

CURRICULUM VITAE - MAX M. HÄGGBLOM

Distinguished Professor and Chair
Department of Biochemistry and Microbiology
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EDUCATION:

1985, B.S., Life Sciences, University of Helsinki, Helsinki, Finland
1986, M.S., General Microbiology, University of Helsinki.
1987, Licentiate of Philosophy, General Microbiology, University of Helsinki.
1989, Ph.D., General Microbiology, University of Helsinki.

ACADEMIC APPOINTMENTS:

1985-1992, Instructor, Department of General Microbiology, University of Helsinki, Finland (on leave of absence 9/1988-12/1992).
1987-1988, Young Scientist Fellow, Department of General Microbiology, University of Helsinki.
1988-1991, Assistant Research Scientist, Department of Microbiology, New York University Medical Center, NY.
1991-1993, Research Assistant Professor, Institute of Environmental Medicine, New York University Medical Center, NY.
1993-1997, Assistant Research Professor; 1997-1998, Associate Research Professor, Biotechnology Center for Agriculture and the Environment, Rutgers University, New Brunswick NJ.
1993-2010, Member, Biotechnology Center for Agriculture and the Environment.
1998-1999, Assistant Professor; 1999-2003, Associate Professor; 2003-2011, Professor; 2011-pres., Distinguished Professor
2003-2008, Director, Undergraduate Program in Microbiology.
2008-pres., Chair, Department of Biochemistry and Microbiology.
2009-2011, Director, Graduate Program in Microbial Biology.
2009-pres., Member, Rutgers Energy Institute.
2012-pres., Member, Institute of Marine and Coastal Sciences.

OTHER PROFESSIONAL APPOINTMENTS:

1991-pres., Docent (Applied Microbiology), University of Helsinki, Finland.
1993-1996, Adjunct Assistant Professor, Institute of Environmental Medicine, NYU Medical Center.
1995-2006, Member, Editorial Board, *Applied and Environmental Microbiology*.
1996-pres., Docent (Environmental Microbiology), University of Jyväskylä, Finland.
1998-2003, Member, Editorial Board, *FEMS Microbiology Ecology*.
2000-2001, Visiting Professor, Dept. of Applied Chemistry and Microbiology, University of Helsinki, Finland (sabbatical appointment).
2004-pres., Visiting Scientist, Finnish Forest Research Institute - Rovaniemi Research Station, Finland.
2010-pres., Visiting Professor, Chinese Academy of Sciences, Institute for Urban Environment, Xiamen, China.
2003-2010, Editor, *FEMS Microbiology Ecology*.
2011-pres., Chief Editor, *FEMS Microbiology Ecology*.

HONORS AND AWARDS:

Young Scientist's Fellowship, University of Helsinki, 1987-1988.
Rutgers University Board of Trustees Research Fellowship for Scholarly Excellence, 1999.
Cook College / New Jersey Agricultural Experiment Station Sustained Research Excellence Award, 2003.
American Society for Microbiology US-Indo Professorship, 2009.
Waksman Honorary Lectureship Award, Theobald Smith Society, American Society for Microbiology New Jersey Branch, 2010.
Visiting Professorship for Senior International Scientists of the Chinese Academy of Sciences, 2010.
Elected Fellow, American Academy of Microbiology, 2011.
Waksman Outstanding Teaching Award, Society for Industrial Microbiology and Biotechnology, 2014.

MAJOR RESEARCH INTERESTS:

Environmental Microbiology and Microbial Ecology: linking ecosystem functions with microbial (bacterial) diversity; microbial bioprospecting - isolation, characterization and taxonomy of novel bacteria; microbial metabolism of toxic and environmental pollutants (biodegradation of halogenated aromatic compounds, biodegradation of petroleum hydrocarbons and gasoline additives); bacterial respiration of selenium and arsenic; microbial ecology of Arctic tundra soils.
Environmental Biotechnology: development of bioremediation methods for treatment of contaminated soil, groundwater and sediment.

PUBLICATIONS:

Peer-reviewed Journal Articles

1. Häggblom M, Apajalahti J, Salkinoja-Salonen M (1986) Metabolism of chloroguaiacols by *Rhodococcus chlorophenolicus*. Appl. Microbiol. Biotechnol. **24**:397-404.
2. Wahlberg J, Tynkkynen S, Tuominen N, Uotila J, Kuusinen K, Häggblom M, Viljanen J, Villstedt R, Nurmiäho-Lassila E-L, Lounatmaa K (1987) A novel type of cell wall structure with two periodic layers (S-layer) of a *Bacillus* sp. strain KL1. FEMS Microbiol. Letters **40**:75-79.
3. Häggblom MM, Apajalahti JHA, Salkinoja-Salonen MS (1988) Hydroxylation and dechlorination of chlorinated guaiacols and syringols by *Rhodococcus chlorophenolicus*. Appl. Environ. Microbiol. **54**:683-687.
4. Häggblom MM, Apajalahti JHA, Salkinoja-Salonen MS (1988) O-Methylation of chlorinated *para*-hydroquinones by *Rhodococcus chlorophenolicus*. Appl. Environ. Microbiol. **54**:1818-1824.
5. Häggblom MM, Nohynek LJ, Salkinoja-Salonen MS (1988) Degradation and O-methylation of polychlorinated phenolic compounds by *Rhodococcus* and *Mycobacterium* strains. Appl. Environ. Microbiol. **54**:3043-3052.
6. Häggblom MM, Janke D, Salkinoja-Salonen MS (1989) Hydroxylation and dechlorination of tetrachlorohydroquinone by *Rhodococcus* sp. strain CP-2 cell extracts. Appl. Environ. Microbiol. **55**:516-519.
7. Häggblom MM, Janke D, Middeldorp PJM, Salkinoja-Salonen MS (1989) O-Methylation of chlorinated phenols in the genus *Rhodococcus*. Arch. Microbiol. **152**:6-9.
8. Häggblom MM, Janke D, Salkinoja-Salonen MS (1989) Transformation of chlorinated phenolic compounds in the genus *Rhodococcus*. Microbial Ecology **18**:147-159.
9. Valo RJ, Häggblom MM, Salkinoja-Salonen MS (1990) Bioremediation of chlorophenol containing simulated ground water by immobilized bacteria. Water Res. **24**:253-258.
10. Häggblom MM (1990) Mechanisms of bacterial degradation and transformation of chlorinated monoaromatic compounds. J. Basic Microbiol. **30**:115-141.

