of Cologne, Cologne, Germany, Summer, 2006.

Research Assistant Professor, Belle W. Baruch Institute of Marine Biology and Coastal Research, University of South Carolina, Columbia, SC, 1996-2001.

Visiting Scientist, Marine Biological Laboratory, Woods Hole, MA, 2000.

Visiting Research Scholar, Dept. of Civil Engineering, Northwestern University, Evanston, IL, 1999.

Research Associate, Center of Marine Biotechnology, University of Maryland Biotechnology Institute, Baltimore, MD, 1995-1996

Post-doctoral Fellow, National Water Research Institute, Fountain Valley, CA. 1995

Post-doctoral Fellow (with Betty H Olson), Environmental Analysis and Design, University of California, Irvine, CA 1993-1995

Senior Biology Teacher, Vancouver School Board, Vancouver, British Columbia, Canada, 1987

Senior Biology Teacher, School District of Mystery Lake No. 2355, Thompson, Manitoba, Canada 1986

Computer Programmer/Statistical Analyst, University of British Columbia, Vancouver, BC, Canada. 1985

Research Assistant Technician, Faculty of Medicine, Memorial University of Newfoundland, St. John's, Newfoundland, Canada 1982-1984

H (Hirsch)-score=17; Number of peer-reviewed articles=42+; Average impact factor of journal articles=3.9; Average citations per article: 22.8; Number of posters=60+; Number of citations: 1000+

Archival Journal Publications (* indicates primary author)

1. Noble*, P. A., P. E. Dabinett, and J. A. Gow (1990) Numerical taxonomic study of pelagic and benthic surface-layer bacteria in seasonally-cold coastal waters. *Systematic and Applied Microbiology* 13, 77-85. Cited by: 9. Impact factor of: 3.590.
2. Noble*, P. A., E. Ashton, C. A. Davidson, and W. L. Albritton (1991) Heterotrophic plate counts of surface water samples by using impedance methods. *Applied and Environmental Microbiology* 57, 3287-3291. Cited by: 19. Impact factor of: 4.486.
3. Dziuba, M., P. A. Noble*, and W. L. Albritton (1993) A study of the nutritional requirements of a selected *Haemophilus ducreyi* strain by impedance and conventional methods. *Current Microbiology* 27, 109-113. Cited by 8. Impact factor of: 1.815.
4. Dasgupta, M. K., K. Ward, P. A. Noble, M. Larabie, and J. W. Costerton (1994) Development of bacterial biofilms on silastic catheter materials in peritoneal dialysis fluids. *American Journal of Kidney Diseases* 23, 709-716. Cited by: 44. Impact factor of: 5.434.
5. Albritton, W. L., P. A. Noble*, and K. D. Webster (1994) Clarification of the plasmid RSF0885 in *Haemophilus influenzae* serotype b. *Canadian Journal of Microbiology* 40, 154-157. Cited by: 1. Impact factor of: 1.477
6. Noble*, P. A., D. L. Clark, and B. H. Olson (1996) Biological stability of ground water treated for organic carbon removal by conventional and membrane filtration methods. *Journal of the American Water Works Association* 88, 87-96. Cited by: 17. Impact factor of: 0.633.
7. Noble*, P. A., K. D. Bidle, and M. Fletcher (1997) Natural microbial community compositions compared by a back-propagating neural network and cluster analysis of 5S rRNA. *Applied and Environmental Microbiology* 63, 1762-1770. Cited by: 49. Impact factor of: 4.486.
8. Noble*, P. A., R. W. Citek, and D. A. Ogunseitan. (1998) Tetranucleotide frequencies in microbial genomes. *Electrophoresis* 19, 528-535. Cited by: 17. Impact factor of: 3.261.
9. Noble*, P. A. (1999) Minireview: a hypothetical model for monitoring microbial growth by using capacitance measurements. *Journal of Microbiological Methods* 37, 45-49. Cited by: 31. Impact factor of: 2.544.

10. Noble*, P. A., M. Dziuba, D. J. Harrison, and W. L. Albritton. (1999) Factors influencing capacitance-based monitoring of microbial growth. *Journal of Microbiological Methods* 37, 51-64. Cited by: 31. Impact factor of: 2.544.
11. Piceno, Y. M., Noble, P. A., and C. R. Lovell. (1999) A comparison of diazotroph assemblages in two vegetated salt marsh zones using denaturing gradient gel electrophoresis (DGGE) analysis. *Microbial Ecology* 38, 157-167. Cited by: 79. Impact factor of: 2.912.
12. Noble*, P. A., J. S. Almeida, and C. R. Lovell. (2000) Application of neural computing methods for interpreting phospholipid fatty acid profiles from natural microbial communities. *Applied and Environmental Microbiology* 66, 694-699. Cited by: 46. Impact factor of: 4.486.
13. Almeida, J. S. and P. A. Noble*. (2000) Neural computing in microbiology. *Journal of Microbiological Methods* 43, 1-2. Cited by: 4. Impact factor of: 2.544.
14. Almeida J. S., J. A. Carrico, A. Marezek A, P. A. Noble, and M. Fletcher. (2001) Analysis of genomic sequences by chaos game representation. *Bioinformatics* 17, 429-437. Cited by: 155. Impact factor of: 5.468.
15. Urakawa, H., P. A. Noble*, S. ElFantroussi, J. J. Kelly and D. A. Stahl. (2002) Single-base pair discrimination of terminal mismatches by using oligonucleotide microarrays and neural network analyses. *Applied and Environmental Microbiology* 68, 235-244. Cited by: 132. Impact factor of: 4.486.
16. Ogunseitan, O. A., J. LeBlanc, and P. Noble. (2002) Ecological dimensions of microbial proteomics. *Recent Research Developments in Microbiology* 6, 487-501.
17. Urakawa, H., S. El Fantroussi, H. Smidt, J. C. Smoot. E. Tribou, J. J. Kelly, P. A. Noble, and D. A. Stahl. (2003) Optimization of single-base-pair mismatch discrimination in oligonucleotide microarrays. *Applied and Environmental Microbiology* 69, 2848-2856. Cited by: 159. Impact factor of: 4.453.
18. El Fantroussi, S., H. Urakawa, A. E. Bernhard, J. J. Kelly, P. A. Noble, H. Smidt, G. M. Yershov, and D. A. Stahl. (2003) Direct profiling of environmental microbial populations by thermal dissociation analysis of native ribosomal rRNAs hybridized to oligonucleotide microarrays. *Applied and Environmental Microbiology* 69, 2377-2382. Cited by: 130. Impact factor of 4.486.
19. Noble*, P. A., R. G. Tymowski, J. T. Morris, M. Fletcher, and A. J. Lewitus. (2003) Contrasting patterns of phytoplankton community pigment composition in two salt marsh estuaries in Southeastern United States. *Applied and Environmental Microbiology* 69, 4129-4143. Cited by: 16. Impact factor of: 4.486.
20. Lewitus, A. J., D. L. White, R. G. Tymowski, M. E. Geesey, S. N. Hymel and P. A. Noble. (2005) Adapting the CHEMTAX method for assessing phytoplankton taxonomic composition in southeastern U.S. estuaries. *Estuaries* 28, 160-172. Cited by: 84. Impact factor of: 2.13.
21. Kelly, J. J., S. Siripong, J. McCormack, L. R. Janus, H. Urakawa, S. ElFantroussi, P. A. Noble, L. Sappelsa, B. E. Rittmann, and D. A. Stahl. (2005) DNA microarray detection of nitrifying bacterial 16S rRNA in wastewater treatment plant samples. *Water Research* 39, 3229-3238. Cited by: 73. Impact factor of: 5.315.
22. Morris, J., D. Porter, M. Neet, P. A. Noble, L. Schmidt, L. A. Lapine, and J. Jensen. (2005) Salt and brackish marsh characterization at North Inlet, SC using LIDAR-derived elevation data and land cover extracted from multispectral imagery using a neural network. *International Journal of Remote Sensing* 26, 5221-5234. Cited by: 70. Impact factor of: 1.138.
23. Pozhitkov, A., B. Chernov, G. Yershov, and P.A. Noble*. (2005) Evaluation of gel-pad oligonucleotide microarray technology using artificial neural networks. *Applied and Environmental Microbiology* 71, 8663-8676. Cited by: 35. Impact factor of: 4.486.

