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EDUCATION:

B.Sc., 1983, Univ. of CA, Berkeley, Marine Science/Biochemistry, Berkeley, CA
Ph. D., 1991, Univ. of CA, San Diego/Scripps Institution of Oceanography, La Jolla, CA.
Marine Biology

PROFESSIONAL EXPERIENCE:

Associate Professor, Marine Microbiology, Institute of Marine and Coastal Sciences, Rutgers University, 2001-Present
Assistant Professor, Marine Microbiology, Institute of Marine and Coastal Sciences, Rutgers University, 1994-2001
Post-doctoral fellow, Agouron Institute, La Jolla, CA and Brookhaven National Lab, 1992-1994. Research investigating growth rate regulation of ribosomal RNA promoters from marine bacteria.
Research Assistant, UCSD/SIO 1986-1991. Ph. D. Research developing methods for extracting nucleic acids from bacteria in seawater, targeting a specific rRNA subunit in natural samples, and quantifying the signal from a non-radiolabeled DNA probe.
Research Assistant, Harvard University, 1982-1986. Research characterizing the gene complex involved in imaginal disc formation in *Drosophila melanogaster* and assessment of aquatic nitrogen transformation rates using heavy isotopes (¹⁵N).

FUNDED PROJECTS (24):

DOE-BIOMP. Active Bacteria in the Orinoco River Plume. \$1,287 K. 2006-2009. (PI)
DOD-SERDP. Quantifying Enhanced Microbial Dehalogenation Impacting the Fate and Transport of Organohalide Mixtures in Contaminated Sediments. \$1,883K. 2006-2010 (co-PI).
NSF-Microbially mediated cycling of organohalides in marine sponges. \$610 K. 2005-2008. (co-PI).
NIH/USDA/NSF. Building New Pharmaceutical Capabilities in Central Asia. \$2,970K. 2003-2008. (co-PI).
ONR- Anaerobic Microbial Transformations and Characterization of Microbial Communities Relevant to Nitroaromatic Compounds in Estuarine and Marine Sediments. \$551K. 2003-2006. (co-PI)
DOE/NABIR- Biostimulation of Iron Reduction and Uranium Immobilization. \$1,183K. 2003-2006. (co-PI)
DOE/BIOMP—Supplement: Geochemical and RNA Content Integration Study (GRIST). \$162K. 2002-2004. (PI)
NASA/HEDS Prgm.--Molecular Characterization of Eubacteria in the Biological Water Processor (BWP)-Nitrogen Cycling. \$ 431K. 2001-2005. (PI)
DOD/SERDP--In situ Enhancement of Anaerobic Microbial Dechlorination of PCB's and Debenzofurans in Marine Sediments. \$557K. 2001-2005 (co-PI w/M. Haggblom)
NSF/Biocomplexity-- The Evolution and Radiation of Eucaryotic Phytoplankton Taxa (EREUPT). \$4200K. 2000-2005 (co-investigator w/ P. Falkowski).
DOE/BIOMP-- Microbial Ecology of Denitrifying Bacteria in the Coastal Ocean. \$693K. 2000-2003. (PI)
ONR/Harbor Processes Program—Supplement: Anaerobic Biodegradation of PAHs in Harbor Sediments: Microbial Transformation, Molecular Monitoring and in situ Activity. \$130K. 2001-2002. (co-PI w/ L. Young)
ONR/Molecular Biosciences--Molecular and Biochemical Characterization of Dehalogenating Consortia in Marine Sediments. \$432K. 1999-2002. (co-PI w/ M. Haggblom)