11. Häggblom MM, Rivera MD, Bossert ID, Rogers J, Young LY (1990) Anaerobic degradation of *para*-cresol under three reducing conditions. *Microbial Ecology* **20**:141-150.
12. Häggblom MM, Young LY (1990) Chlorophenol degradation coupled to sulfate reduction. *Appl. Environ. Microbiol.* **56**:3255-3260.
13. Young LY, Häggblom MM (1991) Biodegradation of toxic and environmental pollutants. *Current Opinion in Biotechnology* **2**:429-435.
14. Häggblom M, Salkinoja-Salonen (1991) Biodegradability of chlorinated organic compounds in pulp bleaching effluents. *Water Sci. Tech.* **24**(3/4):161-170.
15. Uotila JS, Kitunen VH, Saastamoinen T, Coote T, Häggblom MM, Salkinoja-Salonen MS (1992) Characterization of aromatic dehalogenase activities of *Mycobacterium fortuitum* strain CG-2. *J. Bacteriol.* **174**:5669-5675.
16. Häggblom MM (1992) Microbial breakdown of halogenated aromatic pesticides and related compounds. *FEMS Microbiol. Rev.* **103**:29-72.
17. Nohynek LJ, Häggblom MM, Palleroni NJ, Kronqvist K, Nurmiäho-Lassila E-L, Salkinoja-Salonen MS (1993) Characterization of a *Mycobacterium fortuitum* strain degrading polychlorinated phenolic compounds. *Syst. Appl. Microbiol.* **16**:126-134.
18. Alder AC, Häggblom MM, Oppenheimer SR, Young LY (1993) Reductive dechlorination of polychlorinated biphenyls in freshwater and marine sediments. *Environ. Sci. Technol.* **27**:530-538.
19. Häggblom MM, Rivera MD, Young, LY (1993) Influence of alternative electron acceptors on the anaerobic biodegradability of chlorinated phenols and benzoic acids. *Appl. Environ. Microbiol.* **59**:1162-1167.
20. Häggblom MM, Rivera MD, Young LY (1993) Effects of auxiliary carbon sources and electron acceptors on methanogenic degradation of chlorinated phenols. *Environ. Toxicol. Chem.* **12**:1395-1403.
21. Häggblom MM, Berman MH, Frazer AC, Young LY (1993) Anaerobic O-demethylation of chlorinated guaiacols by *Eubacterium limosum* and *Acetobacterium woodii*. *Biodegradation* **4**:107-114.
22. Coschigano PW, Häggblom MM, Young LY (1994) Metabolism of both 4-chlorobenzoate and toluene under denitrifying conditions by a constructed strain. *Appl. Environ. Microbiol.* **60**:989-995.
23. Häggblom MM, Nohynek LJ, Palleroni NJ, Kronqvist K, Nurmiäho-Lassila E-L, Salkinoja-Salonen MS, Klätte S, Kroppenstedt RM (1994) Transfer of polychlorophenol-degrading *Rhodococcus chlorophenolicus* (Apajalahti et al. 1986) to the genus *Mycobacterium* as *Mycobacterium chlorophenolicum*. *Int. J. Syst. Bacteriol.* **44**:485-493.
24. Häggblom MM, Young, LY (1995) Anaerobic degradation of halogenated phenols by sulfate-reducing consortia. *Appl. Environ. Microbiol.* **61**:1546-1550.
25. Kazumi J, Häggblom MM, Young LY (1995) Diversity of anaerobic microbial processes in chlorobenzoate degradation: nitrate, iron, sulfate and carbonate as electron acceptors. *Appl. Microbiol. Biotechnol.* **43**:929-936.
26. Kazumi J, Häggblom MM, Young LY (1995) Degradation of monochlorinated and non-chlorinated aromatic compounds under iron-reducing conditions. *Appl. Environ. Microbiol.* **61**:4069-4073.
27. Häggblom MM, Rivera MD, Young LY (1996) Anaerobic degradation of halogenated benzoic acids coupled to denitrification observed in a variety of sediment and soil samples. *FEMS Microbiol Lett.* **144**:213-219.
28. Monserrate E, Häggblom MM (1997) Dehalogenation and biodegradation of brominated phenols and benzoic acids under iron-reducing, sulfidogenic, and methanogenic conditions. *Appl. Environ. Microbiol.* **63**:3911-3915.
29. Häggblom MM (1998) Reductive dehalogenation by a sulfate-reducing consortium. *FEMS Microbiol. Ecol.* **26**:35-41.
30. Milligan PW, Häggblom MM (1998) Biodegradation of resorcinol and catechol by denitrifying enrichment cultures. *Environ. Toxicol. Chem.* **17**:1456-1461.

31. Häggblom MM, Young LY (1999) Anaerobic degradation of halogenated benzoic acids by a denitrifying bacterium. Arch. Microbiol. **171**:230-236.
32. Milligan PW, Häggblom MM (1999) Anaerobic biodegradation and biotransformation of dicamba under different reducing conditions. Environ. Sci. Technol. **33**:1224-1229.
33. Boyle AW, Knight VK, Häggblom MM, Young LY (1999) Transformation of 2,4-dichlorophenoxyacetic acid in four different marine and estuarine sediments: effects of sulfate, hydrogen and acetate on dehalogenation and side chain cleavage. FEMS Microbiol. Ecol. **29**:105-113.
34. Daane LL, Häggblom MM (1999) Effect of earthworm egg capsule microbiota on degradation of 2,4-dichlorophenoxyacetic acid. Appl. Environ. Microbiol. **65**:2376-2381.
35. Knight VK, Kerkhof LJ, Häggblom MM (1999) Community analyses of sulfidogenic 2-bromophenol dehalogenating and phenol degrading consortia. FEMS Microbiol. Ecol. **29**:137-147.
36. Song B, Häggblom MM, Zhou J, Tiedje JM, Palleroni NJ (1999) Taxonomic characterization of denitrifying bacteria degrading aromatic compounds and description of *Azoarcus toluvorans* sp. nov., and *Azoarcus toluclasticus* sp. nov. Int. J. Syst. Bacteriol. **49**:1129-1140.
37. Kelly JJ, Häggblom MM, Tate RL III (1999) Changes in soil microbial communities over time resulting from one time application of zinc: a laboratory microcosm study. Soil. Biol. Biochem. **31**:1455-1465.
38. Kelly JJ, Häggblom MM, Tate RL III (1999) Effects of the land application of sewage sludge on soil heavy metal levels and soil microbial communities. Soil. Biol. Biochem. **31**:1467-1470.
39. Boyle AW, Häggblom MM, Young LY (1999) Dehalogenation of lindane (γ -hexachlorocyclohexane) by anaerobic bacteria from marine sediments and by sulfate-reducing bacteria. FEMS Microbiol. Ecol. **29**:379-387.
40. Turpeinen R, Pansar-Kallio M, Häggblom M, Kairesalo T (1999) Influence of microbes on the mobilization, toxicity and biomethylation of arsenic in soil. Sci. Total Environ. **236**:173-180.
41. Song B, Palleroni NJ, Häggblom MM (2000) Description of strain 3CB-1, a genomovar of *Thauera aromatica*, capable of degrading 3-chlorobenzoate coupled to nitrate reduction. Int. J. Syst. Evolut. Microbiol. **50**:551-558.
42. Vargas C, Song BK, Camps M, Häggblom MM (2000) Anaerobic degradation of fluorinated aromatic compounds. Appl. Microbiol. Biotechnol. **53**:342-347.
43. Häggblom MM, Knight VK, Kerkhof LJ (2000) Anaerobic decomposition of halogenated aromatic compounds. Environmental Pollution **107**:199-207.
44. Song B, Palleroni NJ, Häggblom MM (2000) Isolation and characterization of diverse halobenzoate-degrading denitrifying bacteria from soils and sediments. Appl. Environ. Microbiol. **66**:3446-3453.
45. Song B, Palleroni NJ, Kerkhof LJ, Häggblom MM (2001) Characterization of halobenzoate-degrading denitrifying *Azoarcus* and *Thauera* isolates, and description of *Thauera chlorobenzoica* sp. nov. Int. J. Syst. Evolut. Microbiol. **51**:589-602.
46. Milligan PW, Häggblom MM (2001) Anaerobic degradation and dehalogenation of chlorosalicylates and salicylate under four reducing conditions. Biodegradation **12**:59-167.
47. Daane LL, Harjono I, Zylstra GJ, Häggblom MM (2001) Isolation and characterization of polycyclic aromatic hydrocarbon-degrading bacteria associated with the rhizosphere of salt marsh plants. Appl. Environ. Microbiol. **67**:2683-2691.
48. Somsamak P, Cowan RM, Häggblom MM (2001) Anaerobic biotransformation of fuel oxygenates under different anoxic conditions. FEMS Microbiol. Ecol. **37**:259-264.
49. Vargas C, Fennell DE, Häggblom MM (2001) Anaerobic reductive dechlorination of chlorinated dioxins in estuarine sediments. Appl. Microbiol. Biotechnol **57**:786-790.
50. Daane LL, Harjono I, Barns SM, Launen LA, Palleroni NJ, Häggblom MM (2002) PAH-degradation by *Paenibacillus* spp. and description of *Paenibacillus naphthalenovorans* sp. nov., a naphthalene-degrading bacterium from the rhizosphere of salt marsh plants. Int. J. Syst. Evolut. Microbiol. **52**:131-139.