24. Pozhitkov, A., P. A. Noble, T. Domazet-Loso, A. Nolte, R. Sonnenberg, P. Staehler, M. Beier and D. Tautz. (2006) Tests of rRNA hybridization to microarrays suggest that hybridization characteristics of oligonucleotide probes for species discrimination cannot be predicted. *Nucleic Acids Research* 34, e66. Cited by: 94. Impact factor of: 8.808.
25. Noble*, P. A. and E. Tribou. (2007) Neuroet: an easy-to-use artificial neural network for ecological and biological modelling. *Ecological Modelling* 203, 87-98. Cited by: 22. Impact factor of: 2.399.
26. Pozhitkov, A., and P. A. Noble*. (2007) Comment on discrimination of shifts in soil microbial communities using nonequilibrium thermal dissociation and gel pad array technology. *Environmental Science and Technology*. 41, 1797-1798. Cited by: 6. Impact factor of: 4.764.
27. Pozhitkov, A., and P. A. Noble*. (2007) High variability in melting profiles from gel pad arrays. *Environmental Microbiology* 9, 1865. Cited by: 4. Impact factor of: 5.843.
28. Pozhitkov, A., R.G. Stedtfeld, S.A. Hashsham and P. A. Noble*. (2007) Revision of the nonequilibrium dissociation and stringent washing approaches for identification of mixed nucleic acid targets by microarrays. *Nucleic Acids Research* 35, e70. Cited by: 30. Impact factor of: 8.808.
29. Pozhitkov, A., K. D. Bailey, and P. A. Noble*. (2007) Development of a statistically robust quantification method for microorganisms in mixtures using oligonucleotide microarrays. *Journal of Microbiological Methods* 70, 292-300. Cited by: 10. Impact factor of: 2.544.
30. Pozhitkov, A., D. Tautz., and P. A. Noble*. (2007) Oligonucleotide arrays: widely applied -- poorly understood. *Briefings in Functional Genomics and Proteomics* 6, 141-148. Cited by: 51. Impact factor of: 4.210.
31. Pozhitkov, A., R.A. Rule, R.G. Stedtfeld, S.A. Hashsham and P. A. Noble*. (2008) Concentration-dependency of nonequilibrium thermal dissociation curves in complex target samples. *Journal of Microbiological Methods*. 74: 82-88. Cited by: 10. Impact factor of: 2.544.
32. Pozhitkov, A. E,G. Nies, B. Kleinhenz, D. Tautz, and P. A. Noble*. (2008). Simultaneous quantification of multiple nucleic acids in target mixtures using high density microarrays. *Journal of Microbiological Methods* 75: 92-102. Cited by: 8. Impact factor of: 2.544.
33. Gough, H.L., A.L. Dahl, E. Tribou, P. A. Noble, J.-F. Gaillard, and D. A. Stahl. (2008). Elevated sulfate reduction in metal contaminated freshwater lake sediments. *Journal of Geophysical Research - Biosciences* 113, G04037. Cited by: 7. Impact factor of: 3.303.
34. Rule, R. A., A. E. Pozhitkov, and P.A. Noble* (2009) Use of hidden correlations in short oligonucleotide array data are insufficient for accurate quantification of nucleic acid targets in complex target mixtures. *Journal of Microbiological Methods* 76: 188–195. Cited by: 7. Impact factor of: 2.544.
35. Pozhitkov, A.E., I. Boubeb, M.H. Brouwer, and P.A. Noble*. (2010) Beyond Affymetrix arrays: expanding the set of known hybridization isotherms and observing pre-wash signal intensities. *Nucleic Acids Research* 38: e28. Cited by: 23. Impact factor of: 8.808.
36. Pozhitkov A.E., Beikler T., Flemmig T., Noble P.A.* (2011) High-throughput methods for the analysis of human oral microbiome. *Periodontology* 2000 55:70-86. Cited by: 16. Impact factor of: 4.012.
37. Kang, H-Y., R.A. Rule, P. A. Noble*. (2012) Artificial neural network modeling of phytoplankton blooms using long term ecological research data sets and its application to sampling sites within the same estuary. *Treatise on Coastal and Estuarine Science* 9.09:161-171.
38. Harrison, A., H. Binder, A. Buhot, C. Burden, E. Carlon, C. Gibas, L. Gamble, A. Halperin, J. Hooyberghs, D. Kreil, R. Levicky, P.A. Noble, A. Ott, M. Pettitt, D. Tautz, D, A.E Pozhitkov.

2013. Physico-chemical foundations underpinning microarray and next generation sequencing experiments. *Nucleic Acids Research* 41: 2779-96. Cited by: 10. Impact factor of: 8.808.
39. Pozhitkov, A., P. A. Noble, J. Bryk and D. Tautz. (2014) A new procedure for microarray experiments to account for experimental noise and the uncertainty of probe response. *PlosOne* 9(3): e91295. Impact factor of 3.730.
40. Can. I., G.T. Javan, A.E. Pozhitkov and P.A. Noble* (2014) Distinctive thanatomicrobiome signatures found in the blood and internal organs of humans. *Journal of Microbiological Methods* 104: 1-7. Impact factor of: 2.544.
41. Pozhitkov, A, P.A. Noble*, T. Beikler. B. Leroux, T.F. Flemmig. (2014). The emergence of synergistic microbial community in clinical periodontitis by pyrosequencing of 16S rRNA genes. *J. Clinical Periodontology* (In review: February 9th, 2014). Impact factor of 3.688.
42. Noble, P. A.*, Pozhitkov A. E., Mitchell C. and Robertson B.K. (2014) Metagenomic analysis of Gulf of Mexico surface water impacted by Deepwater Horizon crude oil and the dispersant Corexit. *PlosOne* (has been reviewed and is in revision). Impact factor of 3.730.