- EPA/Northeast Hazardous Substances Res. Center--Anaerobic Biodegradation of PAHs in Soils and Dredge Sediments: Characterizing, Monitoring and Promoting Remediation. \$132K. 1999-2001. (co-PI w/ L. Young)
- NSF/Biological Oceanography--Illuminating the linkages between bacteria and phytoplankton in the Coastal Ocean During Upwelling. \$362K. 1998-2001. (PI)
- ONR/Harbor Processes Program--Anaerobic Biodegradation of PAHs in Harbor Sediments: Microbial Transformation, Molecular Monitoring and in situ Activity. \$360K. 1998-2001. (co-PI w/ L. Young)
- NSF/Chemical Oceanography--Chemical and biological implications of water flow through permeable sediments. \$414K. 1998-2001. (co-PI w/ G. Taghon, C. Reimers, C. Fuller)
- NSF/Metabolic Biochemistry--Discovering novel bacterial metabolic genes using differential display. \$10K. 1998-1999. PI
- ONR--Characterization of a 4-Chlorophenol Dehalogenating Sulfidogenic Consortium. \$40 K. 1998. (Co-PI w/ M. Häggblom).
- NOAA/NURP.--Denitrification and Microbial Dynamics in Continental Shelf Sediments: An Annual Study \$171 K. 1997. (Co-PI w/ S. Seitzinger).
- NOAA/NURP.--Denitrification and Microbial Dynamics in Continental Shelf Sediments: Use of *In Situ* Methods. \$69 K. 1996. (Co-PI w/ S. Seitzinger).
- NOAA/NURP.--Developmental Proposal: Microbial Population Dynamics at LEO-15 \$8 K. 1995. PI
- NSF--Post-doctoral Research Fellowship in Marine Biotechnology. \$84 K. 1992-1994. PI
- DOE.--Global Change Distinguished Post-doctoral Fellowship. 1992 \$110 K. (Declined)

PUBLICATIONS (43):

- Häggblom M. M., Fennell D. E., Ahn Y.-B., Ravit B. & **Kerkhof L. J.** 2006. Anaerobic dehalogenation of halogenated organic compounds: Novel strategies for bioremediation of contaminated sediments. In: Twardowska I., Allen H. E., Häggblom M. M. (eds) *Viable Methods of Soil and Water Pollution Monitoring, Protection and Remediation*, Springer, pp. 505-521.
- Häggblom M. M., Fennell D. E., Ahn Y.-B., **Kerkhof L. J.**, Liu F. & Ravit B. 2006. Microbial dehalogenation of organohalide pollutants in marine sediments. In: Canepa P, Fava F (eds) *Proceedings of International Summer School "Biomonitoring, bioavailability and microbial transformation of pollutants in sediments and approaches to stimulate their biodegradation"*, Genoa, Italy, September 12-14, 2005, pp. 109-122.
- McGuinness, L. M, Salganik, M., Vega, L., Pickering, K. D. and **Lee J. Kerkhof.** 2006. Replicability of Bacterial Communities in Denitrifying Bioreactors as Measured by PCR/T-RFLP Analysis. *Env. Science and Tech.* 40: 509-515.
- Wawrik, B., **L. Kerkhof**, J. Kukor, and G. Zylstra. 2005 Effect of Different Carbon Sources on Community Composition of Bacterial Enrichments from Soil *Appl. Environ. Microbiol.* 71: 6776-6783.
- Gallagher, E. L. McGuinness, C. Phelps, L. Y. Young, and **L. J. Kerkhof.** 2005. ¹³C-carrier DNA shortens the incubation time needed to detect benzoate utilizing, denitrifying bacteria using stable isotope probing (SIP). *Appl. Environ. Microbiol.* 71: 5192-5196
- Matos, A, **L. Kerkhof**, and J.L. Garland. 2005. Effects of Microbial Community Diversity on the Survival of *Pseudomonas aeruginosa* in the Wheat Rhizosphere. *Microbial. Ecol.* 49: 257-264
- Wawrik, B., **L. Kerkhof**, G. Zylstra, and J. Kukor. 2005 Identification of unique type II polyketide synthase genes in soil. *Appl. Environ. Microbiol.* 71: 2232-2238
- Perez-Jimenez, J. R. and **L. J. Kerkhof.** 2005. Phylogeography of sulfate-reducing bacteria among disturbed sediments disclosed by analysis of the dissimilatory sulfite reductase genes (*dsrAB*). *Appl. Environ. Microbiol.* 71: 1004-1011
- Corredor, J. Wawrik, B., Paul, J. Tran, H., **Kerkhof, L.**, Lopez, J., Dieppa, A. and O. Cardenas. 2004. Geochemical Rate-RNA integration study: Ribulose 1,5 Bisphosphate Carboxylase/Oxygenase Gene Transcription and Photosynthetic Capacity of Planktonic Photoautotrophs. *Appl. Environ. Microbiol.* 70: 5459-5468