51. Knight VK, Nijenhuis I, Kerkhof LJ, Häggblom MM (2002) Degradation of aromatic compounds coupled to selenate reduction. *Geomicrobiology Journal* **19**:77-86.
52. Voordeckers J, Fennell DE, Jones K, Häggblom MM (2002) Anaerobic biotransformation of tetrabromobisphenol A, tetrachlorobisphenol A, and bisphenol A in estuarine sediments. *Environ. Sci. Technol.* **36**:696-701.
53. Ruess L, Häggblom MM, Garcia Zapara EJ, Dighton J (2002) Phospholipid fatty acids of fungi and nematodes - possible biomarkers in the food chain? *Soil. Biol. Biochem.* **34**:745-756.
54. Häggblom MM, Apetroaie C, Andersson MA, Salkinoja-Salonen MS (2002) Quantitative analysis of cereulide, the emetic toxin of *Bacillus cereus*, produced under various conditions. *Appl. Environ. Microbiol.* **68**:2479-2483.
55. Launen LA, Eastep ME, Buggs VH, Enriquez RC, Leonard JW, Blaylock MJ, Huang J-W, Häggblom MM (2002) Bioremediation of polyaromatic hydrocarbon-contaminated sediments in aerated bioslurry reactors. *Bioremediation Journal* **6**:125-141.
56. Song B, Kerkhof LJ, Häggblom MM (2002) Characterization of denitrifying consortia utilizing 4-chlorobenzoate and 4-bromobenzoate as carbon sources. *FEMS Microbiol. Lett.* **213**:183-188.
57. Vela S, Häggblom MM, Young LY (2002) Biodegradation of aromatic and aliphatic compounds by rhizobial species. *Soil Science* **167**:802-810.
58. Kourtev PS, Ehrenfeld JG, Häggblom MM (2002) Exotic plant species alter microbial community structure and function in the soil. *Ecology* **83**:3152-3166.
59. Turpeinen R, Virta M, Häggblom MM (2003) Analysis of arsenic bioavailability in contaminated soils. *Environ. Toxicol. Chem* **22**:1-6.
60. Knight VK, Berman MH, Häggblom MM (2003) Biotransformation of 3,5-dibromo-4-hydroxybenzoxynil (Bromoxynil) under denitrifying, Fe(III)-reducing, sulfidogenic and methanogenic conditions. *Environ. Toxicol. Chem.* **22**:540-544.
61. Rhee S-K, Fennell DE, Häggblom MM, Kerkhof LJ (2003) Detection of reductive dehalogenase motifs in PCR fragments from a sulfidogenic 2-bromophenol-degrading consortium enriched from estuarine sediment. *FEMS Microbiol. Ecol.* **43**:317-324.
62. Ravit B, Ehrenfeld JG, Häggblom MM (2003) A comparison of sediment microbial communities associated with *Phragmites australis* and *Spartina alterniflora* in brackish wetlands of New Jersey. *Estuaries* **26**:465-474.
63. Jääskeläinen EL, Häggblom MM, Andersson MA, Vanne L, Salkinoja-Salonen MS (2003) Potential of bakery products for producing cereulide, the *Bacillus cereus* emetic toxin: Quantitative analysis by chemical and biological methods. *Journal of Food Protection* **66**:1047-1054.
64. Ahn Y-B, Rhee S-K, Fennell DE, Kerkhof LJ, Hentschel U, Häggblom MM (2003) Reductive dehalogenation of brominated phenolic compounds by microorganisms associated with the marine sponge *Aplysina aerophoba*. *Appl. Environ. Microbiol.* **69**:4159-4166.
65. Kelly JJ, Häggblom MM, Tate RL III (2003) Effects of heavy metal contamination and remediation on soil microbial communities in the vicinity of a zinc smelter as indicated by analysis of microbial community phospholipid fatty acid profiles. *Biol. Fertil. Soils* **38**:65-71.
66. Kourtev PS, Ehrenfeld JG, Häggblom MM (2003) Experimental analysis of the effect of exotic and native plant species on the structure and function of soil microbial communities. *Soil Biol. Biochem.* **35**:895-905.
67. Turpeinen R, Kairesalo T, Häggblom MM (2004) Microbial activity and community structure in arsenic, chromium and copper contaminated soils. *FEMS Microbiol. Ecol.* **47**:39-50.
68. Fennell DE, Rhee S-K, Ahn Y-B, Häggblom MM, Kerkhof LJ (2004) Detection and characterization of a dehalogenating microorganism by terminal restriction length fragment length polymorphism fingerprinting of 16S rRNA in a sulfidogenic, 2-bromophenol-utilizing enrichment. *Appl. Environ. Microbiol.* **70**:1169-1175.

69. Fennell DE, Nijenhuis I, Wilson SF, Zinder SH, Häggblom MM (2004) *Dehalococcoides ethenogenes* strain 195 reductively dechlorinates diverse chlorinated aromatic pollutants. *Environ. Sci. Technol.* **38**:2075-2081.
70. Ruess L, Häggblom MM, Langel R, Scheu S (2004) Nitrogen isotope ratios and fatty acid composition as indicators of animal diets in belowground systems. *Oecologia* **139**:336-346.
71. Haubert D, Häggblom MM, Scheu S, Ruess L (2004) Effects of fungal food quality and starvation on the fatty acid composition of *Protaphorura fimata* (Collembola). *Comp. Biochem. Physiol. Part B* **138**:41-52.
72. Tchernov D, Gorbunov MY, de Vargas C, Yadav SN, Milligan AJ, Häggblom M, Falkowski PG (2004) Membrane lipids of symbiotic algae are diagnostic of sensitivity to thermal bleaching in corals. *Proc. Natl. Acad. Sci. USA* **101**:13531-13535.
73. Jääskeläinen EL, Häggblom MM, Andersson MA, Salkinoja-Salonen MS (2004) Atmospheric oxygen and other conditions affecting the production of cereulide by *Bacillus cereus* in food. *Int. J. Food Microbiol.* **96**:75-83.
74. Somsamak P, Richnow HH, Häggblom MM (2005) Carbon isotopic fractionation during anaerobic biotransformation of methyl *tert*-butyl ether and *tert*-amyl methyl ether. *Environ. Sci. Technol.* **39**:103-109.
75. Ruess L, Tiunov A, Haubert D, Richnow HH, Häggblom MM, Scheu S (2005) Carbon stable isotope fractionation and trophic transfer of fatty acids in fungal based soil food chains. *Soil Biol. Biochem.* **37**:945-953.
76. Ravit B, Häggblom MM, Ehrenfeld JG (2005) Salt marsh rhizosphere affects microbial biotransformation of the widespread halogenated contaminant tetrabromobisphenol A (TBBPA). *Soil Biol. Biochem.* **37**:1049-1057.
77. Ruess L, Schütz K, Haubert D, Häggblom MM, Kandeler E, Scheu S (2005) Application of lipid analysis to understand trophic interactions in soil. *Ecology* **86**:2075-2082.
78. Ahn Y-B, Häggblom MM, Fennell DE (2005) Co-amendment with halogenated compounds enhances anaerobic microbial dechlorination of 1,2,3,4-tetrachlorodibenzo-*p*-dioxin and 1,2,3,4-tetrachlorodibenzofuran in estuarine sediments. *Environ. Toxicol. Chem.* **24**:2775-2784.
79. Männistö MK, Häggblom MM (2006) Characterization of psychrotolerant bacteria from Finnish Lapland. *Systematic and Applied Microbiology* **29**:229-243.
80. Somsamak P, Richnow HH, Häggblom MM (2006) Carbon isotope fractionation during anaerobic degradation of methyl *tert*-butyl ether (MTBE) under sulfate-reducing and methanogenic conditions. *Appl. Environ. Microbiol.* **72**:1157-1163.
81. Narasingarao P, Häggblom MM (2006) *Sedimenticola selenatireducens*, gen. nov., sp. nov., an anaerobic selenate-respiring bacterium isolated from estuarine sediment. *Systematic and Applied Microbiology* **29**:382-388.
82. Ravit B, Ehrenfeld JG, Häggblom MM (2006) Effects of wetland vegetation on rhizosphere microbial communities: A comparison of disturbed versus undisturbed estuarine sediments. *Soil Biol. Biochem.* **38**:2359-2371.
83. Haubert D, Häggblom MM, Langel R, Scheu S, Ruess L (2006) Trophic shift of stable isotopes and fatty acids in Collembola on bacterial diets. *Soil Biol. Biochem.* **38**:2004-2007.
84. Männistö MK, Tirola M, Häggblom MM (2007) Microbial communities in Arctic fjelds of Finnish Lapland are stable but highly pH dependent. *FEMS Microbiology Ecology* **59**:452-465.
85. Zaitsev GM, Uotila JS, Häggblom MM (2007) Biodegradation of methyl *tert*-butyl ether by cold-adapted mixed and pure bacterial cultures. *Appl. Microbiol. Biotechnol.* **74**:1092-1102.
86. Narasingarao P, Häggblom MM (2007) Identification of anaerobic selenate-respiring bacteria from aquatic sediments. *Appl. Environ. Microbiol.* **73**:3519-3527.