Non-Journal Articles Written about the Noble Laboratory

1. Justin Petrone: Researchers develop new microarray experimental design that improves data quality, reliability. *GenomeWeb* March 14, 2014.
2. Anna Williams: Your death microbiome could catch your killer. *NewScientist*, Magazine issue 2984, August 27, 2014
3. Jesse Jenkins: "The Death Microbiome: Invasion of the Body Snatchers" *BioTechniques - The International Journal of Life Science Methods*, September 11, 2014

Conference Proceedings And Other Non-Journal Articles

Non-journal Fully Refereed Conference Publications

1. Fletcher, M. and P. Noble. (2000) Molecular approaches for characterizing microbial community structure in estuaries. In: *Microbial Biosystems: New Frontiers: Proceedings of the 8th International Symposium on Microbial Ecology*, Halifax, August 1998, pp. 113-118.
2. Almeida, J. S., M. T. Barreto-Crespo, J. J. Figueiredo, P. A. Noble, S. J. MacNaughton, J. R., Stephen, D. C. White, and M. J. T. Carrondo (2000) Microbial typing for management of remediation in contaminated soils. *Proceedings of the African International Environmental Protection Symposium*.
3. Noble, P.A. (2010) Exploration of the Human Oral Microbiome Using Next Generation Sequencing --- A Great Time to Be a Microbiologist! *Science@ASU* article. *Science@ASU* 5: 14-16.
4. Noble, P.A. (2011) Metagenomic analysis of hydrocarbon-utilizing microbes from the Gulf of Mexico *Science@ASU* 6: 32-33.

Non-journal Abstract Refereed Publications

1. Noble, P. A., E. Ashton, C. A. Davidson, and W. L. Albritton. Heterotrophic plate count of surface water samples by using impedance methods. *National Public Health Inspectors Conference*, Edmonton, Alberta, August 28-30, 1991.

2. Noble, P. A., E. Ashton, C. A. Davidson, and W. L. Albritton. Heterotrophic plate count (HPC) of potable and recreational water samples using impedance methods. *Canadian Society of Microbiologists Annual Meeting*, London, Ontario, June 2-6, 1991.
3. Davidson, C. A., E. J. Ashton, and P. A. Noble. A comparison of automated and manual spread plate techniques for the determination of heterotrophic plate counts on water samples. *Proceedings of the American Water Works Association, Water Quality Technological Conference*, Toronto, Ontario, pp. 423-428. 1992.
4. Noble, P. A., E. Ashton, C. A. Davidson, M. Dziuba, K. D. Webster, and W. L. Albritton. Development of a biosensor for routine environmental microbiology. *Proceedings of the American Water Works Association, Water Quality Technological Conference*, Toronto, Ontario, pp. 1267-1280. 1992.
5. Davidson, C. A., E. Ashton, and P. A. Noble. Comparison of automated and manual spread plate techniques for the determination of heterotrophic plate count on water samples. *American Water Works Association - Water Quality Technology Conference*, 1992.
6. Noble, P. A. and W. L. Albritton. An insertion sequence located in the non-TnA portion of "RSF0885". *Canadian Society of Microbiologists Annual Meeting*, St. John's, Nfld., June 14-18, 1992.
7. Noble, P. A. and W. L. Albritton. Development of a biosensor for routine environmental microbiology. *International Industrial Biotechnology Conference Bio-Recognition*, Montreal, QB., June 1-4, 1992.
8. Noble, P. A. and W. L. Albritton. Formulation of culture media for measuring capacitance changes during bacterial growth. *American Society of Microbiology General Meeting*, New Orleans, LA, May 26-30, 1992.
9. Noble, P. A., K. Webster, C. A. Davidson, and R. C. Andrew. Characterization of attached, psychrotrophic bacteria isolated from a water distribution system. *International Applied Microbiology, Food and Environmental Sanitation Conference*, July 1-3, 1993.
10. Dasgupta, M. K., H. Shishido, R. Singh, P. A. Noble, and R. G. Micetich. Increased bacteriocidal activity of methicillin resistant Staph aureus (MRSA) by two new fluoroquinolone antibiotics. *American Society for Artificial Internal Organs Meeting*, San Francisco, California, April 14-16, 1994.
11. Dasgupta, M. K., H. Shishido, R. Singh, P. A. Noble, and R. G. Micetich. New fluoroquinolones (FQ) Syn 987 and Syn 1253 increase bacteriocidal activity (BCA) of methicillin resistant Staph aureus (MRSA). *American Society for Artificial Internal Organs Meeting*, San Francisco, California, April 14-16, 1994.
12. Noble, P. A., L. Sawyer, D. L. Clark, S. W. Hermanowicz, and B. H. Olson. Biological stability of treated groundwater determined by assimilable organic carbon, heterotrophic growth potential, biodegradable dissolved organic carbon and growth rate measurements. *American Society of Microbiology General Meeting*, Las Vegas, Nevada, May 23-27, 1994.
13. Noble, P. A., H. F. Ridgway, and B. H. Olson. Incorporation of the luciferase genes into *Pseudomonas fluorescens* strain P17: development of a bioluminescent sensor for assimilable organic carbon determination. *American Society of Microbiology General Meeting*, Las Vegas, Nevada, May 23-27, 1994.

