

BIOGRAPHICAL SKETCH

PAUL, JOHN H.

Department of Marine Science
University of South Florida
St. Petersburg, FL 33701

Education

BA	Biology	1976	Colgate University, Hamilton, NY 13346
PhD	Marine Science	1980	Rosenstiel School of Marine Science and Atmospheric Science, University of Miami, Coral Gables, FL 33149

Academic and Professional Honors:

Colgate University: Summa Cum Laude (9th in class of 668), Phi Beta Kappa, Beta Beta Beta Biological Honor Society, Honors in Biology, Recipient of First Antarctic and Arctic Travel Scholarship Awards, G. Lawrence Award in Organic Chemistry.

University of Miami: The University's Candidate for the International Dissertation Award, Recipient of two Bader Fund Research Grants, an American Cancer Society Institutional Research Grant, and a United Way Health Affairs Task Force Grant (P.I. K. E. Cooksey)

Postdoctoral: National Research Council Postdoctoral Fellow, 1980-1982; Finalist, Biology Division, International Dissertation Award Competition

Career: American Academy of Microbiology Fellow, 1995-present
P.R. Edwards Award Recipient, SE Branch, American Society for Microbiology, 2002
USF President's Award for Faculty Excellence, 2003
USF Outstanding Faculty Achievement Award, 2003
USF Innovative Research Award, 2015

Employment History:

National Research Council Postdoctoral Fellow at the Naval Research Laboratory, Washington, DC 1980-1982

Assistant Professor of Marine Science, University of South Florida, St. Petersburg, FL, 1982-1987

Associate Professor of Marine Science, University of South Florida, St. Petersburg, FL, 1987-1991

Professor of Marine Science, University of South Florida, St. Petersburg, FL, 1991-2003

Distinguished University Professor, University of South Florida, St. Petersburg, FL 2003-Present

Teaching

Graduate Students Trained at USF

1985 Wade H. Jeffrey, MS. The Activity of Attached and Free-Living Estuarine Bacteria

1987 Mary DeFlaun, PhD. The distribution and molecular characterization of dissolved DNA in aquatic environments

1989 Wade H. Jeffrey, PhD. Validation of [³H]-Thymidine Incorporation and its Application to Detecting Natural Transformation in the Marine Environment

1992 Scott L. Pichard, MS. The Development of a Method to Measure Microbial Gene Expression in the Marine Water-Column Environment

1993 Sunny C. Jiang, MS. Viruses in the marine environment : abundance, distribution and contribution to the dissolved DNA pool

1993 Andrew W. David, MS. Development of an image analysis system for the enumeration and sizing of aquatic bacteria

1994 Marc E. Frischer, PhD. Natural plasmid transformation in the marine environment

1996 Sunny C, Jiang, PhD. Lysogeny and transduction in the marine environment

1997 Pamela K. Cochran, MS. Environmental factors affecting lysogeny in the marine environment

1998 Christina A. Kellogg, PhD. Genetic diversity and DNA repair of marine vibriophages

2000 Jordan A. Brown Kang, MS. Diel rhythms in rubisco gene expression in cyanophytic and chromophytic clades of cultured and natural populations of phytoplankton

2003 Boris A. Wawrik, PhD. Diversity and regulation of carbon fixation in coastal plume environments

2003 Shannon Williamson, PhD. Lysogeny in marine bacteria: response to environmental cues

2004 Michael Gray, MS, Detection and quantification of *Karenia brevis* by carbon fixation gene expression analysis.

2005 Lauren McDaniel, PhD. Practical Applications and New Discoveries

2006 Amy Long, MS. Control of Lysogeny in Marine Bacteria: Studies with phiHSIC and Natural Populations

2007 Kathryn Bailey, MS. The Use of Microarrays in the Detection of the Gene Expression of Ribulose- 1,5-bisphosphate carboxylase/oxygenase (RubisCO) in the Marine Environment

2007 Jennifer Mobberley, MS. Molecular and Genomic studies of the host-phage systems of *Halomonas aquamarina* and *Bacillus* species isolates from the Gulf of Mexico.

2010 Jennifer Delaney, MS. Molecular Methods for the detection of Pseudonitzschia

2011 Elizabeth C. Young, MS. Sex in the Seas-Gene Transfer Agents in the Marine Environment

2014 Robert M. Ulrich, Ph.D. RNA Detection Technology for Applications in Marine Science: Microbes to Fish

2014 Brian Zielinaki

Courses Taught

Marine Microbiology, 3 cr

Marine Microbiology Lab, 2 cr

Deepwater Horizon-the Whole Story, 2 Cr

Molecular Microbiology, 1cr
Molecular Methods for Marine Scientists, 3 cr
Biological Oceanography (team taught)
Introduction to Oceanography (team taught)
Marine Virology (Team taught)
Advanced Instrumentation (2 cr)

Research

Grants and Contracts:

1. Office of Naval Research Contract #N00014-83-K-0024. The Biochemistry and Physiology of Bacterial Adhesion to Surfaces: The Enzymes of Extracellular Acidic Polysaccharide Biosynthesis \$49,796. 11/82-11/83. Principal Investigator.
2. National Science Foundation Grant #BSR-8307366. Equipment for the Department of Marine Science, University of South Florida. \$45,000. Matching by University of South Florida: \$32,557. Total: \$77,557. 6/83-6/84. Principal Investigator.
3. University of South Florida Research and Creative Scholarship Award. 19-2708-014. The Dynamics of Dissolved DNA in the Marine Environment. \$3,235. 5/83-5/84. Principal Investigator. 3/98
4. Florida Sea Grant. The Use of Surfactants as Biofouling Inhibitors. \$34,689. Principal Investigator. 1/1/84-12/31/84.
5. Florida Institute of Oceanography. Shiptime Aboard the RV Bellows. Principal Investigator. \$10,800. 5/22-5/30/1984.
6. Nautical Coatings, Inc. Molecular antifoulants. \$2,000. 9/84-9/85. Principal Investigator.
7. Florida Sea Grant. Testing of Molecular Antifoulants in Commercial Bottom Paints. \$10,000. 10/84-10/85. Principal Investigator.
8. National Science Foundation Grant #OCE-8415605. The Dynamics of Dissolved DNA in Planktonic Environments. \$94,000. 1/85-6/87. Principal Investigator.
9. University of South Florida Research and Creative Scholarship Award. Importance of Bacterioplankton in Coral Reef Nutrition. \$4,000. Principal Investigator.
10. National Science Foundation Grant #BSR8507343. Image Analysis System, HPLC, and Liquid Scintillation Counter for the University of South Florida's Department of Marine Science. \$57,715. 8/85-7/86. Principal Investigator.
11. Florida Sea Grant #IR-85-10. Development of Methodology for the Analysis of Snook Populations by Mitochondrial DNA Polymorphisms. \$9,000. 9/85-4/86. Principal Investigator.
12. Florida Institute of Oceanography. Shiptime aboard the RV Bellows. 5/19-5/26/86. \$14,400.
13. Florida Sea Grant #R/C-E-26. Video enhanced microscopy and [³H]-thymidine incorporation to monitor water quality in Florida's estuaries. \$40,000. 7/86-7/87. Principal Investigator.
14. National Science Foundation Grant #BSR 8605170. The cycling of extracellular DNA in Eutrophic and Oligotrophic rivers of Southwest Florida. \$276,000. 7/86-7/89. Principal Investigator.

15. Environmental Protection Agency. The role of extracellular DNA in the dissemination of recombinant DNA in aquatic environments. \$184,000. 8/86-9/88. Principal Investigator.
16. National Science Foundation. Bacterial Transformation as a Mechanism of Gene Transfer in the Marine Environment. \$185,000. 3/89-3/91. Principal Investigator.
17. Southwest Florida Water Management District. Algal Bioassay for SWFWMD. \$9,995. 2/3/89-6/2/89. Principal Investigator.
18. Research & Creative Scholarship Award. Detection and Amplification of Gene Sequences in Aquatic Environments by the Polymerase Chain Reaction. \$4,500. 12/1/88-12/21/89. Principal Investigator.
19. Florida High Tech and Industry Council. Development of Technology for detection of microbial gene expression in aquatic environments. \$50,000. 2/90-1/91.
20. SWIFTMUD Contract: Lake Tarpon Algal Bioassay. \$9,600. 1/90-3/90.
21. NSF Small Grant for Exploratory Research: Are viruses a significant component of the dissolved DNA in the marine environment. \$42,000. 10/90-9/90.
22. Florida High Tech and Industry Council. Marine Biotechnology: Detection of Microbial Gene Expression in Aquatic Environments. \$45,000. 1/91-12/91.
23. NOAA National Undersea Research Lab. Survey of Viral Abundance in Key Largo Sanctuary. \$3,500. 8/91-8/92. PI, Joan Rose, Co-PI, John Paul.
24. National Science Foundation. The Genetic Significance of Viruses in the Marine Environment. \$318,000. USF Matching, \$39,000. 1/92-1/95.
25. Florida High Tech and Industry Council. Development of Technology to Measure Microbial Gene Expression in Aquatic Environments. \$33,977. 1/92-1/93
26. National Science Foundation Academic Research Infrastructure Program. Purchase of a Transmission Electron Microscope for the University of South Florida's New Marine Science Building. \$150,000. \$321,000 matching from USF. 1/93-1/94.
27. USEPA. Natural Plasmid Transformation in Estuarine Environments. \$337,819. 10/92-11/95.
28. National Science Foundation. Molecular Regulation of CO₂ fixation in Oceanic Picoplankton. \$350,000. With F. Robt. Tabita, Ohio State University. USF share~\$180,000. 1/93-12/95.
29. Florida High Technology and Industry Council. Aquatic Microbial gene expression: Technology transfer and use in oceanic carbon fixation measurements. \$35,920. 1/93-1/94.
30. NOAA National Underseas Research Center. Viral and bacterial indicators of anthropogenic stresses on the marine ecosystem in the Florida Keys. \$15,000. With Joan B. Rose. 3/93-2/94
31. USDOE. Regulation of Photosynthetic Carbon Fixation on the Ocean Margins. \$178,000. 9/1/93 to 8/31/96. With F. Robert Tabita.
32. Mamala Bay Study Commission. Coliphage and Indigenous Phage in Mamala Bay. \$75,000. 5/93-5/95. With Joan Rose.