87. Ruess L, Schütz K, Migge S, Häggblom MM, Kandeler E, Scheu S (2007) Lipid composition of Collembola and their food resources in deciduous forest stands - implications for feeding strategies. *Soil Biology and Biochemistry* **39**:1990-2000.
88. Ahn Y-B, Häggblom MM, Kerkhof LJ (2007) Comparison of anaerobic microbial communities amended with halogenated compounds to enhance dechlorination of 1,2,3,4-tetrachlorodibenzo-*p*-dioxin in estuarine sediments. *FEMS Microbiol Ecol.* **61**:362-371.
89. Narasingarao P, Häggblom MM (2007) *Pelobacter seleniigenes* sp. nov., a selenate-respiring bacterium. *Int. J. Syst. Evol. Microbiol.* **57**:1937-1942.
90. Ravit B, Ehrenfeld JG, Häggblom MM, Bartels M (2007) The effects of drainage and nitrogen enrichment on *Phragmites australis*, *Spartina alterniflora*, and their root-associated microbial communities. *Wetlands* **27**:915–927.
91. Launen LA, Dutta J, Turpeinen R, Eastep ME, Dorn R, Buggs VH, Leonard JW, Häggblom MM (2008) Characterization of the indigenous PAH-degrading bacteria of the *Spartina alterniflora*-dominated salt marshes in the New York / New Jersey harbor. *Biodegradation* **19**:347-363.
92. Haubert D, Häggblom MM, Scheu S, Ruess L (2008) Effects of temperature and life stages on the fatty acid composition of Collembola. *European Journal of Soil Biology* **44**:213-219.
93. George KW, Häggblom MM (2008) Microbial O-methylation of the flame retardant tetrabromobisphenol-A. *Environ. Sci. Technol.* **42**:5555–5561.
94. Ahn Y-B, Liu F, Fennell DE, Häggblom MM (2008) Biostimulation and bioaugmentation to enhance dechlorination of polychlorinated-*p*-dioxins in contaminated sediments. *FEMS Microbiology Ecology* **66**:271-281.
95. Youngster LKG, Somsamak P, Häggblom MM (2008) Effects of co-substrates and inhibitors on the anaerobic O-demethylation of methyl *tert*-butyl ether (MTBE). *Appl. Microbiol. Biotechnol.* **80**:1113-1120.
96. Ahn Y-B, Chae J-C, Zylstra GJ, Häggblom MM (2009) Phenol degradation via phenylphosphate and carboxylation to 4-hydroxybenzoate by a new by strain of the sulfate-reducing bacterium *Desulfobacterium anilini*. *Appl. Environ. Microbiol.* **75**:4248-4253.
97. Ahn Y-B, Kerkhof LJ, Häggblom MM (2009) *Desulfoluna spongiiphila* sp. nov., a dehalogenating bacterium in the *Desulfobacteraceae* from the marine sponge *Aplysina aerophoba*. *Int. J. System. Evol. Microbiol.* **59**:2133-2139.
98. Männistö MK, Tirola M, Häggblom MM (2009) Effect of freeze-thaw cycles on bacterial communities of Arctic tundra soil. *Microbial Ecology* **58**:621–631.
99. Krumins V, Park J-W, Son E-K, Rodenburg LA, Kerkhof LJ, Häggblom MM, Fennell DE (2009) Sustained PCB dechlorination enhancement in Anacostia River sediment. *Water Research* **43**:4549-4558.
100. Youngster LKG, Kerkhof LJ, Häggblom MM (2010) Community characterization of anaerobic methyl *tert*-butyl ether (MTBE) degrading enrichment cultures. *FEMS Microbiol. Ecol.* **72**:279-288.
101. Männistö MK, Tirola M, McConnell J, Häggblom MM (2010) *Mucilaginibacter frigoritolerans* sp. nov., *Mucilaginibacter lappiensis* sp. nov. and *Mucilaginibacter mallensis* sp. nov. isolated from soil and lichen samples of Finnish Lapland. *Int. J. System. Evol. Microbiol.* **60**:2849–2856. doi:10.1099/ijs.0.019364-0
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 General Electric Research and Development Center, Schenectady, NY, 1989
 American Chemical Society 197th National Meeting, Dallas, Texas, 1989.
 American Society for Microbiology Annual Meeting, Anaheim CA, 1990.
 Rutgers University, Dept. of Biology, Newark, NJ, 1991.
 University of Washington, Dept. of Civil Engineering, Seattle, WA, 1991.
 University of Helsinki, Dept. of General Microbiology, Helsinki, Finland, 1992.

ASM Conference on Anaerobic Dehalogenation, Athens, GA, 1992.
 University of British Columbia, Dept. of Microbiology, Vancouver, Canada, 1992.
 Stanford University, Dept. of Civil Engineering, Stanford, CA, 1992.
 American Society for Microbiology General Meeting, Atlanta, GA, 1993.
 University of Wyoming, Dept. of Zoology and Physiology, Laramie, WY, 1993.
 University of Helsinki, Dept. of Applied Chemistry and Microbiology, Helsinki, Finland, 1993.
 Theobald Smith Society, New Brunswick, NJ, 1994.
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 Gordon Research Conference on Estuarine and Coastal Processes, Plymouth, NH, 1995.
 International Seminar on Biosorption and Bioremediation, Merin, Czech Republic, 1995.
 IBC's International Symposium on Biological Dehalogenation, Annapolis, MD, 1995.
 University of Jyväskylä, Dept. of Biology and Environmental Sciences, Jyväskylä, Finland, 1996.
 ONR Workshop on Biological Dehalogenation in Marine Sediments. Bethesda, MD, 1996.
 California Institute of Technology, Environmental Engineering Science, Pasadena, CA, 1996.
 University of Gent, Laboratory of Microbial Ecology, Gent, Belgium, 1997.
 Wageningen Agricultural University, Dept. of Microbiology, Wageningen, The Netherlands, 1997.
 14th Biennial Estuarine Research Federation International Conference, The State of Our Estuaries, Providence, RI Oct. 15, 1997.
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 Swiss Federal Institute of Technology, Institute of Terrestrial Ecology, Zürich, Switzerland, Jan. 13, 1988.
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 The NEMPET Meeting, June 16, 2000.
 University of Helsinki, Dept. of Applied Chemistry and Microbiology, Helsinki, Finland, 9/2000.
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 American Society for Microbiology General Meeting, Orlando, FL, 2001.
 33rd Mid-Atlantic Industrial & Hazardous Waste Conference, Manhattan College, 2001

Rutgers University, Ecology and Evolution Graduate Program Seminars, 2001.

Society for Environmental Toxicology and Chemistry 22nd Annual Meeting, Baltimore, MD, Nov. 11-15, 2001.

DuPont CRG Bioremediation Network, Wilmington, Del. Jan 15, 2002.