- Fennell, D. E., S. K. Rhee, Y. B. Ahn, M. M. Häggblom, and **L. J. Kerkhof**. 2004. Detection and Characterization of a Dehalogenating Microorganism by Terminal Restriction Fragment Length Polymorphism Fingerprinting of 16S rRNA in a Sulfidogenic, 2-Bromophenol-Utilizing Enrichment. *Appl. Environ. Microbiol.* 70: 1169-1175
- McGuinness, L., Vega L., Pickering K., and **L. J. Kerkhof**. 2003. Assessment of microbial community variability in replicate tubular nitrifying bioreactors using PCR and TRFLP analysis. International Conference on Environmental Systems (ICES). 2003-01-2511
- Kerkhof, L.**, J. Corredor, J. Paul, D. Bronk, J. Lopez, and J. Cherrier. 2003. Experiment explores intercalibration of biogeochemical flux and nucleic acid measurements. *Eos Trans. Am. Geophys. Union* 84:167.
- Häggblom M. M., Y. B. Ahn, D. E. Fennell, **L. J. Kerkhof**, and S. K. Rhee. 2003. Anaerobic Dehalogenation of Organohalide Contaminants in the Marine Environment. *Adv. In Applied Microbiology.* 53: 61-87
- Vetriani, C, Tran, H. V., and **L. Kerkhof**. 2003. Fingerprinting Microbial Assemblages from the Oxidic/Anoxic Chemocline of the Black Sea. *Appl. Environ. Microbiol.* 2003. 69: 6481-6488
- Ahn, Y. B., S. K. Rhee, D. E. Fennell, **L. J. Kerkhof**, U. Hentschel, and M. M. Häggblom. 2003. Reductive Dehalogenation of Brominated Phenolic Compounds by Microorganisms Associated with the Marine Sponge *Aplysina aerophoba*. *Appl. Environ. Microbiol.* 69: 4159-4166
- Rhee, S.K., D. Fennell, M. Häggblom, and L. Kerkhof. 2003. Detection by PCR of reductive dehalogenase motifs in a sulfidogenic 2-bromophenol-degrading consortium enriched from estuarine sediment. *FEMS Micro. Ecol.* 43: 317-324.
- Paerl, H., J. Dyble, L. Twomey, J. L. Pinckney, J. Nelson, and **L. Kerkhof**. 2002. Characterizing man-made and natural modifications of microbial diversity and activity in coastal ecosystems. *Antonie van Leeuwenhoek* 81: 487-507.
- Song, B., **L. J. Kerkhof**, Max M. Häggblom. 2002 Characterization of bacterial consortia capable of degrading 4-chlorobenzoate and 4-bromobenzoate under denitrifying conditions. *FEMS Microbiology Letters.* 213: 183-188
- Sakano, Y. Pickering, K., Strom, P., and **L. J. Kerkhof**. 2002. Spatial Distribution of Total, Ammonia-Oxidizing, and Denitrifying Bacteria in Biological Wastewater Treatment reactors for Bioregenerative Life Support. *Appl. Environ. Microbiol* 68: 2285-2293
- Knight, V. K., Nijenhuis, I., **Kerkhof, L. J.**, and Häggblom. 2002. Degradation of Aromatic Compounds Coupled to Selenate Reduction. *Geomicrobiology Journal.* 19: 77-86
- Garland, J.L., K. L. Cook, J. L. Adams, and **L. Kerkhof**. 2001. Culturability as an Indicator of Succession in Microbial Communities. *Microbial Ecology.* 42:150-158
- Perez-Jimenez, J., L. Young, and **L. Kerkhof**. 2001. Dissimilatory Sulfite Reductase Genes from Novel Anaerobic Bacteria Capable of PAH Degradation. *FEMS Microbial Ecology.* 35:145-150
- Song, B., Palleroni, N., **Kerkhof, L.** and M. Häggblom. 2000. Characterization of halobenzoate degrading denitrifying bacteria belonging to the genera *Azoarcus* and *Thauera* and description of *Thauera chlorobenzoica* sp. nov. *Int. J. of System. Evol. Microbiol* 51: 589-602
- Scala, D. and **L. Kerkhof**. 2000. Horizontal Heterogeneity in Denitrifying Bacterial Assemblages in Marine Sediments Using TRFLP Analysis. *Appl. Environ. Microbiol.* 66: 1980-1986
- Kerkhof, L.**, Santoro, M., and J. Garland. 2000. Response of Soybean Rhizosphere Communities to Human Hygiene Water Addition as Determined by Community-Level Physiological Profiling (CLPP) and Terminal Restriction Fragment Length Polymorphism (TRFLP). *FEMS Microbiology Letters.* 184: 95-101
- Kerkhof, L.**, and D. Scala. 2000. Molecular Tools for Studying Biogeochemical Cycling in Salt Marshes. Invited Book Chapter. In, "Concepts and Controversies in Tidal Marsh Ecology". M. Weinstein and D. Kreeger (eds.). pp. 443-469. Publisher: Kluwer Academic. June 2000.