33. NOAA National Underseas Research Center. Impact of Injection wells on the Key Largo Reef Environment: Viral and Bacterial Indicators. \$15,000. 1/94-12/94. With Joan Rose.
34. Enterprise Florida (Formerly Florida High Technology and Industry Council). Aquatic Microbial Gene Expression: commercialization, mRNA amplification, and environmental applications. \$40,000. 1/15/94-12/31/94.
35. National Science Foundation. Viral bacterial interactions in the marine environment: Significance of Lysogeny. \$300,000. 6/1/95 to 5/31/98.
36. National Science Foundation. Equipment for Molecular Analysis of Marine Organisms. \$102,000. USF Match: \$105,000.
- 37.. Florida Sea Grant: Viral tracer technology for tracking wastewater contamination of coastal environments. \$63,525. 2/20/97-2/19/98
38. NOAA National Underseas Research Center. Impact of injection wells on the Key Largo Reef Environment: Tracer Studies-1/95-12/97. \$15,000
39. DOE: Molecular regulation of photosynthetic carbon fixation in coastal microorganisms. \$210,000. 9/1/97-8/31/00
40. Florida Sea Grant: Development of a marine prophage induction assay for detection of mutagens in environmental samples. \$113,685. 2/1/98-2/1/00
41. USEPA: Human pathogens in canals and confined bodies of water in the Florida Keys: Abundance and human health risks. \$44,170. 9/26/97-9/30/98
42. FDEP: Microbiological study for Homosassa Springs State Wildlife Park. \$5,618. 9/24/97-12/31/97.
43. SWFWMD: Microbiological testing of Crystal Springs. \$15,000. 4/1/97-3/31/98.
44. Innovative Biotechnologies: Exploratory Development of NASBA with Combined Methodology for the Detection of *Cryptosporidium* in Drinking Water. 3/1/98-2/28/99 \$25,000
45. NSF: The Paradox of the Viroplankton: High Viral Abundance and Resistance to Infection. 1/99-12/02. \$300,000
46. NOAA-ECOHAB: Exploring Lytic and Temperate Viruses of *Gymnodinium breve* as a Mechanism of Controlling Red Tide Blooms. 9/98-8/01. \$215,000
47. Florida Sea Grant: Molecular Detection of Enteroviruses in Florida's Coastal Waters. 11/99-6/01. \$150,000. USF Equipment Match: \$95,000
48. Great Spring Waters, Inc.: Enteroviral Analysis of Crystal Springs for Perrier. 7/1/99-6/30/00. \$59,242
49. Great Spring Waters, Inc.: Enteroviral Analysis of Crystal Springs for Perrier. 7/2/00-6/30/01. \$59,242
50. DOE: Regulation of Carbon Fixation by Nitrogen in Coastal Plume Environments. 10/1/00-9/30/03. \$315,572.

51. NOAA ECOHAB: Quantitative Detection of Transcriptionally active Carbon Fixation Genes in the Florida Red Tide Organism, *G. breve*. 9/01/01-8/31/05. \$439,271
52. ONR: An Autonomous Microbial Genosensor. 1/15/02-12/30/05. \$927,300 Co-PI with David Fries, COT
53. NSF-Biocomplexity: An Autonomous Microbial Genosensor for Environmental Water Quality Monitoring. 10/1/02-9/30/06. \$1,290,000
54. NSF-Biocomplexity: Marine Viromics: The interaction of Viral Genomes and the Environment. 10/01/02-9/30/06. \$1,990,000
55. ONR-Pathogenic Microbial Sensors for Coastal Safety. 5/1/03-4/30/04. \$250,000
56. DOE-Nitrogen-dependent Carbon Fixation by Picoplankton in Culture and in the Mississippi River Plume. 9/1/03-12/31/05. \$104,000
57. DOE BI-OMP-The Ecology and Genomics of CO₂ Fixation in Oceanic River Plumes 3/05-3/07. \$595,000
58. CICEET-A Multichannel Hand Held Sensor for Microbial Contaminants 9/05-8-08. \$300,956
59. Florida Sea Grant- A Portable Enterococcus Sensor for Monitoring Coastal Water Quality 2/06-2/08. \$150,000
60. NOAA-ECOHAB-Engineering Upgrades and Field Trials of the Autonomous Microbial Genosensor-9/1/06-8/31/09. \$470,184
61. ONR-Coupled Physical-Biological Environmental Sensor Network Node Technology-4/1/06-3/31/07. \$227,515
62. ONR-Application of the Autonomous Microbial Genosensor to other HAB Species-5/1/07-4/30/08. \$300,000
63. Continental Shelf Associates-Sediment Microbial Activity-11/07-12/31/08-\$47,905
64. USF Connect-Sediment Microbial Activity-7/1/08-12/31/08-\$47,905
65. ONR- The *Pseudonitzschia* Autonomous Microbial Genosensor: Assay Validation and Platform Implementation 4/1/08-3/31/09. \$215,000
66. NSF-MIP-Gene transfer Agents in the Oceans-What are they doing? \$500,000 9/1/08-8/3/11
67. NOAA/FFWCC- *Karenia* Detection Study: The evaluation of the Nucleic Acid Sequence-Based Amplification (NASBA) assay for the detection of *Karenia brevis* blooms in the Gulf of Mexico. \$88,000; 1/1/09-5/29/10
68. Mote Marine Lab: The role of bacterial-zooxanthellae symbiosis and gene transfer in coral reef resilience. \$56,556 (USF portion \$25,308) 4/1/09-3/31/10
69. Mote Marine Lab. The role of bacterial-zooxanthellae symbiosis and gene transfer in coral reef resilience. \$25,308. 9/1/09-8/31/10
70. University of Georgia/Moore Foundation. Eukaryotic Meta-Transcriptomics Of The Amazon River Plume \$250,00.1/08/10-12/31/12. One mm
71. ONR- AMIGOS: Autonomous Microbial Integrated Genetic/Optical Sensor . \$247,000. 4/1/10-05/30/11
72. Florida Sea Grant-Grouper Forensics for Seafood Quality Control. \$200,000 +\$100,000 USF match. 2/1/10-1/31/12
73. Mote Marine Lab-Gene Therapy for the Reef Environment. \$49,111; \$10,253.89 match Mote; \$1,753.86

- match USF. 5/1/11-4/30/13
74. Guy Harvey Foundation- Detection Of Planktonic Grouper Larvae By RNA Amplification: A Pilot Study- \$50,000 12/15/10-12/31/13
 75. Guy Harvey Foundation- Toxicity Analysis Of The Deepwater Horizon Contaminated Waters Of The Gulf Of Mexico \$75000 + \$25000 USF Match 12/15/10-12/31/13
 76. Guy Harvey Foundation. Funds in support of grouper forensics. \$30,000 1/15/13-12/31/13
 77. Gulf Research Institute. Toxicity and genotoxicity of the deepwater-Horizon contaminated waters of the Gulf of Mexico. \$393,555. 3/1/2012-2/28/15. Two mm
 78. Moore Research Foundation. Support of Aquatic Virus Workshop 7. \$15,000
 79. National Fish and Wildlife Foundation. Grouper forensics, \$25,000 4/1/13-1/31/14
 80. University of Georgia/Moore Foundation. Eukaryotic Meta-Transcriptomics Of The Amazon River Plume \$65,500 1/1/2014-07/31/2014
 81. Gulf Research Institute. C-IMAGE 2 \$287095. 1/1/15-12/31/17
 82. FHITIC. Grouper Forensics \$30000 1/1/15-6/1/16
 83. FHITIC. Shrimp assay \$20,000
 84. NOAA PCMHAB \$480000. : PCMHAB: Implementing the Karenia “tricolor” to Improve Red Tide Monitoring and Management in the Gulf of Mexico 9/1/15-8/31/18