14. Noble, P. A., R. W. Citek, M. C. Doyle, and O. A. Ogunseitan. Organization of the *Escherichia coli* genome as determined by chaos game representation and cluster analysis. *American Society of Microbiology General Meeting*, Las Vegas, Nevada, May 23-27, 1994.
15. Noble, P. A., L. Sawyer, D. L. Clark, S. W. Hermanowicz, and B. H. Olson. Biological stability of groundwater treated by conventional and membrane methods For Organic Removal. *American Water Works Association - Water Quality Technology Conference*, San Francisco, California, pp. 1609-1631, 1994.
16. Jung, J. S. and P. A. Noble. Detection of aerolysin genes in hemolytic *Aeromonas* species using polymerase chain reaction. *American Society of Microbiology General Meeting*, Washington, D.C., May 21-25, 1995.
17. Jung, J. S., R. Kancherla, and P. A. Noble. Detection of *Legionella* sp. and *Legionella pneumophila* in surface and ground water in Southern California using polymerase chain reaction. *American Society of Microbiology General Meeting*, Washington, D.C., May 21-25, 1995.
18. Bruhms, E. and P. A. Noble. Factors effecting the assimilable organic carbon (AOC) assay using *Pseudomonas fluorescens* strain P17. *American Society of Microbiology General Meeting*, Washington, D.C., May 21-25, 1995.
19. Sawyer, L., P. A. Noble, S. W. Hermanowicz, B. H. Olson, and D. L. Clark. Membrane filtration and biological stability of water. *American Water Works Association - Membrane Technology Conference*, Reno, Nevada, August 13-16, 1995.
20. Noble, P. A., K. D. Bidle, and M. Fletcher. Statistical analysis of bacterial community structures as revealed by stable low-molecular-weight RNA profiles. *American Society of Microbiology General Meeting*, New Orleans, L.A., May 19-23, 1996.
21. Noble, P. A., K. D. Bidle, and M. Fletcher. Microbial community compositions determined by a neural network and cluster analysis. *American Society of Microbiology General Meeting*, Miami Beach, F. L., May 4-8, 1997.
22. Noble, P. A. Genome organization as revealed by oligonucleotide frequency ratio image and cluster analysis. *TIGR Science Education Foundation: Small Genomes: Sequencing, Functional Characterization and Comparative Genomics*, Hilton Head, S.C., Jan. 25-28, 1997.
23. Noble, P. A. Tetranucleotide frequencies in microbial genomes. *TIGR Science Education Foundation: Microbial Genomes*, Hilton Head, S.C., Jan. 31- Feb.3, 1998.
24. Noble, P. A. Microbial genomes compared by a back-propagating neural network and cluster analysis of tetranucleotide frequencies. *American Society of Microbiology General Meeting*, Atlanta, G.A. , May 17-21, 1998.
25. Noble, P. A., H. Dang, C. Roper, M. Dantzler, S. Thieben, M. Kelly, C. R. Lovell, and M. Fletcher. The adhesion of marine microbial communities to synthetic surfaces. *American Society of Microbiology General Meeting*, Atlanta, G.A. , May 17-21, 1998.
26. Fletcher, M. and P. A. Noble. Molecular approaches for characterizing microbial community structure in estuaries. *Symposium on Microbial Ecology*, Halifax, Nova Scotia, Canada, August 9-14, 1998.

27. Johnson, W., P. A. Noble, M. Kelly, C. M. Roper, and M. Fletcher. Enumeration and composition of microbial communities attached to novel synthetic surfaces. *Southeastern Estuarine Research Society*, Georgetown, SC, October 15-17, 1998.
28. Johnson, W., C. Roper, P. A. Noble, and M. Fletcher. Attachment of marine microbial communities to synthetic oligomeric and polymeric substrata. *American Society of Microbiology General Meeting*, Chicago, IL, May 31-June 2, 1999.
29. Noble, P. A., J. S. Almeida, A. J. Lewitus, W. R. Johnson, and M. Fletcher. Determining the relationship between the self-organizing properties of an estuarine ecosystem and its corresponding planktonic microbial community structure. *American Society of Microbiology General Meeting*, Los Angeles, CA, May 22-28, 2000.
30. Noble, P. A., J. S. Almeida, and M. Fletcher. Defining the rules governing ecosystem structure and dynamics. *Marine Biological Laboratory 2000 Summer Poster Session*, June 27, 2000.
31. Ogunseitan, O. A. and P. A. Noble. Phylogenetic analysis of the delta-aminolevulinic dehydratase gene, *Marine Biological Laboratory 2000 Summer Poster Session*, 2000.
32. Lewitus, A. J., P. A. Noble, J. S. Almeida, M. Fletcher, and R. G. Tymowski. Relating estuarine phytoplankton composition to environmental factors using HPLC pigment profiles, "Chemtax" matrix factorization, and neural computing methods. *ASLO meeting*, Copenhagen, Denmark, 2000
33. Koepfler, E. T., A. J. Lewitus, P. A. Noble, J. S. Almeida, and M. Wetz. Bacterioplankton and Phytoplankton Diversity in Salt Marsh Tidal Creeks. *ASLO meeting*, Copenhagen, Denmark, 2000
34. Kleppel, G., P. A. Noble et al. Biocomplexity Incubation Activity: Consequences of urban encroachment on natural systems. NSF Biocomplexity in the Environment Conference, October 16-17, 2001.
35. El Fantroussi, S., H. Urakawa, J. J. Kelly, L. Sappelsa, P. A. Noble and D. A. Stahl. Optimization of 16S rRNA-based Microchips "PHYLOCHIP" for Microbial Community Analysis. *American Society of Microbiology General Meeting*, Orlando, FL, May 20-24, 2001.
36. Urakawa, H., S. El Fantroussi, J. J. Kelly, L. Sappelsa, P. A. Noble and D. A. Stahl. Single-base-pair mismatch discrimination by using oligonucleotide DNA microarrays and melting profile analysis. *American Society of Microbiology General Meeting*, Salt Lake City, UT, May 20-24, 2002.
37. Smidt, H., J. C. Smoot, L. M. Smoot, S. El Fantroussi, S. Siripong, H. Urakawa, J. J. Kelly, P. A. Noble, and D. A. Stahl. 2003. DNA oligonucleotide microarrays for general and ecosystem-specific characterization of microbial communities. DARPA Bait Meeting, Las Vegas, NV. April, 2002.
38. Smidt, H., L. M. Smoot, J. C. Smoot, S. Siripong, S. El Fantroussi, S. Siripong, H. Urakawa, J. J. Kelly, P. A. Noble, and D. A. Stahl. 2003. The O-Chip: A DNA oligonucleotide microarrays for general and ecosystem-specific characterization of oral cavity microbial communities. *American Society of Microbiology General Meeting*, Washington, DC, May 18-22, 2003.
39. Gough, H. L., A. L. Dahl, E. Tribou, P. A. Noble, J. Gaillard, and D. A. Stahl. Unusually high sulfate reduction rates in metal contaminated freshwater lake sediment. *American Society of Microbiology General Meeting*, Washington, DC, May 18-22, 2003.