- M. Haggblom, V. Knight, and **L. Kerkhof**. 2000. Anaerobic Decomposition of Halogenated Aromatic Compounds. *Environmental Pollution (Special Issue)*. 107: 199-207
- Kerkhof, L.**, Voytek, M. Sherrel, R., Millie, D., and O. Schofield. 1999. Variability in Bacterial Community Structure During Upwelling in the Coastal Ocean. *Hydrobiologia (Special Issue)* 401: 139-148
- Kerkhof, L.** and P. Kemp. 1999. Small Ribosomal RNA Content in Marine Bacteria During Non-Steady State Growth. *FEMS Microbial Ecology*. 30: 253-260
- Knight, V., **Kerkhof, L.**, and M. Haggblom. 1999. Community Analysis of Sulfidogenic 2-Bromophenol Dehalogenating and Phenol Degrading Microbial Consortia. *FEMS Microbial Ecology*. 29: 137-147
- Scala, D. and **L. Kerkhof**. 1999. Diversity of Nitrous Oxide Reductase (*nosZ*) Genes in Continental Shelf Sediments. *Appl. Environ. Microbiol.* 65: 1681-1687
- Sakano, Y., and **L. Kerkhof**. 1998. Assessing Changes in Microbial Community Structure During Operation of an Ammonia Biofilter using Molecular Tools. *Appl. Environ. Microbiol.* 64:4877-4882.
- Phelps, C., **L. Kerkhof**, and L. Young. 1998. Molecular Characterization of a Sulfate-Reducing Consortium which Mineralizes Benzene. *FEMS Micro. Ecol.* 27: 269-279.
- Scala, D. and **L. Kerkhof**. 1998. Nitrous Oxide Reductase (*nosZ*) Gene-Specific PCR Primers for Detection of Denitrifiers and Three *nosZ* Genes from Marine Sediments. *FEMS Micro. Letters*. 162:61-68.
- Kerkhof, L.** 1997. A Ribosomal RNA Operon from *Pseudomonas stutzeri* Zobell. *Gene*. 192: 241-243.
- Kerkhof, L.** and M. Speck. 1997. Ribosomal RNA Gene Dosage in Marine Bacteria. *Mol. Mar. Biol. and Biotech.* 6: 264-271
- Kerkhof, L.** 1997. Quantitation of Total RNA by Ethidium Bromide Fluorescence may not Accurately Reflect the RNA Mass. *J. of Biochem. Biophys. Methods*. 34: 147-154.
- Kerkhof, L.** 1994. A Species Specific Probe and a PCR Assay for the Marine Bacterium, *Pseudomonas stutzeri* strain Zobell. *Microbial Ecology* 27: 201-212
- Kerkhof, L.** and B. Ward. 1993. Comparison of Nucleic Acid Hybridization and Fluorometry for Measurement of RNA/DNA Relationship with Growth Rate in a Marine Bacterium. *Applied Environmental Microbiology*. 59: 1303-1307
- Kerkhof, L.** 1992. A Comparison of Substrates for Quantifying the Signal from a Non-radiolabeled DNA Probe. *Analytical Biochemistry* 205: 359-364.
- Kerkhof, L.** 1991. Ph.D. Dissertation. Developing a Species-Specific Growth Rate Assay for the Marine Bacterium, *Pseudomonas perfectomarina*. 12-6-1991
- Reeburgh, W., B. Ward, S. Whalen, K. Sandbeck, K. Kilpatrick, and **L. Kerkhof**. 1991. Black Sea Methane Geochemistry. *Deep-Sea Res.* 38: Suppl. 2, pp. S1189-S1210
- Fox, L. E. F. Lipschultz, **Kerkhof, L.** and S. C. Wofsy. 1987. A Chemical Survey of the Mississippi Estuary. *Estuaries* 10: 1-12.