Publications

1. M.D. Corbett, B.R. Chipko, and J.H. Paul. 1978. The production of hydroxamic acid metabolites of nitrosobenzene by Chlorella pyrenoidosa. J. Environ. Pathol. Toxicol. 1: 259-266.
2. J.H. Paul and K.E. Cooksey. 1979. Asparagine metabolism and asparaginase activity in a euryhaline Chlamydomonas species. Can. J. Microbiol. 25: 1443-1448.
3. B. Cooksey, K. Cooksey, C.A. Miller, and J.H. Paul. 1980. Attachment of diatoms to surfaces: Field and laboratory studies. pp526-528. In R.C.W. Berkeley, J.M. Lynch, J. Melling, P.R. Rutter, and B. Vincent, ed. Microbial Adhesion to Surfaces. Ellis Harwood Limited, Chichester, England.
4. J.H. Paul and K.E. Cooksey. 1981. Regulation of L-asparaginase in a Chlamydomonas species in response to ambient concentrations of combined nitrogen. J. Bact. 147: 9-12.
5. J.H. Paul and K.E. Cooksey. 1981. Regulation of L-asparaginase, glutamine synthetase, and glutamate dehydrogenase in response to medium nitrogen concentrations in a euryhaline Chlamydomonas species. Plant Physiol. 68: 1364-1368.
6. J.H. Paul. 1982. Isolation and characterization of a Chlamydomonas L-asparaginase. Biochem. J. 203: 109-115.
7. J.H. Paul. 1982. The use of Hoechst dyes 33258 and 33342 for the enumeration of attached and pelagic bacteria. Appl. Environ. Microbiol. 43: 939-949.
8. J.H. Paul and B. Myers. 1982. The fluorometric determination of DNA in aquatic microorganisms employing Hoeschst 33258. Appl. Environ. Microbiol. 43: 1393-1399.
9. J.H. Paul. 1983. The uptake of organic nitrogen. In: E.J. Carpenter and D.G. Capone, Eds. Nitrogen in the Marine Environment. Academic Press, NY pp. 275-308.
10. J.H. Paul and G.I. Loeb. 1983. Improved microfouling assay employing a DNA-specific fluorochrome and polystyrene as substratum. Appl. Environ. Microbiol. 46: 338-343.
11. J.H. Paul and W.H. Jeffrey. 1984. Measurement of diameters of estuarine bacteria and particulates in

- natural water samples by use of a submicron particle analyzer. *Curr. Microbiol.* 10: 7-12.
12. J.H. Paul. 1984. Effects of antimetabolites on the adhesion of an estuarine *Vibrio* to polystyrene. *Appl. Environ. Microbiol.* 48: 924-929.
 13. J.H. Paul and D.J. Carlson. 1984. Genetic material in the marine environment: Implication for bacterial DNA. *Limnol. Oceanogr.* 29: 1091-1097.
 14. J.H. Paul and W. H. Jeffrey. 1985. The effect of surfactants on the attachment of estuarine and marine bacteria to surfaces. *Can. J. Microbiol.* 31: 224-228.
 15. J.H. Paul, W.H. Jeffrey, M. DeFlaun. 1985. Particulate DNA in subtropical oceanic and estuarine planktonic environments. *Marine Biology* 90: 95-101.
 16. J.H. Paul, and W.H. Jeffrey. 1985. Evidence for separate adhesion mechanisms for hydrophilic and hydrophobic surfaces in *Vibrio proteolytica*. *Appl. Environ. Microbiol.* 50: 431-437.
 17. W.H. Jeffrey and J.H. Paul. 1986. The activity of an attached and free-living *Vibrio* sp. as measured by thymidine incorporation, INT-reduction, and ATP/DNA ratios. *Appl. Environ. Microbiol.* 51: 150-156.
 18. K.L. Carder, R.G. Steward, J.H. Paul, and G.A. Vargo. 1986. Relationships between chlorophyll and ocean color constituents as they affect remote sensing reflective models. *Limnol. Oceanogr.* 31: 403-413.
 19. W.H. Jeffrey, and J.H. Paul. 1986. Activity measurements of planktonic microbial and microfouling communities in a eutrophic estuary. *Appl. Environ. Microbiol.* 51: 157-162.
 20. M.F. DeFlaun and J.H. Paul. 1986. Hoechst 33258 staining of DNA in agarose gel electrophoresis. *J. Microb. Methods.* 5: 265-270.
 21. M.F. DeFlaun, J.H. Paul, and D. Davis. 1986. A simplified method for dissolved DNA determination in aquatic environments. *Appl. Environ. Microbiol.* 51: 654-659.
 22. J.H. Paul, M.F. DeFlaun, and W.H. Jeffrey. 1986. Elevated levels of microbial activity in the coral surface microlayer. *Mar. Ecol. Prog. Ser.* 33: 29-40.
 23. J.H. Paul, W.H. Jeffrey, M.F. DeFlaun. 1987. The dynamics of extracellular DNA in the marine environment. *Appl. Environ. Microbiol.* 53: 170-179.
 24. M.F. DeFlaun, J.H. Paul, and W.H. Jeffrey. 1987. The distribution and molecular weight of dissolved DNA in subtropical estuarine and oceanic environments. *Mar. Ecol. Prog. Ser.* 33: 29-40.
 25. W.H. Jeffrey and J.H. Paul. 1988. The effect of 5-fluoro 2' deoxyuridine on [³H]thymidine incorporation by bacterioplankton in the waters of southwest Florida. *Appl. Environ. Microbiol.* 54: 331-336.
 26. J.H. Paul, M.F. DeFlaun, W.H. Jeffrey, and A.W. David. 1988. Seasonal and diel variability in dissolved DNA and microbial biomass and activity in a subtropical estuary. *Appl. Environ. Microbiol.* 54: 718-727.
 27. J.H. Paul, M.F. DeFlaun, and W.H. Jeffrey. 1988. Mechanisms of DNA utilization by estuarine microbial populations. *Appl. Environ. Microbiol.* 54: 1682-1688.
 28. W.H. Jeffrey and J.H. Paul. 1988. Underestimation of DNA synthesis by [³H]thymidine incorporation in marine bacteria. *Appl. Environ. Microbiol.* 54: 3165-3168.
 29. M.F. DeFlaun and J.H. Paul. 1989. The concentration and detection of exogenous gene sequences in dissolved DNA from aquatic environments. *Microb. Ecol.* 18: 21-28.

30. A.W. David and J.H. Paul. 1989. Enumeration and sizing of aquatic bacteria by use of silicon intensified target camera linked-image analysis system. *J Microb. Meth.* 9: 257-266.
31. J.H. Paul, W.H. Jeffrey, A.W. David, M.F. DeFlaun, and L.H. Cazares. 1989. The turnover of extracellular DNA in eutrophic and oligotrophic freshwater environments of southwest Florida. *Appl. Environ. Microbiol.* 55: 1823-1888.
32. J.H. Paul and A.W. David. 1989. Production of extracellular nucleic acids by genetically altered bacteria in aquatic microcosms. *Appl. Environ. Microbiol.* 55: 1865-1869.
33. J.H. Paul and S.L. Pichard. 1989. Specificity of cellular DNA binding sites of microbial populations in a Florida reservoir. *Appl. Environ. Microbiol.* 55: 2798-2801.
34. W.H. Jeffrey and J.H. Paul. 1990. Thymidine uptake, thymidine incorporation, and thymidine kinase activity in marine bacterial isolates. *Appl. Environ. Microbiol.* 56: 1367-1372.
35. J.H. Paul, L. Cazares, and J. Thurmond. 1990. Amplification of the *rbcL* gene from dissolved and particulate DNA from aquatic environments. *Appl. Environ. Microbiol.* 56: 1963-1966.
36. J.H. Paul, L.H. Cazares, A.W. David, M.F. DeFlaun, and W.H. Jeffrey. 1991. Dissolved DNA and microbial biomass and activity in oligotrophic and eutrophic rivers of southwest Florida. *Hydrobiologia* 218: 53-63.
37. W.H. Jeffrey, J.H. Paul, and G.J. Stewart. 1990. Natural transformation of a marine *Vibrio* by plasmid DNA. *Microbiol. Ecol.* 19: 259-268.
38. M.F. Frischer, J.M. Thurmond, and J.H. Paul. 1990. Natural plasmid transformation in a high frequency of transformation marine *Vibrio* strain. *Appl. Environ. Microbiol.* 56:3439-3444.
39. Paul, J.H., W.H. Jeffrey, and J.P. Cannon. 1990. Production of dissolved DNA, RNA, and protein by microbial populations in a Florida reservoir. *Appl. Environ. Microbiol.* 56: 2957-2962.
40. Jeffrey, W.H. , J.H. Paul, L.H. Cazares, M.F. DeFlaun, and A. W. David. 1990. Correlation of nonspecific macromolecular labelling with environmental parameters during [³H]-thymidine incorporation in the waters of Southwest Florida. *Microbial Ecol.* 20: 21-35.
41. Paul, J.H., M.E. Frischer, and J.M. Thurmond. 1991. Gene transfer in marine water column and sediment microcosms by natural plasmid transformation. *Appl. Environ. Microbiol.* 57:1509-1515.
42. Pichard, S.L. and J.H. Paul. 1991. Detection of gene expression in genetically engineered microorganisms and natural phytoplankton populations in the marine environment by mRNA analysis. *Appl. Environ. Microbiol.* 57: 1721-1727.
43. Paul, J.H., S.C. Jiang, J.M. Thurmond, and J.B. Rose. 1991. Concentration of viruses and dissolved DNA from aquatic environments by vortex flow filtration. *Appl. Environ. Microbiol.* 57:2197-2204.
44. Paul, J.H. 1993. The advances and limitations of methodology in environmental microbiology. *In*: T. Ford, *Aquatic Microbiology: An Ecological Approach* Blackwell Scientific Publications, Cambridge, MA.
45. Jiang, S.C., J.M. Thurmond, S.L. Pichard, and J.H. Paul. 1992. Concentration of microbial populations from aquatic environments by Vortex Flow Filtration. *Marine Ecol. Progr. Ser.* 80: 101-107.
46. Paul, J.H., J.M. Thurmond, M.E. Frischer, and J.P. Cannon. 1992. Intergeneric natural plasmid transformation between *E. coli* and a marine *Vibrio* species. *Molecular Ecology* 1: 37-46.