40. Tribou, E., A. J. Lewitus, R. G. Tymowski and P. A. Noble. 2003. Application of neural network approaches for determining the associations between estuarine phytoplankton communities and environmental variables. Estuarine Research Federation General Meeting, Seattle, WA Sept 14-18, 2003.
41. Morris, J., J. Pinckney, and P. A. Noble. 2003. A neural net classifier of algal taxa based on photopigments. All EaGLE Meeting, Bodega Bay, CA. Dec 3-4, 2003.
42. Noble, P. A., T. Krick. E. Tribou, H. Smidt, L. M. Smoot, J. C. Smoot, M. and D. A. Stahl. Hybridization analysis of oligonucleotide DNA microarrays using melting profiles and artificial neural networks. American Society of Microbiology General Meeting, New Orleans, LA, May 23 - 27, 2004.
43. Bailey, K. D., A. E. Pozhitkov, and P. A. Noble. Identification and quantification of microbes in complex microbial mixtures. UW Undergraduate Research Symposium, May 19, 2006.
44. Noble, P. A. and A. E. Pozhitkov. Time, not temperature, is the key to minimize nonspecific hybridization on oligonucleotide microarrays. American Society of Microbiology General Meeting, Orlando, FL, May 21 - 25, 2006.
45. Pozhitkov, A. E. and P. A. Noble. A novel approach for identifying and quantifying ribosomal RNA targets in complex mixtures using high-density oligonucleotide DNA microarrays. American Society of Microbiology General Meeting, Orlando, FL, May 21 - 25, 2006.
46. Pozhitkov A., P. A.. Noble Li S., Stedtfeld R., Hashsham S., Nies G., Tautz D. and Brouwer M. 2007. Oligonucleotide microarrays revisited: thermodynamics, Kinetics and hybridization patterns. Gordon Conference.
47. Pozhitkov A., Georg Nies, Barbara Kleinhenz, Diethard Tautz, Marius Brouwer, Peter A. Noble. A new direction for multiplexed quantification of microorganisms in mixed target samples using oligonucleotide microarrays. SETAC North America, 28th Annual meeting, Milwaukee, Wisconsin, November 11 to 15, 2007.
48. Rule, R.A., T Flemmig, T. Beikler, A. Pozhitkov and P.A.. Noble An alternative methodology for microbial quantification using oligonucleotide microarrays: avoiding probe design artifacts. *Center for Process Analytical Chemistry* Seattle WA 2008, May 4-8, 2008
49. Rule, R.A., A. Pozhitkov, and P.A.. Noble. Oligonucleotide microarrays: thermodynamics and hybridization. *Center for Process Analytical Chemistry* Seattle WA 2008, May 4-8, 2008
50. Boyoglu, S., P. A. Noble and A. E. Pozhitkov. Establishing microarray-based Nearest Neighbor model. Annual Biomedical Research Conference for Minority Students, Phoenix, Arizona, November 4-7, 2009.
51. Bibbs, R.K., P. A. Noble and A. E. Pozhitkov. Isopropanol treatment as an alternative to stringent washing of microarrays. Annual Biomedical Research Conference for Minority Students, Phoenix, Arizona, November 4-7, 2009.
52. Pozhitkov, A. E., D. Arushanov, J. Perry, T. Flemmig, T. Beikler, P. A. Noble. Microbial community signatures of diseased and healthy human oral biofilms using embedded vector analysis and high density microarrays. American Society of Microbiology General Meeting, San Diego, CA, May 23-27, 2010.

53. Noble, P. A. and A.E. Pozhitkov. Evolutionary implications of unpredictable DNA duplex stability as revealed by hybridizations on the surface of DNA microarrays American Society of Microbiology General Meeting, San Diego, CA, May 23-27, 2010.
54. Noble, P.A. A Physicochemical based method to accurately quantify genes in biological samples using calibrated microarrays. American Society of Microbiology Regional Meeting, Montgomery, AL, November 6 2010.
55. Duncan S., F. White, I. Williams, F. Richardson, P. A. Noble. Metagenomic Analysis of Microcosms Simulating the Deepwater Horizon Blowout. 2012 Research and Creative Activity Symposium, Alabama State University, College of Science, Mathematics, and Technology. March 12-15, 2012.
56. White F., I. Williams, S. Duncan, F. Richardson, P. A. Noble. Examining the effects of Deepwater Horizon oil and dispersant on microbes in the Gulf of Mexico surface waters. 2012 Research and Creative Activity Symposium, Alabama State University, College of Science, Mathematics, and Technology. March 12-15, 2012.
57. Williams I. M., F. Richardson, S. Duncan, F. White, P. A. Noble. Degrading of Deepwater Horizon Oil using Corexit-Treated Seawater. 2012 Research and Creative Activity Symposium, Alabama State University, College of Science, Mathematics, and Technology. March 12-15, 2012.
58. Richardson F., I. Williams, F. White, S. M. Duncan, P. A. Noble. Metagenomic Analysis of MC252 Oil- and Corexit-Amended Seawater Microcosms. 2012 Research and Creative Activity Symposium, Alabama State University, College of Science, Mathematics, and Technology. March 12-15, 2012.
59. Noble, P.A., A.E. Pozhitkov and B.K. Robertson. The effects of Deepwater Horizon MC252 oil and dispersant Corexit on microbial communities in Gulf of Mexico surface waters: a metagenomic study. American Society of Microbiology General Meeting, San Francisco, CA, June 16-19, 2012.
60. Mitchell, C. and P.A. Noble. Phytoplankton Heterotrophic Symbiosis and Its role in Biodegradation of Deepwater Horizon Oil in Gulf of Mexico Surface Waters. 2012 Annual Biomedical Research Conference for Minority Students (ABRCMS). November 7 - 10, 2012.
61. Duncan, S.M., C. Mitchell and P.A Noble The Putative Role of Phytoplankton -- Hydrocarbon-utilizing Microbial Symbiosis in Biodegradation of Deepwater Horizon Oil in Gulf of Mexico Surface Waters. 114th American Society of Microbiology General Meeting, Denver, Colorado, May 18 - 21, 2013 ASM STUDENT CAPSTONE AWARD WINNER!
62. Pozhitkov A.E., B. Leroux, P.A. Noble, T.F. Flemmig. Microbial Ensemble Associated with Periodontitis Beyond the Red Complex. International Association for Dental Research General Session, Seattle Washington, March 20-23,2013.
63. Javan, G and P.A. Noble. Life after human death: The Thanatobiome. American Academy of Forensic Sciences 66th Annual Scientific meeting, Seattle Washington, February 17-22, 2014.
64. Christina Dewberry, Jasmine K Ferguson, Kawana Cannon, Fred Yeboah, Gulnaz Javan, Peter A. Noble, Shivani Soni. Characterizing the role of Erythroblast macrophage protein (Emp) in

macrophage differentiation and function. 2014 Research Symposium, Alabama State University, March 20-21, 2014.

65. Colby Hunter, Alex Pozhitkov, Peter A. Noble. A New Procedure for Microarray Experiments to Account for Experimental Noise and the Uncertainty of Probe Response. 2014 Research Symposium, Alabama State University, March 20-21, 2014.
66. I. Can, P. A. Noble, A. Pozhitkov, G. Javan. Human Thanatobiome (Microbiome of the Dead): Optimization of Sampling. 2014 Research Symposium, Alabama State University, March 20-21, 2014.
67. Shayla Duncan, Cecile Mitchell, Peter A. Noble. The Aerobic Anoxygenic Microbes' Putative Role in the Deepwater Horizon Incident. 2014 Research Symposium, Alabama State University, March 20-21, 2014.
68. Ismail Can, Peter A Noble, Alex E Pozhitkov, Gulnaz T Javan. 2014. Establishing a Method to Study the Human Thanatobiome. American Society of Microbiology General Meeting, Boston, MA, May 17-20th, 2014.
69. Gulnaz T. Javan and Peter A Noble. H126 Life after Human Death: the thanatobiome. Proceedings American Academy of Forensic Sciences, 66th Annual Scientific Meeting Seattle WA February 17-22, 2014.