"From the Banks of the Old Raritan" The Centenary of the Department of Soil Bacteriology and the 75th Anniversary of the Department of Agricultural Biochemistry, Cook College, Rutgers University, April 12-13, 2002.

Ohio University, Department of Biomedical Sciences, College of Osteopathic Medicine, Oct. 21, 2002.

International SUREMA Sustainable Resource and Land-Use Management Network Meeting, November 22-26, 2002, Halle, Germany.

University of Georgia, Department of Microbiology, Athens, GA, March 27, 2003.

53rd Annual Meeting Canadian Society of Microbiologists, Ville de Laval, Quebec, May 25-28, 2003.

University of Tennessee, Center for Environmental Biotechnology, June 19, 2003.

Society for Industrial Microbiology Annual Meeting, Anaheim, Calif, July 2004.

International Petroleum Environmental Conference, Albuquerque, NM, Oct. 12-15, 2004.

Society for General Microbiology 156th Meeting, Edinburgh, UK, April 4-7, 2005.

Stevens Institute of Technology, Hoboken, NJ, April 27, 2005.

Meadowlands Environmental Research Institute, June 15, 2005

NATO-Advanced Research Workshop, Krakow, Poland, June 26-July 1, 2005.

International Union of Microbiological Societies (IUMS) Conference, San Francisco, July 23-28, 2005.

International Summer School "Biomonitoring, bioavailability and microbial transformation of pollutants in sediments and approaches to stimulate their biodegradation", Genoa, Italy, September 12-14, 2005

International Conference on Alpine and Polar Microbiology, Innsbruck, Austria, March 27-31, 2006.

AXIOM-Virtual Institute Spring School Microbial Activity at Biogeochemical Gradients, Leipzig, Germany, April 3-6, 2006.

The NEMPET Meeting, June 23-25 2006, Blue Mountain Lake, NY

Society for General Microbiology Irish Branch Meeting, August 31- September 1, 2006, Dublin, Ireland.

Fermentation Club Seminars, Dept. of Biochemistry and Microbiology, Rutgers University, October, 2006.

University of Minnesota, Dept. of Civil Engineering, March 26, 2007.

The Fifth Tripartite Workshop in Biotechnology and Bioenergy, East Brunswick NJ, April 9-12, 2007.

Fermentation Club Seminars, Dept. of Biochemistry and Microbiology, Rutgers University, March, 2008.

Third International Conference on Polar and Alpine Microbiology, Banff, Canada May 1-15, 2008.

Symposium on Toxins, Toxic Chemicals and their Microbial Transformations in Honor of Prof. Mirja Salkinoja-Salonen, University of Helsinki, Finland, May 22, 2008.

The NEMPET Meeting, June 20-22, 2008, Blue Mountain Lake, NY.

International Workshop on Urban Wetland Ecology and Restoration, Xiamen, China Dec. 12-15, 2008.

University of Helsinki, Dept. Ecological and Environmental Sciences, Lahti, Finland, 6/2009.

BAGECO 10 Bacterial Genetics and Ecology, Uppsala, Sweden, June 15-19, 2009.

Goa University, Dept. of Microbiology, Goa, India, January 2010.

Fourth Annual Mini-Symposium on Microbiology at Rutgers University, Feb. 1-2, 2010.

SETAC Asia, Ho Chi Minh City, Vietnam, March 2-5, 2010

Cantho University, Vietnam, March 8, 2010.

Southern Methodist University, Dallas, March 31, 2010.

Kilpisjärvi Meeting on Arctic Plant and Soil Ecology, Kilpisjärvi, Finland, July 4-7, 2010.

Institute of Urban Environment, Chinese Academy of Sciences, Summer School on Urban Environmental Health, Xiamen, August 2010.

Xiamen University, Key Laboratory of the Ministry of Education for Coastal and Wetland Ecosystems Xiamen, China, August 19, 2010

Hudson-Delaware Regional Chapter of the Society of Environmental Toxicology and Chemistry, Fall Workshop on Oil in the Environment: What We Know and What We Are Learning All Over Again, Oct. 13, 2010.

South China University of Technology, College of Environmental Science and Engineering, Guangzhou, China, Oct. 29-30, 2010.

GeoTrop 2010 Conference, The 6th International Conference on Environmental Geochemistry in Tropics - Urban Issues, Xiamen, China, Nov. 4-6, 2010.

MicroPerm Workshop, An international workshop to initiate the circumpolar integration of permafrost microbiological studies, November 8-10, 2010, Potsdam, Germany.

Microbes in Wastewater & Waste Treatment, Bioremediation and Energy Production, Birla Institute of Technology, Goa, India, January 24-26, 2011.

DFG German Research Foundation Priority Programme 1319 Biological transformations of hydrocarbons without oxygen, Munich, Germany, March 2011.

Society for Industrial Microbiology Annual Meeting, New Orleans, July 24-28, 2011.

4th International Conference on Polar and Alpine Microbiology, Ljubljana, Slovenia, Sept. 4-8, 2011.

8th International Symposium of Subsurface Microbiology, Garmisch-Partenkirchen, Germany, September 11-16, 2011.

Fermentation Club Seminars, Dept. of Biochemistry and Microbiology, Rutgers University, November 2011.

University of Hong Kong, School of Biological Sciences, Dec 30, 2011.

CSI:Environment Meeting, Barcelona, Spain, February 13-14, 2012.

Environmental Microbiology and Biotechnology in the frame of the Knowledge-Based Bio and Green Economy (EMB2012), Bologna, Italy, April 10-12, 2012.

14th International Symposium on Microbial Ecology, Copenhagen, Denmark, August 19-24, 2012.

Fairleigh Dickinson University, School of Natural Sciences, NJ, October 11, 2012.

9th International Symposium on Persistent Toxic Substances (ISPTS), Miami, Florida, October 23-27, 2012.

Dehalogenation Workshop, Helmholtz Centre for Environmental Research – UFZ, Leipzig, Germany, March 15, 2013.

GFZ German Research Centre for Geosciences, Geomicrobiological and Geobiological Colloquium, Potsdam, Germany, March 22, 2013.

Gordon Research Conference on Applied and Environmental Microbiology, July 2013.

FEMS Congress, Leipzig, Germany, July 2013.

5th International Conference on Polar and Alpine Microbiology, Big Sky, Montana, September 2013.

BayCEER Colloquium, University of Bayreuth, January 16, 2014.

University of Georgia, Department of Microbiology, Athens, GA, February 21, 2014.

Princeton University, Dept. of Geosciences, March 6, 2014.

South China University of Technology, Guangzhou, China, March 2014.

Guangdong Institute of Eco-Environmental and Soil Sciences, Guangzhou, China, March 2014.

Guangzhou Institute of Soil Geochemistry, Chinese Academy of Sciences, Guangzhou, China, March 2014.

Kilpisjärvi Meeting on Arctic Plant and Soil Ecology, Kilpisjärvi, Finland, June 15-17, 2014.

International Workshop on Urbanization in Watersheds: Ecological and Environmental Responses, October 12-17, 2014, Xiamen, China.

Duquesne University, Department of Biology, Pittsburgh, January 23, 2015.

Symposium on Microbiology at Rutgers University, January 30, 2015.

University of Delaware, Civil & Environmental Engineering, February 13, 2015.

MAJOR RESEARCH GRANTS:

Current:

- REU Site: The Biogeography of Biotransformations for Halogenated Organic Compounds, a Comparison of the Tropics, Temperate and Sub-Arctic Environments. NSF, \$375,000, 03/01/11 - 02/28/14, Co-PI, (PI: LY Young) NSF EEC 1062477.
- The ecological role of Acidobacteria in carbon cycling in Arctic tundra soil ecosystems. Academy of Finland, 641,305 Euro, 01/2012-12/2015, PI.
- Natural Attenuation and Enhanced Biodegradation of Methyl tert-Butyl Ether in Anoxic Aquifers. NSF CBET, 09/2013-08/2016, \$330,000 PI.