47. Paul, J.H. 1992. Intergeneric natural plasmid transformation between *Escherichia coli* and a marine *Vibrio* species. In: Michel J. Gauthier, ed., Gene transfers and environment. Springer Verlag, Berlin, pp. 64-67.
48. Frischer, M.E., J.M. Thurmond, and J.H. Paul. 1993. Factors affecting competence in a high frequency of transformation marine *Vibrio*. *J. Gen. Microbiol.* 139: 753-761.
49. Pichard, S.L. and J.H. Paul. 1993. Gene expression per gene dose: a specific measure of gene expression in aquatic microorganisms. *Appl. Environ. Microbiol.* 59:451-457.
50. Paul, J.H., J.B. Rose, S.C. Jiang, C.A. Kellogg, and L. Dixon. 1993. Distribution of viral abundance in the reef environment of Key Largo, Florida. *Appl. Environ. Microbiol.* 59: 718-724.
51. Boehme, J., M.E. Frischer, S.C. Jiang, C.A. Kellogg, S. Pichard, J.B. Rose, C. Steinway, and J.H. Paul. 1993. Viruses, Bacterioplankton, and Phytoplankton in the Southeastern Gulf of Mexico: Distribution and contribution to oceanic DNA Pools. *Mar. Ecol. Progr. Ser.* 97: 1-10.
52. Pichard, S.L., M.E. Frischer, and J.H. Paul. 1993. Ribulose biphosphate carboxylase gene expression in subtropical marine phytoplankton populations. *Mar. Ecol. Progr. Ser.* 101: 55-65.
53. Jiang, S.C. and J.H. Paul. 1994. Seasonal and diel abundance of viruses and occurrence of lysogeny/bacteriocinogeny in the marine environment. *Mar. Ecol. Progr. Ser.* 104: 163-172.
54. Paul, J.H. and S.L. Pichard. 1995. Extraction of DNA and RNA from Aquatic Environments. In: *Nucleic Acids in the Environment: Methods and Applications*, by J.T. Trevors and J.D. Van Elsas, ed., Springer-Verlag, pp 153-177.
55. Frischer, M.E., G.J. Stewart, and J.H. Paul. 1994. Plasmid transfer to indigenous bacterial populations by natural transformation. *FEMS Microbial Ecol.* 15: 127-136.
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 169. L. McDaniel, J. Basso, I.C. Romero, D. Wetzel, J.H. Paul. Use of the Microtox and Microacreen assays to assess impact of Deepwater Horizon Oil Spill. Submitted to *Ecological Indicators*. In review

Invited Talks

1. J.H. Paul. 1983. Adhesion mechanisms of estuarine bacteria. The Agouron Institute Conference: Microbial Adhesion and Corrosion in the Marine Environment. December 7-9, LaJolla, CA
2. J.H. Paul. 1985. Significance of bacterial production in coral reef nutrition. University of South Florida Research and Creative Scholarship Fall Lecture Series. November 6, Tampa, FL
3. J.H. Paul. 1986. The dynamics of dissolved DNA in the marine environment. Florida Sea Grant Seminar. Florida International University. April 3, Miami, FL
4. J.H. Paul and G.J. Stewart. 1986. The role of extracellular DNA in the dissemination of recombinant DNA in aquatic environments. Annual Biotechnology Research Review. USEPA Microbiology and Biotechnology Branch. July 8-9, Gulf Breeze, FL
5. J.H. Paul. 1987. Ecological and Molecular Aspects of Extracellular DNA in the Marine Environment. April 7, U.S.C., Los Angeles, CA
6. J.H. Paul. Natural transformation in a marine *Vibrio*. EPA Biotechnology Risk Assessment All Investigators Meeting and Peer Review. November 14-16, 1989. Corvallis, OR
7. J.H. Paul. 1990. Ecological and molecular significance of dissolved DNA in marine and freshwater aquatic environments. EERO Workshop on Molecular Microbiol Ecology. April 29 - May 2, Konigslutter, FRG
8. J.H. Paul, S.C. Jiang, and J.B. Rose. 1991. Significance of viruses in the marine environment. International Marine Biotechnology Conference 91, October 13-16, Baltimore, MD.
9. J. H. Paul. 1991. Intergeneric natural plasmid transformation between *E. coli* and a marine *Vibrio* species. BAGECO-3, November 20-22, Villefranche-Sur-Mer, France.
10. J.H. Paul and S.C. Jiang. 1992. Viruses and dissolved DNA in subtropical estuarine and coastal marine environments. American Society for Limnology and Oceanography Special Session on Viruses and Virus-Affected Processes, February 9-14, Sante Fe, NM
11. J.H. Paul and S.L. Pichard. 1992. The measurement of microbial gene expression in the marine environment. Ohio State University, March 12, Columbus OH.
12. J.H. Paul, J.M. Thurmond, M.E. Frischer, and J.P. Cannon. 1992. Intergeneric plasmid transformation between *E. coli* and a marine *Vibrio* species. McGill University, Montreal, Canada, April 1.
13. J.H. Paul and S.L. Pichard. 1992. Detection of gene expression in aquatic microbial communities. University of Quebec at Montreal, April 2, Montreal, Canada.
14. J.H. Paul. 1992. Natural transformation in the marine environment. Roundtable on Gene Transfer in the Environment. Society for Industrial Microbiology Annual Meeting, San Diego, August 9-11.
15. J.H. Paul. 1992. Nucleic Acids in the Marine Environment: mRNA and dissolved DNA. Special Session on Nucleic Acids in the Environment. 92nd General Meeting of the American Society for Microbiology, New Orleans, LA. May 26-30.
16. J.H. Paul. 1992. Genetic significance of viruses. Workshop on Aquatic Viral Technology. 92nd General Meeting of the American Society for Microbiology, New Orleans, LA. May 26-30.
17. J.H. Paul. 1992. Plasmids and DNA in seawater: detection and transformation. Workshop on Plasmids in the Environment. 92nd General Meeting of the American Society for Microbiology, New Orleans, LA. May 26-30.

18. J.H. Paul. 1992. Genes in the Sea: mRNA, dissolved DNA, and viruses. University of the Virgin Islands, St. Thomas. June 29.
19. J.H. Paul. 1992. Genes in the Sea: mRNA, dissolved DNA, and viruses. University of Rhode Island, September 14, 1992.
20. J.H. Paul. 1992. Natural plasmid transformation in the marine environment. University of Rhode Island, September 14, 1992.
21. J.H. Paul. 1993. Viruses and dissolved DNA in the marine environment. University of Miami Rosenstiel School of Marine and Atmospheric Science. May 5, 1993
22. J.H. Paul. 1994. Microbial gene expression in the marine environment: Who, what, where, and so what? University of North Carolina, Greensboro, NC Feb 2, 1994.
23. J.H. Paul. 1994. Viruses and DNA in the Marine environment. International Symposium on Microbial Diversity in Time and Space. International Committee on Microbial Ecology. Tokyo University, Tokyo, Japan, October 25, 1994.
24. J.H. Paul. 1995. Carbon cycling: Molecular regulation and biodiversity of ribulose biphosphate carboxylase in the marine environment. Workshop "Microbial Diversity and Cycling of Bioelements". October 26, Tokyo, Japan
25. J.H. Paul. 1994. C-cycling: Rubisco studies. 94th General Meeting of the American Society for Microbiology, Las Vegas, Nevada. May 23-27.
26. J.H. Paul. 1995. Evidence for contamination of groundwater and surface waters by waste disposal practices in Key Largo. Florida Environmental Health Association Meeting, Cocoa Beach, FL, May 11.
27. J.H. Paul and J.B. Rose. 1995. Waste disposal in Key Largo. Florida DEP, Tallahassee, August 29.
28. J.H. Paul and S.L. Pichard. 1995. Molecular approaches to studying natural communities of autotrophs. Microbial C1 Metabolism Meeting, San Diego, CA.
29. J.H. Paul. 1995. Waste disposal in the Florida Keys. Florida Keys National Marine Sanctuary and USEPA Water Quality Protection Plan Steering Committee. Sept. 12, Hawks Cay, FL
30. J.H. Paul. 1995. Molecular regulation of photosynthetic carbon fixation in the oceans. Sigma Xi Lecture, November 8, Eckerd College, St. Petersburg, FL.
31. J.H. Paul. 1996.: Molecular regulation of carbon fixation in the oceans. Oct 11, University of Montana, Bozeman
32. J.H. Paul. 1997. Lysogeny and transduction in the marine environment. USF Biology Department October 10, Tampa, Florida
33. J.H. Paul. 1997. Lysogeny and transduction in the marine environment. University of Southern California, November 11, Los Angeles
34. J.H. Paul. 1998. Methods for RNA extraction from aquatic microorganisms. Akzo-Nobel/Organon-Teknika Seminar, 1/30/98, Den Boesch, Netherlands