Books And Editing

Almeida, J. S. and P. A. Noble (Guest Editors). Special Issue: Neural Computing in Microbiology. Journal of Microbiological Methods, Vol. 43, 2000.

Project Reports (reports to sponsors)

Determining genome organization by using back-propagating neural network. NSF, 2000.

Novel mathematical approaches for determining ecosystem structure and dynamics. NSF, 2002.

Biocomplexity incubation activity: consequences of urban encroachment on natural ecosystems. NSF, 2002.

CISNET: Molecular to landscape monitoring of estuarine eutrophication. EPA-CISNET, 2002

Consortium for Ecoindicator Research for the Gulf of Mexico EPA 2001 STAR Program, EPA 2007.

MRI: Acquisition of a Roche/454 GS-Jr for Research and Training in Microbiology at Alabama State University, NSF Division of Biological Infrastructure, 2013.

Other Scholarly Activity

Patents (pending)

Pozhitkov, A. and P. A. Noble, (2005) Rapid and robust identification of known microorganisms in complex mixtures. Record of Invention, UW Ref#7346D.

Invited Lectures And Seminars

1. Bugs in tubs: the microbial ecology of hot tub, Southern California American Society of Microbiology 58th Annual Meeting, San Diego, California, June, 1994.
2. Pathogens in drinking water, waste and recreational water, American Society for Microbiology Workshop, Washington, DC, May, 1995.
3. The identification, enumeration and detection of water-borne microbes, American Society for Microbiology Workshop, New Orleans, Louisiana, May, 1996.
4. Controlling Microbes in drinking water: biostability, biofilms, pathogens and disinfectants, American Society for Microbiology Workshop, Miami Beach, Florida, May, 1997.
5. Visualization of Microbial Genomes by Analysis of Tetranucleotide Frequencies, Seventh Annual South Carolina Statewide Research Conference, Wild Dunes, Isle of Palms, South Carolina, October, 1998.
6. Neural computing approaches for analyzing microbiological data, American Society for Microbiology Workshop, Atlanta, Georgia, May, 1998.
7. Determining the relationship between the ecological dynamic properties of an estuarine ecosystem and its corresponding microbial community structure, Southeastern Branches of the American Society for Microbiology, Jekyll Island, Georgia, October, 1999.
8. The application of artificial neural networks to determine associations between biotic and abiotic factors in ecosystems, All EaGLes meeting, Annapolis, Maryland, Dec, 2002.
9. Neuroet: an easy-to-use artificial neural network for ecological and biological modelling, 4th Conference of the International Society for Ecological Informatics, South Korea, October, 2004.
10. Ecological informatics and grappling with the complexity of microorganisms in ecological systems, 4th Conference of the International Society for Ecological Informatics, South Korea, October, 2004.
11. Evaluation of gel-pad oligonucleotide microarrays using artificial neural networks. American Society for Microbiology Meeting, Atlanta, GA, June, 12th, 2005.
12. Oligonucleotide arrays: journey to the destination. Febit Biotech GmbH, Heidelberg, Germany, July, 19th, 2006.
13. Oligonucleotide arrays: the journey and destination. FluIT Biosystems GmbH Schloss Birlinghoven, Germany, August 2nd, 2006.
14. Oligonucleotide DNA microarrays for the identification of microorganisms. Institute of Oceanography, Chinese Academy of Sciences, Qingdao, China, October, 2006.
15. Neuroet: an easy-to-use artificial neural network for ecological and biological modelling, Institute of Oceanography, Chinese Academy of Sciences, Qingdao, China, October, 2006.
16. Simultaneous quantification of multiple rRNA targets in complex target samples. International Association for Dental Research, Toronto, Canada, July 2-5, 2008.

17. Exploration of the human oral microbiota using next generation sequencing. Tuskegee University First Joint Symposium, March 12,13, 2010.
18. Breathing New Life into DNA Microarrays, Public Health Seminar, University of California, Irvine, Monday, June 2nd, 2014.

Presentations Given At Conferences

Noble, P. A., E. Ashton, C. A. Davidson, M. Dziuba, K. D. Webster, and W. L. Albritton. Development of a biosensor for routine environmental microbiology. *Proceedings of the American Water Works Association, Water Quality Technological Conference*, Toronto, Ontario, pp. 1267-1280. 1992.

Noble, P. A. and W. L. Albritton. An insertion sequence located in the non-TnA portion of "RSF0885". *Canadian Society of Microbiologists Annual Meeting*, St. John's, Nfld., June 14-18, 1992.

Noble, P. A., L. Sawyer, D. L. Clark, S. W. Hermanowicz, and B. H. Olson. Biological stability of groundwater treated by conventional and membrane methods For Organic Removal. *American Water Works Association - Water Quality Technology Conference*, San Francisco, California, pp. 1609-1631, 1994.

Noble P.A., R.A. Rule, T Flemmig, T. Beikler, and A. Pozhitkov. Simultaneous quantification of multiple nucleic acid targets in complex target mixtures using high-density oligonucleotide microarrays. *Center for Process Analytical Chemistry* Seattle WA 2008, May 4-8, 2008

Noble P.A. A. Pozhitkov, and R.A. Rule. Establishing nearest neighbor model parameters for hybridization on the surface of microarrays. *Center for Process Analytical Chemistry* Seattle WA 2008, May 4-8, 2008

Professional Society Membership

American Society for Microbiology (1990-2012)
International Association for Dental Research (2008)

Professional Society And Other Service

Appointed to the Associate Editor of *Estuarine Coastal and Shelf Science*, 2014-2017.

Appointed to the Editorial Board of *Journal of Microbiological Methods*, 1999-present.

Appointed to the Editorial Board of *Applied and Environmental Microbiology*, 1999-2001.

Re-Appointed to the Editorial Board of *Applied and Environmental Microbiology*, 2001-2004.