PRESENTED PAPERS/POSTERS (last 3 yrs) :

2006

- Conference Presentation— Jerome J. Kukor, Gerben J. Zylstra, Lee Kerkhof, Boris Wawrik, Bio-prospecting for novel antibiotics, ICBG annual meeting. Lake Issikul, Khyrgyzstan, July 25-28, 2006
- Conference Presentation— Erin M. Gallagher, Safet Marke, Lee J. Kerkhof, Lily Y. Young. Identifying Metabolites of 2,4,6-Trinitrotoluene (TNT) Degradation under Anaerobic Conditions. American Society for Microbiology 106th General Meeting, Orlando, FL May 21-25, 2006.
- Conference Presentation— C. A. Fraser, B. Saks, Y-B. Ahn, L. J. Kerkhof, A. Siegl, U. Hentschel, M. M. Häggblom. Reductive Debrominating Microorganisms Associated with Organohalide-Containing Marine Sponges. American Society for Microbiology 106th General Meeting, Orlando, FL May 21-25, 2006.
- Conference Presentation— Boris Wawrik, Djumaniyaz Kutliev, Lee Kerkhof, Gerben J. Zylstra, and Jerome J. Kukor. Analysis of Actinomycete communities and Type II Polyketide Synthase Genes in Soil collected in New Jersey and Central Asia. American Society for Microbiology 106th General Meeting, Orlando, FL May 21-25, 2006.

- Conference Presentation— M. Teirny, L. Kerkhof and L. Y. Young. Resolution of Denitrifying Bacteria Associated with Naphthalene Degradation Using Stable Isotope Probing. American Society for Microbiology 106th General Meeting, Orlando, FL May 21-25, 2006.
- Conference Presentation— L. Youngster, L. J. Kerkhof, M. M. Häggblom Characterization of anaerobic MTBE-degrading bacterial communities. American Society for Microbiology 106th General Meeting, Orlando, FL May 21-25, 2006.
- Conference Presentation— Y-B. Ahn, J-C. Chae, G. J. Zylstra, L. J. Kerkhof, M. M. Häggblom. Isolation and Characterization of a Sulfate Reducing Phenol Degrading Bacterium from Estuarine Sediment. American Society for Microbiology 106th General Meeting, Orlando, FL May 21-25, 2006.
- Conference Presentation— L. J. Kerkhof, D. Watson, J. E. Kostka, L. McGuinness. Active Microorganisms in Groundwater Along a Contamination Plume at the Field Research Center in Oak Ridge, TN, USA American Society for Microbiology 106th General Meeting, Orlando, FL May 21-25, 2006.