35. J.H. Paul, J.B. Rose, D. Griffin, C.A. Kellogg, M.R. McLaughlin, P.K. Cochran. 1998. Movement of wastewater in groundwater and surface marine waters in the Florida Keys: Effect of wind and heavy rainfall. Ocean Sciences Meeting, San Diego, California
36. J.H. Paul. 1998. RuBisCo gene expression in the marine environment-who, what, where, and so what? Gordon Research Conference on the Molecular Basis of Microbial One-Carbon metabolism. Henniker, NH.
37. J.H. Paul. 1998. Lysogeny and transduction in the marine environment. International Society for Microbial Ecology, Halifax, NS.
38. J.H. Paul. 1998. Technologies for Discovery. Marine Biotechnology Workshop, BIO+Florida Annual Meeting, Bal Harbor, Florida, 9/10/98.
39. J. H. Paul. 1998. Issues of coastal ground water discharge. 1998-1999 Florida Sea Grant Extension Program Planning Meeting, Gainesville, FL 10/20/98.
40. J.H. Paul. 1999. Paradox of the Plankton: Diversity of *rbcL* genes. Gordon Research Conference on Applied Environmental Microbiology, Connecticut College, New London, CT.
41. J.H. Paul. 1999. DOE BI-OMP Workshop – Molecular regulation of photosynthetic carbon fixation in coastal microorganisms. ASLO Meeting, Sante Fe, NM. 2/1-5, 1999
41. J.H. Paul. 1999. Diversity and expression of phytoplankton Rubisco Genes. 99th General Meeting of the American Society for Microbiology.-Chicago, IL.
42. J.H. Paul. 2001. Microbial Gene Transfer: An Ecogenomic Perspective. ASM/TIGR Conference on Microbial Genomes, January 28-31, 2001
43. J.H. Paul. 2001. Microbial gene transfer: an ecological perspective. 101st General Meeting of the American Society for Microbiology, Orlando, FL May 20-24. Abs 274/O.
44. J.H. Paul. 2001. Phage in the environment. 101st General Meeting of the American Society for Microbiology, Orlando, FL May 20-24. Abs 113/M/
45. Paul, JH. 2001. Marine Genomics. SEB American Society for Microbiology, Birmingham, AL Nov 9th
46. Paul, J.H. 2002. Marine Viromics: A genomic analysis of Vibriophage 16. ASLO Ocean Sciences Meeting, Honolulu, Hawaii, 11-15 February 2002. AbsOS11I-03.
47. Paul, J.H. and B. Wawrik. 2002. From mRNA to satellites: A view of the Mississippi River Plume in the Gulf of Mexico. ASLO Ocean Sciences Meeting, Honolulu, Hawaii, 11-15 February 2002. AbsOS22I-04.
48. B.Wawrik, J. Paul, and M. Gray. 2002. *ntcA* mRNA levels as an indicator of picocyanobacterial nitrogen status in the Gulf of Mexico. ASLO Ocean Sciences Meeting, Honolulu, Hawaii, 11-15 February 2002. AbsOS41H-08.
49. J. H.Paul and D. Fries. 2002. An Autonomous Microbial Genosensor. ONR Joint Review of Technology Applicable to Mine Countermeasures and Associated Missions. Panama City, April 6-7
50. J.H. Paul. 2002. Single target detection technologies. Ecogenomic Workshop, May 9-11, Kansas City, MO.
51. J.H. Paul. 2002. Viruses in the Marine Environment: Who, what, where, when and so what? Medical University of South Carolina, March 19, Charleston, SC.
52. J. Paul 2003. Application of NASBA to the design of an Autonomous Microbial genosensor. The Next generation of in situ biological and chemical sensors in the ocean. July 13-15, Woods Hole, MA Oral Presentation.
53. J. Paul. 2003. Marine Microbial Biocomplexity: Viromics and an Autonomous Microbial Genosensor. Biocomplexity in the environment awardees meeting, Arlington, Virginia, September 15-17
54. J.H. Paul. 2003. Phages in the Surf-Why be Temperate? 103rd General Meeting of the American Society for Microbiology, Session 316N, May 18-22, Washington, DC
55. J.H. Paul. 2004. Sequences and sensors in the seas. 104th General Meeting of the American Society for Microbiology, Session 321R, May 23-27, New Orleans, LA.
56. J.H. Paul and D. Fries. 2004. Sensors in the Seas. Florida Tech Transfer Meeting, May 18, St. Petersburg, FL

57. J.H. Paul. 2004. Sequences and Sensors in the Seas. Colgate University Seminar, October 8, Hamilton, NY.
58. J.H. Paul. 2004. Sensors in the Seas. Marine Biotechnology Summit IV, October 18, Boca Raton, FL
59. J.H. Paul. 2004. Sequences and Sensors in the Seas. Monterey Bay Aquarium Seminar, November 10, Moss Landing, CA
60. J.H. Paul. 2005. Genetic Sensors in the Seas. Alliance for Coastal Technology Workshop, January 5-7, St. Petersburg, FL.
61. J.H. Paul. 2005. From Satellites to Genomes: Significance of Oceanic River Plumes. National Council for Science in the Environment Meeting on Forecasting Environmental Change. February 3-5, Washington, DC
62. J.H. Paul. 2005. From Gene Expression to Ecological Processes-the *rbcL* story. ASLO Ocean Science Meeting, February 21, Salt Lake City, UT
63. J.H. Paul. 2005. Genetic Sensors in the Seas. NOPP Workshop on Monitoring and Measuring the Ocean Genome. March 7-8, Washington, DC
64. J.H. Paul. 2005. Introduction-Ecology of Aquatic Viruses. Applied and Environmental Microbiology Gordon Conference, July 25-29, New London, CT.
65. J.H. Paul. 2005. Multichannel Handheld Sensor for Microbial Contaminants. CICEET New Investigator Workshop, September 7, Durham, NH.
66. J.H. Paul. 2005. Protecting Human Health in the coastal zone-the Method to our Madness. Oceans and Human Health Seminar, September 16, RSMAS, University of Miami, FL
67. J.H. Paul. 2005. Protecting Human Health in the coastal zone-the Method to our Madness. Keynote address, American Society for Microbiology, SEB Meeting, October 28, St. Pete Beach
68. J.H. Paul. 2005. The ecology and genomics of two marine vibriophages. Vibrio2005, November 6-8, Ghent, Belgium
69. J.H. Paul. 2006. Molecular Detection of Red Tides in the Coastal Zone. Florida Coastal Ocean Observing Systems Caucus Meeting 5. Mote Marine Lab, April 3, 2006.
70. J.H. Paul. 2006. Prophages-Dangerous molecular time bombs or the key to bacterial survival in the oceans? Practical workshop on virus ecology methods. Marine Biological Association of the United Kingdom, July 23-28, Plymouth, UK.
71. J.H. Paul. 2006. Handheld and autonomous sensors for microbial detection in the oceans. Seminar at Plymouth Marine Lab, July 28th, Plymouth, UK.
72. J.H. Paul, J. Mobberley, and K.M. Scott. 2007. A prophage in the hydrothermal vent obligate chemoautotroph *Thiomicrospira crunigena*. ASLO 2007 Ocean Sciences Meeting, Feb 4-9, Santa Fe, NM
73. J.H. Paul, 2007. Handheld and autonomous microbial sensors: The method to our madness. [Environmental Research Interdisciplinary Colloquium \(ERIC\)](#) Lecture, USF College of Public Health, April 25th
74. J.H. Paul. 2007. Development of sensors for the molecular detection of red tide blooms. Coastal Zone 07, July, Portland, OR
75. J.H. Paul. 2008. Ocean Carbon and Biogeochemistry Breakout. Scoping Workshop on Terrestrial and Coastal Carbon Fluxes in the Gulf of Mexico. May 6-8, St Petersburg, FL
76. J.H. Paul. 2008. Life in the Seas. College of Marine Science Research Priorities and Collaboration Workshop. May 29, St Petersburg, FL
77. J.H. Paul. 2009. Nice viruses don't lyse their hosts. A tutorial on lysogeny in the marine environment. ASLO Ocean Sciences Meeting, Jan 25-30, Nice, France
78. J.H. Paul. 2009. Evolution of a Biobuoy. Loyola University, March 17, New Orleans
79. J.H. Paul. 2009. Evolution of a Biobuoy. University of New England, April 24, Biddeford, ME
80. J.H. Paul. 2009. Lysogeny in the Oceans or 15 years of Mitomycin C and I still have one head. Division N Lecture, American Society for Microbiology General Meeting, May 19, Philadelphia, PA
81. J.H. Paul. 2009. Technology for Microbial Detection in the Sea. October 23. Sensomare Workshop, Stavanger, Norway
82. J.H. Paul. 2009. Dangerous Molecular Time Bombs and Genetic Escape Pods-A Tale of Lysogeny in the Oceans. University of Southern California Seminar. Nov 10th, Los Angeles
83. J.H. Paul. 2010. Microbiological Targets for Ocean Observing Laboratories (Micro-TOOLS) 2010 Workshop. Gordon and Betty Moore Foundation, January 13-15. Palo Alto California
84. J.H. Paul. 2010. Molecular approaches for Assessing Community Composition and Ecosystem Structure on the Bulk Level. Workshop on Individual Cell and Particle Analysis in Oceanography, 20 Years Later. June 15-17, Bowdoin College, Brunswick, ME