Organized international workshop entitled: "Physicochemical fundamentals of DNA hybridizations on surfaces as applied to microarrays and bead-based sequencing technologies ", which was held on May 9th to 12, 2011 at Max-Planck-Institute for Evolutionary Biology in Ploen, Germany. Web site: <http://www.evolbio.mpg.de/ploenworkshop/>

Reviews Made

Journal or Other	Number
<i>Applied and Environmental Microbiology</i>	190+
<i>Journal of Microbiological Methods</i>	50+
<i>Nucleic Acids Research</i>	5
<i>Environmental Microbiology</i>	9
<i>Nature ISME</i>	1
<i>Botanica Marina</i>	1
<i>Journal of Shellfish Diseases</i>	1
<i>Journal of Industrial Microbiology</i>	1
<i>Genome Biology</i>	1
<i>Biotechnology Progress</i>	1
<i>Food Microbiology</i>	1
<i>Bioinformatics</i>	1
<i>Photogrammetric Engineering and Remote Sensing</i>	1
NSF Proposals	52+
NIH Proposals	50
DOE	2
National Environment Research Council UK	1
Nature	1
EPA	16
USDA	14

Undergraduate Students

Univ. California, Irvine

Emily Bruhms, (Environmental Analysis and Design) – taught microbiological methods.

Baruch Institute, Univ. South Carolina

Caroline Roper, (Marine Science) – taught molecular biology methods and was involved in mentoring. Now: Ph.D. from University of California, Davis. Assistant Prof at UCD.

Megan Dantzler, (Marine Science) – taught molecular biology methods. Now: a Ph.D. candidate at University of South Carolina

Sara Thieben and Megan Kelly (Marine Science) – taught laboratory and marine biology field skills.

Elizabeth Mack (Biology) – taught fundamentals of neural network computing and was involved in her *Honors Thesis: The development of artificial neural networks for the exploration of population genetic data for the exploration of population genetic data.* Now: M.D. at University of South Carolina.

Univ. Washington

Erik Tribou, (Computer Science) - supervised computer activities and mentored. Now: has M.S. (Computing) from the University of Las Vegas.

Travis Krick, (Computer Science) - supervised computer-related activities.

Kyle D. Bailey (BioChemistry)- supervised laboratory activities and mentored. Undergraduate Research Symposium 2006: Identification and quantification of microbes in complex microbial mixtures. K. Bailey, A. Pozhitkov and P. A. Noble. Now: a graduate student at Univ. Missouri.

Alison Thomas, MIAME standards adherence research project

Alisa Carlson, MIAME standards adherence research project

Alabama State University

Undergraduate Students learning molecular biology and Roche/454 sequencing: Shayla M Duncan (ASM Undergraduate Research Capstone Program Scholar), Frances White, India Williams, Folasuyi Richardson (ASM undergraduate research honorable mentions award).

Graduate Students

Baruch Institute, Univ. South Carolina

Yvette M. Piceno, Ph.D. Student, - taught fundamentals of neural network computing. Now a scientist at Lawrence Livermore Laboratory, California

While at Univ. Washington

Evaristo Liwa, Ph.D. student (NSF fellow), in the Department of Oceanography and Coastal Sciences, Louisiana State University- Baton Rouge, LA -- taught fundamentals of neural network computing. *Ph.D. Thesis (2006): A neural network model for classification of coastal wetlands vegetation structure with moderate resolution imaging spectro-radiometer (MODIS) data.*

Univ. Washington

Rebecca A. Rule, MEng, Civil and Environmental Engineering. June 1st, 2007 - 2009. Now: USA Army Core of Engineers.

Hsu-Ya Kang, Ph.D, Civil and Environmental Engineering. Jan. 2009 –transferred to PhD Program at University of Taiwan.

Alabama State University Cecile Mitchell, MS student, 2013 (graduated); Ismail Can, MS student, 2014; Colby Hunter, PhD student, 2013-2017;

Other Student Supervision (service on graduate degree committees)

Ph.D. Committee

Baruch Institute, Univ. South Carolina

Hongyue Dang - taught molecular biology skills. Now: Professor at Institute of Oceanology Chinese Academy of Sciences, Qingdao, China

Univ. Washington

Jeremy Nadeau, Analytical Chemistry, Fall, 2006- graduated.

Jennifer Maki, Analytical Chemistry, Spring, 2009- graduated.

Alabama State University

Kelly Frazier, MS Forensic Science, Fall, 2013 – 2014

Ismail Can, MS Forensic Science, Fall, 2013 – present

Research Activities

Sponsored Research

- 1997-2000 Accelerated Research in Biofouling Control, US Dept. of Defense/Office of Naval Research, \$383,251 (co-PI with M. Fletcher and C.R. Lovell, Baruch Institute, University of South Carolina), funded.
- 1999-2000 Determining genome organization by using a back propagating neural network, National Science Foundation. DEB Microbial Genetics, \$28,680/2 years, funded.
- 1999-2001 CISNET: Molecular to landscape monitoring of estuarine eutrophication, EPA/NOAA/NASA, \$586,553/3 years (co-PI with J.T. Morris, M. Fletcher, D. Porter, Baruch Institute, University of South Carolina), funded.
- 2000-2001 Novel mathematical approaches for determining ecosystem structure and dynamics. National Science Foundation. DEB Ecological Systems, \$137,146), funded.
- 2000-2002 Bicomplexity Incubation Activity: Consequences of urban encroachment on natural ecosystems. National Science Foundation. DEB Ecological Systems, \$93,409/12 months, (co-PI with G. Kleppel and others, SUNY), funded.
- 2001-2005 Consortium for Ecoindicator Research for the Gulf of Mexico EPA 2001 STAR Program, (co-PI with Marius Brouwer (PI) and others, University of Southern Mississippi), One component of \$6 M multi-institutional project, funded.
- 2002-2006 DNA Microchips: Detecting microbes and virulence factors in oral cavity fluids. National Institute of Dental and Craniofacial Research (co-PI Noble), \$3,938,123, funded.
- 2005-2008 NSF/NIH: Collaborative Research: Rapid classification and identification of microbes using DNA microarrays and bioinformatics. Noble (PI): \$495,498 36 months. (Recommended but not funded).
- 2007-2008 University of Washington Provost Bridge Funding: Simultaneous quantification of multiple nucleic acids targets in complex microbial mixtures. Noble (PI), \$44,804, 24 months (funded).
- 2007-2008 University of Washington Royalty Research Fund: Simultaneous quantification of multiple microbes in complex microbial mixtures. Noble (PI), \$35,597, 24 months (funded).
- 2008-2010 Hach Memorial fund: Simultaneous quantification of microbial targets in mixtures using high density arrays. Peter Noble (Co-PI) with Thomas Beikler and Thomas Flemmig, \$25,800, 24 months, (funded).