2005

- Conference Presentation— Lee Kerkhof, Lora McGuinness, Hiep Tran, Josh Nelson, Char Fuller, Josh Kohut, David Scala, Rob Sherrell, Liz Creed, Sue Boehme, Clare Reimers. A Brief History of Phylogeography for Marine Bacteria. The Ocean Society Meeting. Paris, FR, June 6-10, 2005.
- Conference Presentation— Heath J. Mills, Evan Hunter, Deena Westbrook, David Swofford, Lee Kerkhof and Joel E. Kostka. Community composition of microorganisms catalyzing N removal from a variety of coastal marine ecosystems. American Society for Microbiology 105th General Meeting, Atlanta, GA May 22-26, 2005.
- Conference Presentation— Erin M. Gallagher, L. Y. Young, and L. J. Kerkhof. ^{13}C and ^{15}N Stable Isotope Probing to Detect TNT-Utilizers in Norfolk Harbor Sediments. American Society for Microbiology 105th General Meeting, Atlanta, GA May 22-26, 2005.
- Conference Presentation— Young-Beom Ahn, Brandon Saks, Lee J. Kerkhof, and Max M. Häggblom. Isolation and Characterization of a Dehalogenating Bacterium from the Marine Sponge *Aplysina aerophoba*. American Society for Microbiology 105th General Meeting, Atlanta, GA May 22-26, 2005.
- Conference Presentation— Häggblom MM, Fennell DE, Ahn Y-B, Liu F, Ravit B, Kerkhof LJ. In situ enhancement of anaerobic microbial dechlorination: novel strategies for bioremediation of contaminated sediments. SERDP and ESTCP Partners in Environmental Technology Technical Symposium & Workshop, Washington, D.C., Nov. 29 - Dec. 1, 2005.

2004

- Conference Presentation—Spatial and Seasonal Phylogeography of Sulfate-Reducing Bacteria in Norfolk Bay (Virginia, USA) Based on *dsrAB* Genes. J. Perez-Jimenez and L. Kerkhof. ISME Gen. Meeting, Cancun, Mexico, Aug 2004
- Conference Presentation— Tracking Changes in Anaerobic, Aromatic-Degrading Communities Using Stable-Isotopes. Erin M. Gallagher, C.D. Phelps, L. Y. Young, and L. J. Kerkhof. ASM Gen. Meeting, New Orleans, LA May 2004
- Conference Presentation— McGuinness, Lora, Pickering, Karen D., Vega, Leticia M., and Kerkhof, Lee “Molecular characterization of N-cycling bacteria in the BWP” Presented at the Conference on Space Habitation Research and Technology Development Orlando, FL, Jan. 2004

Synergistic Activities (last 3 years): Professional Activities

- 2006 Ad Hoc Mail Reviewer/Panel Member for the National Science Foundation, Dept. of Energy; Chair of Palmer Antarctic LTER Site Review Team, Member of the editorial board for *Applied Environmental Microbiology*, Ad Hoc Mail Reviewer for *FEMS Microbial Ecology*, *Science*, and *Aquatic Microbial Ecology* manuscripts.
- 2005 Ad Hoc Mail Reviewer/Panel Member for the National Science Foundation, Member of the editorial board for *Applied Environmental Microbiology*, Ad Hoc Mail Reviewer for *FEMS Microbial Ecology*, *Science*, and *Aquatic Microbial Ecology* manuscripts.
- 2004 Ad Hoc Mail Reviewer/Panel Member for the National Science Foundation, Member of the editorial board for *Applied Environmental Microbiology*, Ad Hoc Mail Reviewer for *FEMS Microbial Ecology*, *Limnology and Oceanography*, *Science*, and *Aquatic Microbial Ecology* manuscripts.

INVITED TALKS

- Fingerprinting Microbial Communities in Exotic Places: New Jersey, the Black Sea, and a Mission to Mars. University of Washington. 6-02
- Trying to see the forest for the trees using molecular approaches. Harvard University 1-02, Princeton University, 1-01; Johnson Space Center, NASA 6-00.
- Molecular characterization of bacteria in the oxic/anoxic interface of the Black Sea. Center for Environmental BioInorganic Chemistry (CEBIC). Princeton University 6-00.
- Molecular tools for studying biogeochemical cycling in salt marshes. International Marsh Symposium 4/98. Vineland, NJ (NJ Seagrass and PSE & G/MEARP conveners)
- Molecular Characterization of Bacterial Populations at LEO-15. Temple Univ. 1-98.
- Spatial and Temporal Variability in Bacterial Populations at LEO-15. Univ. of Delaware, Lewes 4-97.
- Developing a Species Specific Growth Rate Assay for a Marine Bacterium. Florida State University 9-93, Rutgers 8-93, SUNY-Stony Brook 4-93, UC Santa Cruz 11-90.
- Non-radioactive methods of nucleic acid detection. Marine Ecology Course, Marine Biological Laboratories, Woods Hole, MA, 7-89.