85. J.H. Paul 2011. Microbial Toxicity and Mutagenicity of Waters Near the Deepwater Horizon Oil Spill . Ramapo College Spill Effects Workshop. April 18th, Mawhah, NJ
86. J.H. Paul et al. 2011. Microbial Toxicity and Mutagenicity of Waters Near the Deepwater Horizon Oil Spill. Deepwater Horizon Oil Spill Principal Investigator 1-year Update Workshop. St. Petersburg, FL October 25-26
87. J H Paul, Lauren McDaniel, Elizabeth Young, Kim Ritchie and Koty Sharp. 2011. GTAs: Defective Prophages Capable of Delivering Gene Therapy to the Coral Reefs. Aquatic Viral Workshop 6, 30October to 3 November, Texel, NL
88. J.H. Paul. 2011. Overview of existing and anticipated Marine Microbial Observing Tools, Methodologies, Instrumentation and approaches. Marine Microbes and NOAA. Scoping Science, Applications, and Observing Needs and Opportunities. Charleston, S.C. Nov 20-Dec. 1.
89. J.H. Paul. 2012. Probing Ocean River Plumes by Gene Expression Analysis. Oregon Health Sciences University, Portland OR Jan 13
90. J.H. Paul. 2012. Genetic Escape Pods or Promiscuous Little B\$&@tards-GTAs in the Oceans. MIT Microbial Systems Seminar Series. Cambridge, MA May 15, 2012.
91. J.H. Paul. 2012. Grouper Forensics. Gulf Fisheries Symposium. St. Pete Beach. Sept. 13-15.
92. Paul, J.H. "Grouper Forensics." Invited Speaker, Florida Sea Grant Coastal Science Symposium. Gainesville, FL, October 2012
93. Paul, J.H. 2013. Toxicity of waters contaminated by the Deepwater Horizon Oil Spill: Then and now. Gulf of Mexico Oil Spill & Ecosystem Science Conference. January 21-23, New Orleans, LA
94. John H Paul 2015. PureMolecular LLC. USF Seed Corporate Accelerator Program. USF Tampa
95. John H Paul. 2015. If you like grouper...Million Cups of Coffee Presentation, St Petersburg Greenhouse
96. John H Paul. 2016. PureMolecular, St. Petersburg Downtown Partnership Tech Fund Presentation
97. Paul, J.H. 2016. Seafood forensics. Exchange club talk, May 30
98. John H Paul. 2016. Back to School: Seafood forensics. USF Trustees Luncheon 10/21/2016
99. Paul, J.H. 2017. Seafood safety. Consortium for Ocean Leadership, March 8, 2017. Washington, DC,
100. Paul, J.H. 2017. Detection and Monitoring of HABs by Handheld Genetic Sensors (eg. "Tricorders"). SeaGrant Workshop "Red Tide Stinks", South Florida Museum, Bradenton, 11/7/2017
101. Paul, J.H. 2017. Implementing the *Karenia* tricorder to improve Red Tide monitoring and management in the Gulf of Mexico. NOAA Emerging Technologies for Observations Workshop August 22-23, College Park, MD.
102. Paul, J.H., K. Hubbard, A. Hoeglund, D. Niewkerk. 2017. The *Karenia* Tricorder. Gulf of Mexico Alliance Tools Café, March 28, Houston, TX
- 103.

Abstracts

1. J.H. Paul and K.E. Cooksey. 1978. Asparaginase activity in a euryhaline *Chlamydomonas* species. American Society for Microbiology, Florida Division. October 23, Florida Technological University, Orlando, FL
2. J.H. Paul and K.E. Cooksey. 1979. Asparagine metabolism and asparaginase activity in a *Chlamydomonas* species. Florida Student Symposium, April 26 - 28, University of Miami, Miami, FL
3. J.H. Paul and K.E. Cooksey. 1979. Asparagine metabolism and asparaginase activity in a *Chlamydomonas* species. Annual Meeting of the American Society for Microbiology, May 8 - 11, Honolulu, HI
4. J.H. Paul and K.E. Cooksey. 1980. L-Asparaginase from a *Chlamydomonas* species: A unique source of L-asparaginase. Third Annual Seminar of Cancer Researchers in Florida. February 9, University of South Florida, Tampa, FL

5. J.H. Paul and K.E. Cooksey. 1980. L-Asparaginase in a Chlamydomonas species: Regulation and partial purification. Annual Meeting of the American Society for Microbiology, May 11 - 16, Miami Beach, FL
6. B. Cooksey, K.E. Cooksey, C.A. Miller, and J.H. Paul. 1980. Attachment of diatoms to surfaces: Field and laboratory studies. September, University of Reading, England
7. J.H. Paul and K.E. Cooksey. 1981. Regulation, purification, and characterization of a Chlamydomonas L-Asparaginase. Annual Meeting of the Society for Plant Physiology. June 15 - 18, Laval University, Quebec, Canada
8. J.H. Paul and G.I. Loeb. 1981. The use of Hoechst 33258 for the enumeration of bacteria in aquatic environments. American Society for Limnology and Oceanography, June 15 - 18, Milwaukee, WI
9. J.H. Paul. 1982. The fluorometric determination of DNA in aquatic microorganisms. CNRS International Colloquium of Marine Bacteriology, May 17 - 19, Marseille, France
10. J.H. Paul and D.J. Carlson. 1983. The size distribution of microbial DNA in aquatic environments. Annual Meeting of the American Society for Microbiology, March 7 - 12, New Orleans, LA
11. J.H. Paul and W.H. Jeffrey. 1984. Use of photon correlation spectroscopy for sizing bacterial isolates and particulates in seawater. American Geophysical Union/American Society for Limnology and Oceanography Ocean Sciences Meeting. January 23 - 27, New Orleans, LA. Abst. 42A-05.
12. W.H. Jeffrey and J.H. Paul. 1984. Thymidine incorporation as a measure of the activity of a marine Vibrio attached to polystyrene. American Geophysical Union/American Society for Limnology and Oceanography Ocean Sciences Meeting. January 23 - 27, New Orleans, LA. Abst. 51E-07.
13. J.H. Paul and W.H. Jeffrey. 1984. Evidence for separate adhesion mechanisms for hydrophilic and hydrophobic substrata in Vibrio proteolytica. American Society for Microbiology Southeastern Branch Annual Meeting. October 25-27.
14. J.H. Paul, W.H. Jeffrey, and M. DeFlaun. 1984. Significance of bacterioplankton in oceanic DNA measurements. American Society for Microbiology Southeastern Branch Annual Meeting. October 25-27.
15. M. DeFlaun, J.H. Paul, D. Davis, and W.H. Jeffrey. 1984. Dissolved DNA in the marine environment: a preliminary study. American Society for Microbiology Southeastern Branch Annual Meeting. October 25-27.
16. W.H. Jeffrey and J.H. Paul. 1984. The use of ³H-thymidine incorporation for measuring the activity of attached and free-living marine bacteria. American Society for Microbiology Southeastern Branch Annual Meeting. October 25-27.
17. J.H. Paul, W.H. Jeffrey, and M. DeFlaun. Date. Significance of bacterioplankton in oceanic DNA measurements. 85th Annual Meeting, American Society for Microbiology, Las Vegas, NV. Abst. N66.
18. M.F. DeFlaun, J.H. Paul, W.H. Jeffrey, and D. Davis. 1985. Dissolved DNA in the marine environment: A preliminary study. 85th Annual Meeting, American Society for Microbiology, Las Vegas, NV. Abst. N67.
19. W.H. Jeffrey and J.H. Paul. 1985. The activity of marine microfouling bacteria as determined by [³H]thymidine incorporation, INT-reduction and ATP/DNA ratios. Annual Meeting of the Florida Branch, ASM, December 6-7, Orlando, FL
20. M.F. DeFlaun, J.H. Paul, and W.H. Jeffrey. 1985. The distribution of dissolved DNA in aquatic