Previous:

- Anaerobic degradation of chlorophenols and microbial interactions. U.S. EPA CR-820686. 10/91-9/94, \$195,000. Co-Principal Investigator with L.Y. Young (PI).
- PCB degradation by anaerobic microorganisms. General Electric Company. 2/1992-1/1993, \$75,000. Co-Principal Investigator with L.Y. Young (PI).
- Biodegradation of aromatic contaminants by nitrogen-fixing *Rhizobium* species. Hazardous Substance Management Research Center of N.J. BICM-40. 7/1/94-6/30/97, \$145,036. Co-Principal Investigator with L.Y. Young (PI).
- Anaerobic degradation of chlorinated benzoic acid herbicides coupled to denitrification. U.S. EPA R 822487-01-0. 10/1/94-9/30/98, \$347,810. PI.
- Integrated Lake Water-Landscape Restoration and Sustainable Management. Finnish Academy of Sciences 6/1996-5/1998. FIM 1,472,000. Co-Investigator with T. Kairesalo (PI), M. Salkinoja-Salonen, and P. Manninen.
- Diversity of anaerobic dehalogenation in estuarine and marine sediments. Office of Naval Research. N00014-94-1-04340. 5/1/94-10/31/97, \$318,425. Principal Investigator.
- Stimulating Dehalogenation by Diverse Anaerobic Microbial Populations in Marine Sediments. Office of Naval Research. 11/97-10/98, \$60,000. Principal Investigator.
- Characterization of a 4-Chlorophenol Dehalogenating Sulfidogenic Consortium. Office of Naval Research. 5/98-12/98, \$40,000. Principal Investigator.
- Anaerobic biotransformation of pesticides in near coastal environments. U.S. EPA. 10/1/95-9/30/98, \$324,000. Co-Principal Investigator with L.Y. Young (PI) and G. Taghon.
- Phytoremediation of Dredge Spoils Using Living Plants and Associated Micro-organisms. New Jersey Commission on Science and Technology 1/1/97-12/31/00, \$744,206. Principal Investigator with Co-PIs R. Smith (PI to 9/97), I. Raskin, L. Young, G. Zylstra, J. Gallagher, W. Librizzi, and B. Ensley.
- Enhanced microbial dechlorination of PCBs and dioxins in contaminated dredge spoils. Northeast Hazardous Substance Research Center. R-68, 1/15/97-1/31/00. \$132,000. PI.
- Characterization of halobenzoate-degrading denitrifying bacteria. Rutgers Undergraduate Research Fellows Program, with Aimee Whiteside, \$1500, 7/1/00-6/30/01.
- Development of NJ specific bioaccumulation factors for risk assessment modeling. NJDEP, \$76,989, 7/1/00-9/30/01, Co-PI with K. Cooper.
- In situ detoxification of PAH and PCB contaminated sediments in the rhizosphere of salt marsh plants. Hazardous Substance Management Research Center. 7/1/00-6/30/01, \$34,978, Co-Principal Investigator with J. Kukor.
- In Situ Degradation of Petroleum Hydrocarbons and PAHs in Contaminated Salt Marsh Sediments. Northeast Hazardous Substance Research Center. R-82, 9/1/99-6/30/01. \$110,221. PI.

Microbial Bioprospecting and High-Throughput Screening in Support of New Jersey Agriculture and Industry Strategic Resource and Opportunity Analysis Program (SROA-6). 7/01-6/02 \$120,000. PI J. Kukor, Co-PIs T. Barkay, D. Eveleigh, M. Häggblom, L. Kerkhof, D. Kobayashi, C. Pray, J. White, L. Young, G. Zylstra.

Development of NJ specific bioaccumulation factors for risk assessment modeling. NJDEP, \$74,927, 7/1/01-6/30/02, Co-PI with K. Cooper.

Molecular tracking of microbial contaminants in paper machines, TAPPI, \$39,988, 7/1/01-8/31/02. Principal Investigator.

Molecular and Biochemical Characterization of dehalogenating consortia in marine sediments, Office of Naval Research, N00014-99-1-0761, 5/1/99-09/30/02, \$423,311. Principal Investigator.

Development of a biocomplexity research program for the analysis of ecosystem structure and dynamics in urban salt marshes. NSF, 10/01/01-9/30/02, \$31,755 (sub-contract) Co-PI (PI, M. Levandowsky, Pace Univ).

University-industry partnership to enhance biotechnology education for a high tech workforce. New Jersey Commission on Higher Education 9/00-8/03, \$1,335,250. G.J. Zylstra (PI), B.A. Zilinskas, M.M. Häggblom, A. Artuso.

Mechanisms of halobenzoate degradation by denitrifying bacteria. US Department of Agriculture. 9/1/00-6/30/04, \$180,000. Principal Investigator with G. Zylstra.

Microbial bioprospecting in support of New Jersey Agriculture and Industry. NJAES Program Enhancement Grants Initiative 11/00-6/04, \$199,714. PI J. Kukor, Co-PIs T. Barkay, D. Eveleigh, M. Häggblom, L. Kerkhof, D. Kobayashi, C. Pray, J. White, L. Young, G. Zylstra.

Discovery of arctic microorganisms for biotechnical applications. EU Regional Development Funds, TEKES National Technology Agency of Finland, 7/1/01-8/31/04, € 840,000, PI (Rovaniemi Region Development Agency).

Discovery of arctic microorganisms for biotechnical applications. EU Regional Development Funds, TEKES National Technology Agency of Finland, 9/1/04-9/30/05, € 322,000, PI (Finnish Forest Research Institute).

In situ enhancement of anaerobic microbial dechlorination of polychlorinated dibenzo-p-dioxins and dibenzofurans in marine and estuarine sediments. DoD/SERDP, \$556,975, 03/01/01-08/31/05. PI.

Microbially mediated cycling of organohalides in marine sponges. NSF, \$610,163, 03/01/05-02/31/09, Principal Investigator.

Developing tools for monitored natural attenuation of methyl tert-butyl ether. New Jersey Department of Environmental Protection Spill Research Fund, \$100,000, 7/07-6/09. PI

Quantifying Enhanced Microbial Dehalogenation Impacting the Fate and Transport of Organohalide Mixtures in Contaminated Sediments. DoD/SERDP, \$1,883,300, 03/06-2/11. PI.

Assessing the potential for anaerobic microbial dechlorination of PCDD/Fs in River Kymijoki sediments. Maj and Tor Nessling Foundation. Euro 87,498, 1/09-12/11, PI (University of Helsinki).

Impact of climate fluctuations on microbial communities responsible for carbon and nitrogen cycling in Arctic soils, Academy of Finland, Euro 422,400, 1/08-12/11. PI (Finnish Forest Research Institute).

IPY Microbial subzero activity and its impact on biogeochemical processes in frozen tundra and permafrost, NSF, \$538,647, 1/08-12/11, Co-PI (PI L. Kerkhof).

Physiological, ecological and chemical characterization of novel bacteria dominating forest and tundra soils of Arctic Finland (BIOARMI), Academy of Finland #128870, Euro 269,280, 1/2009-12/2012, Co-Investigator/Collaborator (PI P. Vuorela, Åbo Akademi University, Finland).

Molecular studies of dissimilatory selenium reduction by subsurface microorganisms. NSF EAR, \$399,712, 08/31/2009, 10/01/09 - 09/30/13; Co-PI (PI N. Yee).

Applying innovative diagnostic tools at New Jersey publicly funded sites. New Jersey Department of Environmental Protection. \$83,500. 06/30/2011 - 07/15/2013, Co-PI (PI: DE Fennell).

Constructing an Annotated Metabolic Map of Earth's Coupled Microbial Redox Reactions. The Gordon and Betty Moore Foundation \$1,070,915, 4/11-3/14. Lead PI: Paul Falkowski, CoPIs: Debashish Bhattacharya, Yana Bromberg, David Case, Max Haggblom, Vikas Nanda, Nathan Yee.