TEACHING

- General Microbiology (16:681:501) Graduate survey course on the breadth of microbial life and diversity in terrestrial and aquatic environments. Emphasis is placed on the ecological role microbes play in habitats ranging from microbial mats to the human body.
- Marine Microbiology (11:628:418) Undergrad/Grad lab lecture course that discusses the wide range of genetic diversity and metabolic potential of bacteria in the oceanic setting. Particular emphasis is placed on biochemical adaptations to factors unique to the marine environment (e.g. dilute substrate concentrations and high pressures). Lab is a hands-on exercise in molecular techniques to characterize bacteria in a seawater and sediment samples.
- Biochemical Techniques in Marine Science (16:712:698). Grad level course is designed to critically review the application of biochemical techniques in exploring the environment with an emphasis on marine systems. Various biochemical methodologies including enzyme assays, radio-tracer studies, high pressure liquid chromatography (HPLC) analysis, immunological approaches, and recombinant DNA techniques.
- Perspective in Agriculture and the Environment (11:015:101) Undergrad discussion/lecture course that focuses on obtaining a global perspective on environmental issues affecting today's society. Particular emphasis is placed on developing critical thinking and writing skills. Specific topics include burgeoning world populations, water resource issues, collapsing fisheries, risk assessment, aquaculture, and biotechnology.

RESEARCH CRUISES:

- IMCS Cruises Tuckerton, NJ 10/94-date
- DOE Cruises. Cape Hatteras 5-10->5-17-93.
Southern California Bight 10-87
- NSF Cruises. Eastern Tropical Pacific. 8-5->8-15-89
Black Sea Leg V. Black Sea. 7-15->7-30-88
Southern California Bight. 6 & 10 -88
NITROP. Peru Upwelling Zone. 2-1->3-1-85
Mississippi Estuary. 5-84.

Collaborators:

Ginger Armbrust, Debbie Bronk, Jennifer Cherrier, Jorge Corredor, Paul Falkowski, Donna Fennell, Marc Frischer, Jay Garland, Max Haggblom, Paul Kemp, Rick Kiel, David Kirchman, Jose Lopez, Peter Morin, John Paul, Karen Pickering, Clare Reimers, Oscar Schofield, Sybil Seitzinger, Rob Sherrell, Gary Taghon, Costantino Vetriani, Bess Ward, Frances Wilkerson, Lily Young, Jon Zehr

Post Docs: Young Beom Ahn (w/ Max Haggblom), Ingeborg Bussmann, Donna Fennell (w/ Max Haggblom), Victoria Knight (w/ Max Haggblom), Craig Phelps (w/ Lily Young), Sung Keun Rhee (w/ Max Haggblom), Elise Sullivan (w/ Lily Young), Mary Voytek

Grad Students: Carrie Fraser, Erin Gallagher (w/ Lily Young), Darryl Babcock, (MS; Graduated 12/06), Josh Nelson, (MS; Graduated, 01/03) Jose Perez-Jimenez (Ph. D; Graduated, 10/03), Yuko Sakano (Ph. D; Graduated, 1/01), David Scala (Ph. D.; Graduated 3/99)

Undergrad Students: Christina Coloda, Susan Ellor, Lauren Junker (w/ Lily Young), Paulette Macrae, Eva Maslak, Nitya Nair, Joshua Nelson, Carmela Palermo (w/ Lily Young), Amanda Pusey, Alexander Rodriguez, Max Salganik, Ann Marie Salvatore, Marc Santoro, Kevin Shanley, Ken Shallop, Johnny Shue, Mark Speck, Jordan Spitzer-London, Elizabeth Stover, and Hiep Tran.