- environments. Annual meeting of the Florida Branch, ASM. December 6 - 7, Orlando, FL. Abst. N72
21. J.H. Paul, M.F. DeFlaun, W.H. Jeffrey and D. Davis. 1986. The dynamics of dissolved DNA in aquatic environments. AGU-ASLO Ocean Sciences Meeting, January 13-17, New Orleans, LA. Abst 51D-01.
 22. J.H. Paul, M.F. DeFlaun, and W.H. Jeffrey. 1986. Dissolved DNA in estuarine environments: Rate of turnover and possible sources. Annual Meeting of the American Society for Microbiology. March 23-28, Washington, DC. Abst. Q98.
 23. W.H. Jeffrey and J.H. Paul. 1986. Use of thymidylate synthetase inhibitor to block de novo synthesis during [³H]thymidine incorporation in estuarine waters. Annual Meeting of the American Society for Microbiology. March 23-28, Washington, DC
 24. M.F. DeFlaun, J.H. Paul, and W.H. Jeffrey. 1986. Dissolved DNA in the coral reef environment: Relation to bacterial biomass and activity parameters. Annual meeting of the American Society for Microbiology. March 23-28, Washington, DC. Abst. Q145.
 25. J.H. Paul. 1987. The uptake and release of bacterial DNA in aquatic environments. Annual Meeting of the American Society for Microbiology. March 1-6, Atlanta, GA
 26. M.F. DeFlaun and J.H. Paul. 1987. Molecular characterization of dissolved DNA in marine environments. Annual Meeting of the American Society for Microbiology. March 1-6, Atlanta, GA
 27. W.H. Jeffrey and J.H. Paul. 1987. Factors affecting non-specific macromolecular labeling by ³H-thymidine in marine bacteria. Annual Meeting of the American Society for Microbiology. March 1-6, Atlanta, GA
 28. J.H. Paul and M.F. DeFlaun. 1988. Applications of molecular probing to the study of dissolved and particulate DNA in freshwater and estuarine environments. AGU-ASLO Ocean Sciences Meeting, New Orleans, LA, Abst. 22A-02.
 29. W.H. Jeffrey, J.H. Paul, and G.J. Stewart. 1988. Evidence for bacterial transformation in marine and freshwater environments. AGU-ASLO Ocean Sciences Meeting, New Orleans, LA, Abst 22A-03.
 30. M.F. DeFlaun and J.H. Paul. 1988. Detection and stability of extracellular DNA in aquatic environments. 88th Annual Meeting of the American Society for Microbiology, Miami, FL. Abst. Q2.
 31. A.W. David and J.H. Paul. 1988. Production of extracellular DNA by genetically engineered microorganisms in aquatic environments. 88th Annual Meeting of the American Society for Microbiology, Miami, FL, Abst. N21.
 32. J.H. Paul, W.H. Jeffrey, and M.F. DeFlaun. 1988. Cycling of extracellular DNA in the rivers of southwest Florida. 88th Annual Meeting of the American Society for Microbiology, Miami, FL, Abst. N80.
 33. W.H. Jeffrey and J.H. Paul. 1988. A direct comparison of [³H]thymidine incorporation with DNA synthesis in aquatic environments. 88th Annual Meeting of the American Society for Microbiology, Miami, FL, Abst. N79.
 34. W.H. Jeffrey and J.H. Paul. 1989. Natural plasmid transformation of *Vibrio parahaemolyticus* in estuarine sediment microcosms. 89th Annual Meeting of the American Society for Microbiology, New Orleans, LA, Abst. N7.
 35. W.H. Jeffrey and J.H. Paul. 1989. Thymidine kinase activity, thymidine transport and incorporation into DNA in marine bacteria. 89th Annual Meeting of the American Society for Microbiology, New Orleans, LA, Abst. N8.

36. J.H. Paul, L.H. Cazares, and M.E. Frischer. 1989. Characterization of nucleic acids from aquatic environments by probing with the Ribulose Bisphosphate carboxylase gene from *Synechococci* (*Anacystis nidulans*). 89th Annual Meeting of the American Society for Microbiology, New Orleans, LA, Abst. N115.
37. W.H. Jeffrey and J.H. Paul 1990. Correlation of non-specific labeling with environmental parameters during ³H thymidine incorporation in the water of southwest Florida. ASLO-AGU 1990 Ocean Sciences Meeting, New Orleans, LA, Abst. OS-226-3.
38. J.H. Paul, L.H. Cazares, and J.M. Thurmond. 1990. Amplification of the *rbcL* gene in dissolved and particulate DNA from a Florida reservoir. ASLO-AGU Ocean Sciences meeting, New Orleans, LA, Abst. OS-221-8.
39. M.E. Frischer and J.H. Paul. 1990. Natural transformation in *Vibrio* strain DI-9 and a high frequency-of-transformation variant. 90th Annual Meeting of the American Society for Microbiology, Anaheim, CA, Abst. H-21.
40. J.H. Paul and J.M. Thurmond. 1990. Natural plasmid transformation of aquatic bacteria with *xylE*-containing plasmids. 90th Annual Meeting of the American Society for Microbiology, Anaheim, CA, Abst. Q-190.
41. J.H. Paul, S.C. Jiang, and J.B. Rose. 1991. Direct enumeration of viruses in Tampa Bay and surrounding waters. BASIS 2, Tampa, FL, Feb 27.
42. S.C. Jiang, J.M. Thurmond, and J.H. Paul. 1991. The abundance of viruses and viral DNA contribution to dissolved DNA in seawater. 91st General Meeting of the American Society for Microbiology, Dallas, Texas. Abst. N-47.
43. J.H. Paul, J.M. Thurmond, M.E. Frischer, and J.P. Cannon. 1991. Intra- and intergeneric natural plasmid transformation in marine microcosms. 91st General Meeting of the American Society for Microbiology, Dallas, Texas. Abst. Q-129.
44. S. Pichard and J.H. Paul. 1991. Detection of microbial gene expression in the marine environment. 91st General Meeting of the American Society for Microbiology, Dallas, Texas. Abst. Q-130.
45. J.H. Paul and S.L. Pichard. 1992. Gene expression in marine microbial populations by mRNA analysis. American Society for Limnology and Oceanography Aquatic Sciences Meeting, Feb. 9-14, Sante Fe, NM
46. S.C. Jiang and J.H. Paul. 1992. Viruses in marine environments: Seasonal abundance and contribution to dissolved DNA. 92nd General Meeting of the American Society for Microbiology, New Orleans, LA. May 26-30. Abst. Q160.
47. S.L. Pichard, M.E. Frischer, and J.H. Paul. 1992. mRNA analysis of rubisco gene expression and carbon fixation in natural marine phytoplankton populations. 92nd General Meeting of the American Society for Microbiology, New Orleans, LA. May 26-30. Abst. Q170
48. M.E. Frischer, J.M. Thurmond, and J.H. Paul. 1992. Natural plasmid transformation in a high-frequency of transformation marine *Vibrio*: variables affecting competency. 92nd General Meeting of the American Society for Microbiology, New Orleans, LA. May 26-30. Abst. Q330.
49. M.E. Frischer and J.H. Paul. 1993. Gene transfer to indigenous marine bacterial populations by natural transformation. 93rd. General Meeting of the American Society for Microbiology, Atlanta, GA, abst. H10
50. S. Jiang and J. Paul. 1993. Dissolved DNA and viruses in the marine environment: diel variation and characterization by differential centrifugation. 93rd. General Meeting of the American Society for

Microbiology, Atlanta, GA, abst. N13

51. C.A. Kellogg, J.H. Paul, J.B. Rose, and J.M. Thurmond. 1993. Genetic Relatedness in geographically diverse marine bacteriophage. 93rd. General Meeting of the American Society for Microbiology, Atlanta, GA, abst. N14
52. S.L. Pichard and J.H. Paul. 1993. Amplification of *rbcL* mRNA from marine phytoplankton populations. 93rd. General Meeting of the American Society for Microbiology, Atlanta, GA, abst. N17
53. C.A. Kellogg, J.H. Paul, and D.B. Lane. 1994. Molecular ecology of vibriophage in the Southeastern Gulf of Mexico and Florida Keys. 1994 Ocean Sciences Meeting, AGU/ASLO, Sand Diego, CA abst. 012L-01
54. S.L. Pichard and J.H. Paul. 1994. Diel variation in Rubisco mRNA levels in open ocean phytoplankton communities: Evidence for transcriptional regulation in carbon fixation. 1994 Ocean Sciences Meeting, AGU/ASLO, Sand Diego, CA abst. 012L-11
55. X. Zhou, K. Reynolds, J. Paul, and J. Rose. 1994. Using polymerase chain reaction to detect coliphage in water samples. 94th General Meeting of the American Society for Microbiology, Las Vegas, Nevada. May 23-27.
56. C.A. Kellogg, J.H. Paul, and J.B. Rose. 1994. Genetic relatedness of marine Vibriophages from Hawaii and the Gulf of Mexico. 94th General Meeting of the American Society for Microbiology, Las Vegas, Nevada. May 23-27.
57. M.E. Frischer, H.G. Williams, and J.H. Paul. 1994. Plasmid modification by indigenous marine bacteria during natural transformation. 94th General Meeting of the American Society for Microbiology, Las Vegas, Nevada. May 23-27.
58. Jiang, S.C. and J.H. Paul. 1994. Isolation and characterization of temperate phage-host systems from the marine environment. 94th General Meeting of the American Society for Microbiology, Las Vegas, Nevada. May 23-27.
59. H.G. Williams, M.E. Frischer, and J.H. Paul. 1994. Plasmid transfer by natural transformation in the marine environment. 94th General Meeting of the American Society for Microbiology, Las Vegas, Nevada. May 23-27.
60. J. Brown, C.A. Kellogg, D.B. Lane and J.H. Paul. 1995. Phylogenetic Sequence analysis of geographically diverse marine vibriophages. 95th General Meeting of the American Society for Microbiology, Washington, DC. Abst. N108
61. Jiang, S.C. and J.H. Paul. 1995. Induction of indigenous lysogenic bacteria in the marine environment. 95th General Meeting of the American Society for Microbiology, Washington, DC. Abst. N109
62. S. Pichard, J. Brown, and J. Paul. 1995. Rubisco gene expression in marine phytoplankton communities: a taxonomic perspective. 95th General Meeting of the American Society for Microbiology, Washington, DC. Abst. N125
63. Paul, J.H., J.B. Rose, S.C. Jiang, and C.A. Kellogg. 1995. Microbiological evidence for impact of waste disposal practices on the marine environment in Key Largo. 95th General Meeting of the American Society for Microbiology, Washington, DC. Abst. Q299
64. S.C. Jiang, P.K. Cochran, and J.H. Paul. Lysogeny and transduction in the marine environment: Seasonal and genetic aspects. 96th General Meeting of the American Society for Microbiology, New Orleans, La. May 19-23, 1996. Abst. N9