Mitigating pesticide pollution in the Mekong delta. VLIR-UOS Flemish Institutional University Cooperation, Euro 99,820 (~\$135,000), 4/2010-4/2014, Co-Investigator/Collaborator (10% effort) with PI Vi Thi Guong (Cantho University, Vietnam), D. Springael, R. Merckx (K.U.Leuven).

Genome Sequencing Projects:

Whole-genome sequencing, assembly and initial annotation of the selenate-reducing bacterium *Selenospirillum indicus*. DOE/JGI, 2008. Co-PI (PI, E. Bini).

Whole genome sequencing, assembly and initial annotation of *Acidobacterium* species from Arctic tundra soils. DOE/JGI, 2009, PI.

Whole-genome sequencing, assembly and initial annotation of four phylogenetically diverse strains of selenate respiring bacteria. DOE/JGI, 2011. Co-PI (PI, E. Bini).

Genomic basis of thermal adaption and carbon metabolism in permafrost isolates. DOE/JGI, 2012. Co-PI (PI, Corien Bakermans).

Comparative metagenomic analysis of anaerobic MTBE-degrading enrichment cultures. DOE/JGI 2014. PI.

STUDENTS AND POST-DOCTORAL ASSOCIATES:

Graduate Students:

Ph.D.

Peter Milligan, Environmental Science, 1994-1998 (M.S. 1995, Ph.D. 1998; Anaerobic biodegradation of dicamba and related chlorosalicylates under different reducing conditions) [Univ. of Maine].

Bongkeun Song, Environmental Science, 1996-2000 (Ph.D. 2000; Diversity of bacteria capable of degrading halobenzoates under denitrifying conditions) [Univ. North Carolina Wilmington].

Riina Turpeinen, Environmental Science, University of Helsinki, Finland, 1998-2002 (Ph.D. 2002; Interactions between metals, microbes and plants - Bioremediation of arsenic and lead contaminated soils) [Consulting].

Piyapawn Somsamak, Environmental Science, 2000-2005 (Ph.D. 2005; Anaerobic biotransformation of methyl tert-butyl ether (MTBE) and related fuel oxygenates under different anoxic conditions) [Kasetsart University].

Beth Ravit, Environmental Science, 2001-2005, co-advisor (Ph.D. 2005; Macrophytes and microbes: *Spartina alterniflora* and *Phragmites australis* affect brackish sediment microbial community) [Rutgers University].

Jane Pavlik, Microbiology and Molecular Genetics, 1999-2005 (Ph.D. 2005; Multiple aspects of dehalogenation by denitrifying bacteria) [Amgen].

Priya Narasingarao, Environmental Science, 2001-2006 (Ph.D. 2006; Anaerobic bacterial respiration of selenium oxyanions) [Scripps Oceanographic Institute].

Laura Youngster, Microbiology and Molecular Genetics, 2004-2009 (Ph.D. 2009; Microbial degradation of the fuel oxygenate methyl tert-butyl ether (MTBE)).

Jessica McCormick, Microbiology and Molecular Genetics, 2006-2010 (Ph.D. 2010; Microbial transformations of tetrabromobisphenol A and its metabolites, and their impact on toxicity to the developing zebrafish (*Danio rerio*) embryo) [UMDNJ].

Hui Liu, Environmental Science, 2005-2010 (Ph.D. 2010; Microbial reductive dechlorination of weathered polychlorinated dibenzo-*p*-dioxins and dibenzofurans in contaminated sediments) [Genzyme].

Ines Rauschenbach, Microbiology and Molecular Genetics, 2007-2011 (Ph.D. 2011; Growth, genes, genomes - Insights into microbial respiration of arsenic and selenium) [Rutgers].
Tong Liu, Environmental Science, 2010-2015 (Ph.D. 2015; Characterization of anaerobic methyl tert-butyl ether (MTBE)-degrading communities).
Isabel Horna Gray, Environmental Science, 2006-pres.
Nora Lopez, Microbiology and Molecular Genetics, 2007-pres. (co-advisor).
Sanna Kuokka, Environmental Science, University of Helsinki, 2009-pres.
Seo Yean Sohn, Environmental Science, 2009-pres.
Hang Dam, Microbial Biology, 2011-pres.
Tiffany Louie, Microbial Biology, 2011-pres.
Preshita Gadkari, Microbial Biology, 2014-pres.
Jie Liu, Microbial Biology, 2014-pres.

M.S.

Sonia Vela, Environmental Science, 1994-1997, co-advisor (M.S. 1997).
Jayeeta Dutta, Microbiology and Molecular Genetics, 1999-2000 (M.S. 2000).
Michael J. Sheedy, Microbiology and Molecular Genetics (M.S. 2005)
Michael Fleming, Microbiology and Molecular Genetics, 2000-2006, co-advisor (M.S. 2006).
Leslie Wickham, Microbiology and Molecular Genetics, 2003-2005 (M.S. 2005).
Pooja Mishra, Microbial Biology, 2011-2013 (M.S. 2013).
Francesca Scalpati, Microbiology and Molecular Genetics (M.S. 2014).
Kennida Polanco, Microbial Biology, 2013-.
Ishita Jain, Microbial Biology, 2013-.
Vandana Chandrasekar, Microbial Biology, 2014-pres.
Daniel Wene, Microbiology and Molecular Genetics, 2014-pres.

Post-Doctoral and Research Associates:

Esteban Monserrate (1994-1996)
Cecilia Vargas (1996-1998)
Victoria Knight (1996-1999)
Lori Daane (1997-1999)
Miao Y. Wang (1997-1998)
Loren Launen (1999-2001)
Matthew Caldwell (2000-2001)
Donna Fennell (1999-2001)
Sung-Keun Rhee (2000-2002)
Peter Kourtev (2001-2002)
Young-Beom Ahn (2001-2008)
Minna Männistö, Finnish Forest Research Institute, Finland (2001-2004)
Sari Stark, Finnish Forest Research Institute, Finland (2001-2004)
Katri Mattila, Finnish Forest Research Institute, Finland (2001-2005)
Joong-Wook Park (2006-2011)
Suman Rawat (2008-2014)
Lars Ganzert, Finnish Forest Research Institute, Finland (2012-2014)
Weimin Sun (2013-pres.)
Mrinalini Nikrad (2014-pres.)

TEACHING:

Director, Microbiology Undergraduate Program, 2004-2008.

Developed the proposal to establish Microbiology as an independent major in the School of Environmental and Biological Sciences and served as founding Director.

Director, Microbial Biology Graduate Program, 2009-2011.

Developed the proposal to establish the new Graduate Program in Microbial Biology, which is inaugurated in Fall 2010 with the first class of Ph.D. and M.S. students. Served as founding Director.

Member, Graduate Program in Microbial Biology

Member, Graduate Program in Microbiology and Molecular Genetics

Member, Graduate Program in Environmental Sciences

Member, Graduate Program in Ecology and Evolution

Courses taught:

Applied Microbiology (11:680:494; undergraduate 4 cr, full responsibility for lectures; since 1999).

Redeveloped this course with complete redesign of syllabus and lectures.

Applied and Industrial Microbiology (16:682:524; graduate 3 cr)

Microbial Technology (11:126:405; undergraduate 3 cr, 50% responsibility; offered 1997-2010)

Analytical Methods in Microbiology (11:126:486, undergraduate 4 cr lab; offered other year since 2003).

Developed this new lab course and served as Co-PI on New Jersey Commission on Higher Education grant that provided funding for HPLC and GC-MS equipment used for teaching.

Seminar in Microbiology (11:680:495, 1 cr, full responsibility, taught 2005-2010).

Microbiology and Culture of Cheese and Wine (undergraduate 3 cr, Rutgers Study Abroad, Cluny France, Course Director; developed and taught every Summer since 2010).

Microbial Life (formerly General Microbiology) (16:682:501; graduate 3 cr, 1/3 responsibility; taught every Fall since 2001)

Microbial Physiology (11:682:503; graduate 3 cr, 50% responsibility; taught 2011 and 2012)

Biodegradation and Bioremediation (16:375:529, graduate 3 cr, 25% responsibility; taught 2010, 2012, 2014)

Assorted guest lectures in other courses.