- 2010-2013 NSF: MRI: Acquisition of a Roche/454 GS-Jr for Research and Training in Microbiology at Alabama State University. Peter A Noble (PI), 36 months, \$107,200 (funded) + 30,000 matching funds.
- 2011-2011 Molecular Devices- Microarray Systems. Funding for the Conference entitled "Physical chemistry of DNA hybridizations occurring on the solid surfaces as applied to microarray and bead-based sequencing technologies". Max-Planck-Institute in Ploen Germany, May 9 to 12, 2011, (\$1,500).
- 2011-2012 MESC: Microbial community activities in seawater amended with MR252 oil and Corexit 9500. (~35,000) with BK Robertson. (funded)
- 2012-2012 SEED-SET -- SEED money to Strengthen a NIH proposal, Enhance national and international research collaborations at top universities, and Train undergraduate students on a state-of-the-art DNA sequencing instrument. ASU Provost Innovation Award, Peter A Noble (PI), 6 months, (\$6,000) (funded)
- 2012-2012 Matching funds to SEED-SET grant, University of Düsseldorf, Peter A Noble (PI), 6 months, (\$5,972) (funded)
- 2013-2014 NIH R21: Transplantation of health-associated oral microbiome for treatment of periodontitis. Collaboration with University of Washington. (Scored 23). Approved for funding by NIH – but declined by University of Washington.
- 2014-2015 International Team for Implantology: Submucosal microbiome and titanium corrosion in peri-implantitis. Collaboration with University of Washington and University of Düsseldorf. (funded; \$25,500).
- 2013-2014 DNA sequencing of biofilms from sludge bioreactors. Collaboration with Prof. Betty Olson and Diego Rosso, Civil and Environmental Engineering, University of California Irvine. (2013: \$2,592) (2014: \$6,000).
- 2013-2014 DNA sequencing of canine periodontal samples. Collaboration with Prof. Beikler of the University of Düsseldorf, (\$3,600).
- 2014-2017 NSF: RIA: Life after death: the human thanatomicrobiome in organs as a function of post-mortem interval. Noble wrote the proposal for a junior faculty member and it was funded. (\$200,000).
- 2014-2018 NIJ: The relation between the human thantomicrobiome and postmortem interval. PI. P.A. Noble. (\$350,000; pending).
- 2015-2018 NIH R21: Transplantation of health-associated oral microbiome for treatment of periodontitis. Collaboration with University of Washington. . (\$350,000; pending).

Short courses, workshops, and other educational programs

Pathogens in drinking water, waste and recreational water, American Society for Microbiology Workshop, Washington, DC, day-long workshop, 1995.

The identification, enumeration and detection of water-borne microbes, American Society for Microbiology Workshop, New Orleans, Louisiana, day-long workshop, 1996.

Controlling microbes in drinking water: biostability, biofilms, pathogens and disinfectants, American Society for Microbiology Workshop, Miami Beach, Florida, day-long workshop, 1997.

Neural computing approaches for analyzing microbiological data, American Society for Microbiology Workshop, Atlanta, Georgia, day-long workshop, 1998.

Organized an international conference entitled: "Physical chemistry of DNA hybridizations occurring on the solid surfaces as applied to microarray and bead-based sequencing technologies". Max-Planck-Institute in Ploen Germany, May 9 to 12, 2011.

Organized and presented a College workshop entitled: "Use of Roche 454 Pyrosequencer: Genomes, Metagenomes, and Transcriptomes", Center of Nanobiotechnology Research, Alabama State University, Montgomery, AL, Sept. 25th, 2012.

Service

College Service

NSF ADVANCE Cross-Department Cultural Change Program member: Winter, Spring, Fall 2004-2005
 Chair of 2013 Research Symposium, Alabama State University, Montgomery AL, March 20-21, 2013
 Chair of 2014 Research Symposium, Alabama State University, Montgomery AL, March 19-20, 2014
 Chair of 2015 Research Symposium, Alabama State University, Montgomery AL, March 18-19, 2015

National Service

2002 NSF Biological Oceanography Review Panel
 2003 NIH Oral Cavity Review Panel
 2004 NIH Oral Cavity Review Panel
 2006 (Feb and March) EPA Biological Oceanography Review Panels
 2010 (Feb and March) EPA Star Program Review Panels
 2011 USDA Review Panel - Animal health and disease
 2013 NIH Human Microbiome Review Panel
 2013 NSF Division of Biological Infrastructure Review Panel

All Other Service

Science Judge at 2011 Louis Stokes Alliance for Minority Participation poster competition, Renaissance Hotel, Montgomery AL, April 11, 2011.

Science Judge at 2012 Annual Biomedical Research Conference for Minority Students, San Jose, CA, November 7-10, 2012

Sponsored Visiting Professor (at Baruch Institute, Univ. South Carolina): Prof. Jonas S. Almeida, (1998-2000) from New University of Lisbon (Universidade Nova de Lisboa), Portugal. Now: Full Prof. at University of Texas, Huston, TX.

Mentored post-doctoral fellow: Alex Pozhitkov (at University of Washington), He just finished as Research Associate, Max-Planck-Institute for Evolutionary Biology. Ploen, Germany and is now a Research Associate at the University of Washington and Fred Hutchinson Cancer Research Institute.

Mentored post-doctoral fellow: Hidetoshi Urakawa at the University of Washington. He was associate professor of The Ocean Research Institute, The University of Tokyo and is now an associate professor in Florida.

Courses Taught

University	Course	Course Title	Quarter	Credit hours	Students
University of California, Irvine	BIO 101	Intro Biology Course	Fall 1995	3	60
University of Washington	CEE 700	Graduate Research F06	Fall 2006	2	1
	CEE 700	Graduate Research W07	Winter 2007	2	1
	CEE 700	Graduate Research S07	Spring 2007	2	1
	CEE 700	Graduate Research F08	Fall 2008	2	1
	CEE 700	Graduate Research W09	Winter 2009	10	1
	CEE 700	Graduate Research S09	Winter 2009	2	1
	CEE 600	Graduate Research W09	Winter 2009	3	1
	CEE 600	Graduate Research S09	Spring 2009	3	1
Alabama State University	BIO 730.1	Microbial Physiology	Fall 2009	3	10
	CHE 700.1	Biochemistry	Winter 2010	3	3
	BIO 614	Applied Microbiology	Fall 2010	4	2
	BIO 614/702	Applied Microbiology	Winter 2011	4	2
	BIO 619/704	Molecular Genetics	Spring 2012	4	2
	BIO 614/701	Applied Microbiology	Fall 2012	4	5
	BIO 719-01	Scientific Writing and Presentation	Winter 2013	4	1
	BIO 521	Bioinstrumentation and Biotechniques	Summer 2013	4	6
	BIO 730.1	Microbial Physiology	Fall 2013	3	10
	BIO 740.1	Environmental Microbiology	Winter 2014	4	1
	BIO 799	Graduate Research	Winter 2014	1	1
	BIO805	Microbial Ecology	Summer 2014	4	4
	BIO 799	Graduate Research	Summer 2014	1	1

	BIO521	Bioinstrumentation and Biotechniques	Fall 2014	4	5
	BIO 799	Graduate Research	Fall 2014	1	1
	BIO835	Water Microbiology/Distribution Systems	Fall 2014	4	10