Co-Director, NSF REU program The Biogeography of Biotransformations for Halogenated Organic Compounds, a Comparison of the Tropics, Temperate and Sub-Arctic Environments (2012-2014).

Short courses taught outside of Rutgers:

Biodegradation and Bioremediation (University of Jyväskylä, Finland, 1-week 2 cr graduate course, developed new lecture series for the Environmental Sciences graduate curriculum and taught in 1996, 1997, 1999, 2001, 2003 and 2007).

United States - European Union Theoretical and Practical Course on Molecular Approaches for in situ Biodegradation, June 14-26, 1998, organized at Rutgers University

European Union course entitled "Advanced Field Course of Environmental Ecology" held in Hyytiälä, Finland, Sept. 1-11, 1998.

Organized and taught short course on Assessment and Remediation of Contaminated Sediments, University of Helsinki, Finland October. 12-16, 2009.

Lead Instructor for International Workshop on Bioremediation organized at the Birla Institute of Technology and Science - Pilani, Goa Campus, India, January 4-16, 2010. The course was funded by the Indo-US Science & Technology Forum and the American Society for Microbiology through the Indo-US Professorship Award.

Instructor for 1-week lectures series on Biodegradation and Bioremediation, Summer International Lectures on Environmental Sciences, Chinese Academy of Sciences Institute of Urban Environment, Xiamen, China, Aug 21-25, 2010.

Environmental Microbiology, Cantho University, 1 week short-course, January 2012.

Environmental Microbiology, Chinese Academy of Sciences Institute of Urban Environment, Xiamen, 1 week short-course, January 2012.

Environmental Microbiology, Universidad Nacional Santiago Antúnez De Mayolo, Huaraz, Peru, April 2013.

Short Course on Contaminated Watersheds, Chinese Academy of Sciences, Institute of Urban Environment, Xiamen, May 2013.

Short Course in Environmental Microbiology, South China University of Technology, Guangzhou, China, March 2014.

PROFESSIONAL ACTIVITIES:

Editorial Board Memberships and Service as Reviewer

Editor in Chief, *FEMS Microbiology Ecology*, 2011-pres.

Editor, *FEMS Microbiology Ecology*, 2003-2011.

Editor for special thematic issues: Microbial Life in Cold Ecosystems (2005), Microorganisms in Cold Environments (2007), Subsurface Microbiology (2012), Polar and Alpine Microbiology (2012), Polar and Alpine Microbiology (2014).

Editorial Board, *Applied and Environmental Microbiology*, 1995-2006.

Editorial Board, *FEMS Microbiology Ecology*, 1998-2003.

Ad hoc manuscript reviewer for *Applied and Environmental Microbiology*, *Applied Microbiology and Biotechnology*, *Journal of Applied Microbiology*, *Archives of Environmental Contamination and Toxicology*, *Archives of Microbiology*, *Journal of Bacteriology*, *Biodegradation*, *Canadian Journal of Microbiology*, *Chemosphere*, *Environmental Microbiology*, *Environmental Science and Technology*, *Environmental Toxicology and Chemistry*, *European Journal of Soil Biology*, *FEMS Microbiology Letters*, *Frontiers in Microbiology*, *ISME Journal*, *Journal of Environmental Quality*, *Geomicrobiology Journal*, *International Journal of Systematic and Evolutionary Microbiology*, *Journal of Chromatography*, *Journal of Environmental Quality*, *Journal of Microbiological Methods*, *Microbiology (UK)*, *Microbial Ecology*, *Nature Reviews Microbiology*, *PNAS*, *Soil Biology and Biochemistry*, *Soil Science*, *Water Research*.

Conference Chairmanships/Advisory Boards/Convener Activities

Convener and organizer of ASM Symposium on Diversity of Anaerobic Microbial Processes, ASM General Meeting, Atlanta, 1993.

Convener and organizer of Society for Industrial Microbiology Symposium on Novel Microorganisms for Bioremediation, SIM Annual Meeting, Boston, 1994.

Member of International Advisory Board & Invited speaker, International Seminar on Biosorption and Bioremediation, Prague, October 1-4, 1995.

Discussion Leader, Gordon Research Conference-Applied and Environmental Microbiology, August 17-22, 1997.

Member of International Advisory Board & Invited speaker, 2nd International Seminar on Biosorption and Bioremediation, Prague, 1998.

Session Chair and Invited speaker. Symposium on Bioremediation of Contaminated Soil and Groundwater: Traditional Methods and Possibilities for Gene-Technology. Helsinki, Finland, August 27-29, 1998.

Discussion Leader, Gordon Research Conference-Environmental Science: Water, July 25-30, 2000.

Convener and organizer of ASM Symposium on Microbial Dehalogenation, ASM General Meeting, Orlando, 2001.

Chair, 34th Mid-Atlantic Industrial & Hazardous Waste Conference, Sept. 20-21, 2002, New Brunswick.

Chair, International Conference on Arctic Microbiology, March 21-25, 2004, Rovaniemi, Finland.

Member of International Advisory Board, International Conference on Alpine and Polar Microbiology Innsbruck, Austria, March 27-30, 2006.

Discussion leader, 2006 Gordon Research Conference on Environmental Sciences: Water, chairing a session on Microbial Degradation of Organic Contaminants.

Member of International Advisory Board, 3rd International Conference on Alpine and Polar Microbiology Banff, Canada, May 1-15, 2008.

Organizer, Symposium on Toxins, Toxic Chemicals and their Microbial Transformations in Honor of Prof. Mirja Salkinoja-Salonen, University of Helsinki, Finland, May 22, 2008.

Program Chair, Rutgers Symposium on The New Biology of Environment and Health, May 27-28, 2009.

Convener and organizer of ASM Symposium on Unusual Appetites: From Enzymes to Environmental Applications, ASM General Meeting, 2009.

Co-Organizer and Co-Chair, Annual Mini-Symposium on Microbiology at Rutgers University, 2007, 2008, 2009 and 2010.

Member, Scientific Committee, 14th International Biotechnology Symposium and Exhibition, 14-18 September 2010, Rimini, Italy.

Elected Vice Chair and Chair, Gordon Research Conference on Applied and Environmental Microbiology 2009, 2011.

Member, Program Committee, International Water Association Conference on Microbes in Wastewater & Waste Treatment, Bioremediation and Energy Production. The Birla Institute of Technology and Science (BITS) – Pilani, Goa campus, India, Jan 24-27, 2011.

Steering Committee Member, MicroPerm Workshop, An international workshop to initiate the circumpolar integration of permafrost microbiological studies, November 8-10, 2010, Potsdam, Germany.

Member of Advisory Board and Visiting Scientist, EU PEOPLE Work Programme 2010 Project CSI Environment: Isotope forensics meets biogeochemistry - linking sources and sinks of organic contaminants by compound specific isotope investigation. (2010-2014).

Member of International Organizing Committee and International Scientific Board, Fourth International Conference on Polar and Alpine Microbiology Ljubljana, Slovenia, September 2011.

Member of International Organizing Committee and International Scientific Board, Fifth International Conference on Polar and Alpine Microbiology, Montana, September 2013.

Member, Board of Academic Committee, International Workshop on Urbanization in Watersheds: Ecological and Environmental Responses, Xiamen, China, October 2014.

Member of International Organizing Committee and International Scientific Board, Sixth International Conference on Polar and Alpine Microbiology, Ceske Budejovice, September 2015.

Society Service

Chair Elect, Chair, and Advisor, Division Q (Applied and Environmental Microbiology), American Society for Microbiology, 7/2006-6/2007, 7/2007-6/2008, 7/2008-6/2009.

Theobald Smith Society, Local Councilor, 2006-2009; President Elect 2011-2012, President 2012-2013.

Member: American Society for Microbiology, American Chemical Society, Society for Industrial Microbiology, International Society for Microbial Ecology, Theobald Smith Society (ASM New Jersey Chapter).