65. Pichard, S.L., J.A. Brown, and J.H. Paul. Transcriptional regulation of photosynthetic CO₂ fixation in oceanic phytoplankton. 96th General Meeting of the American Society for Microbiology, New Orleans, La. May 19-23, 1996. Ab. N10
66. J.L. Siefert, L.K. Nakamura, R.A. Slepecky, E.R.B. Moore, J.H. Paul, P. Jurtshuk, Jr., and G.E. Fox. Preliminary species assignment for marine *Bacillus* isolates from the Gulf of Mexico. 96th General Meeting of the American Society for Microbiology, New Orleans, La. May 19-23, 1996. Abst. R19
67. J.H. Paul, J.B. Rose, S.C. Jiang, and C.A. Kellogg. Sewage in Paradise: Mamala Bay, Hawaii. Abs. Ocean Science Meeting of the American Geophysics Union/American Society for Limnology and Oceanography, Feb 12-16, 1996, San Diego Os11H-3
68. J.H. Paul, J.B. Rose, S.C. Jiang, C.A. Kellogg. Sewage in Paradise: Key Largo, Paradise lost. Science Meeting of the American Geophysics Union/American Society for Limnology and Oceanography, Feb 12-16, 1996, San Diego
69. Paul, J.H. 1997. Rubisco gene expression and activity in the phytoplankton in the mid Atlantic bight. Aquatic Sciences Meeting, American Society of Limnology and Oceanography, Santa Fe, NM, Feb 10-14.
70. Paul, J.H. 1997. Injection wells as a potential source of surface water nitrification in the Florida Keys. Aquatic Sciences Meeting, American Society of Limnology and Oceanography, Santa Fe, NM, Feb 10-14.
71. Paul, J.H. 1997. Coliphage and indigenous phage in Mamala Bay. 97th General Meeting of the American Society for Microbiology, Miami Beach, May 4-8, 1997
72. Cochran, P.K., and J.H. Paul. 1997. Prophage induction in natural populations of marine lysogenic bacteria by PCB. General Meeting of the American Society for Microbiology, Miami Beach, May 4-8, 1997
73. Kellogg, C.A., P.K. Cochran, and J.H. Paul. 1997. A seasonal study of genetic variability in a population of marine vibriophages. 97th General Meeting of the American Society for Microbiology, Miami Beach, May 4-8, 1997
74. Paul, J.H., J.B. Rose, D. Griffin, C.A. Kellogg, M.R. McLaughlin, and P.K. Cochran. 1998. Movement of wastewater in groundwater and surface marine waters in the Florida Keys: Effect of wind and heavy rainfall. ASLO/AGU Ocean Sciences Meeting, San Diego, February 9-14, Abs. OS22K-10
75. J.H. Paul, S.L. Pichard, J.B. Kang, and A. Alfrieder. 1998. Analysis of RuBisCO gene expression and diversity in marine phytoplankton. ASLO/AGU Ocean Sciences Meeting, San Diego, February 9-14, Abs. OS31M-5
76. McLaughlin, M.R. and J.H. Paul. 1998. Evidence for pseudolysogeny in a marine phage host system. 98th General Meeting of the American Society for Microbiology. Atlanta, GA Abs N-129
77. Alfrieder, A., Paul, J.H., Genetic Diversity of Ribulose-1.5 Bisphosphate Carboxylase/Oxygenase in Marine Phytoplankton Investigated by Denaturing Gradient Gel Electrophoresis of PCR-Amplified Gene Fragments. ASLO Meeting, Sante Fe, NM. 2/1-5, 1999
78. Paul, J.H., Ewert, M., Wawrik, B., Stokes, R. Novel RNA Technology for Microbial Detection in Aquatic Environments. ASLO Meeting, Sante Fe, NM. 2/1-5, 1999
78. Paul, J.H., D.W. Griffin, J. Crespo-Gomez, L. McDaniel, and M.R. McLaughlin. 2000. Evaluation of marine bacterial lysogens for use in a mutagen detection (Prophage induction) assay. 100th General meeting

- of the American Society for Microbiology, Los Angeles, CA. Abs. N-58.
79. S.J. Williamson-Smith, M.R. McLaughlin, J.H. Paul. 2000. Interaction of a marine virus with its host: Lysogeny or pseudolysogeny? 100th General meeting of the American Society for Microbiology, Los Angeles, CA. Abs. N-59.
 80. B. Wawrik, J.H. Paul, L. Houchin, D. Griffin, and A. Fuentes-Ortega. 2000. rbcL Expression in a low-salinity plume feature in the Gulf of Mexico. 100th General meeting of the American Society for Microbiology, Los Angeles, CA. Abs. N-73.
 81. L. Houchin, D. Griffin, and J. Paul. 2000. Exploring lytic and temperate viruses of *Gymnodinium breve* as a mechanism of controlling red tide blooms. American Society of Limnology and Oceanography, Aquatic Sciences Meeting, Copenhagen, DK, abs. Cs16-13.
 82. S. Williamson-Smith, L. Houchin, L. McDaniel, and H.H. Paul. 2000. Ability to detect seasonal prophage induction through viral reduction of Tampa Bay, Florida marine samples. American Society of Limnology and Oceanography, Aquatic Sciences Meeting, Copenhagen, DK, abs. CS25-19
 83. J. Paul, D. Griffin. 2000. Molecular detection of enteroviruses in coastal and ground waters. American Society of Limnology and Oceanography, Aquatic Sciences Meeting, Copenhagen, DK, abs. CS 02-05
 84. B. Wawrik and J. Paul. 2000. rbcL gene expression and molecular diversity of phytoplankton communities in coastal high chlorophyll plumes in the Gulf of Mexico. American Society of Limnology and Oceanography, Aquatic Sciences Meeting, Copenhagen, DK, abs. SS08-23P
 85. S.J. Williamson, L. Houchin, L. McDaniel, and J.H. Paul. 2001 Seasonal variation in lysogeny as depicted by prophage induction in Tampa Bay, FL. 101st General Meeting of the American Society for Microbiology, Orlando, FL May 20-24. Abs N-25
 86. B. Wawrik and J.H. Paul. 2001. Diatom rbcL (ribulose biphosphate carboxylase large subunit) gene expression by real time PCR. 101st General Meeting of the American Society for Microbiology, Orlando, FL May 20-24. Abs Q147
 87. K. Donaldsen, D. Griffin, and J.H. Paul. 2001. Detection, quantitation, and identification of human enteroviruses in Florida surface waters by Real Time PCR. 101st General Meeting of the American Society for Microbiology, Orlando, FL May 20-24. Abs Q296.
 88. M.A. Gray, J.H. Paul. 2001. Rapid characterization of enteroviruses using denaturing gradient gel electrophoresis (DGGE). 101st General Meeting of the American Society for Microbiology, Orlando, FL May 20-24. Abs R-7.
 89. Wawrik, B., J.H. Paul, and L. Campbell. 2001. Sequence analysis of transcriptionally-active carbon fixation genes indicates near-surface and sub-surface clades of *Prochlorococcus* in the Gulf of Mexico. ASLO 2001 Meeting, Albuquerque, New Mexico, Feb. 12-16. Aquatic Sciences
 90. Paul, J.H., L. Houchin, D. Griffin, and William Richardson. 2002. Filterable lytic agents that cause lysis of *Karenia brevis* are commonly found in red tide blooms in the Gulf of Mexico. Xth International Conference on Harmful Algae, 21-25 October, St. Pete Beach, FL
 91. Gray, M.A., J.H. Paul, L.A. Houchin, and B. Wawrik. 2002. Development of detection strategies for *Karenia brevis* based upon amplification of the ribulose-1,5-bisphosphate carboxylase/oxygenase large subunit (rbcL) gene. Xth International Conference on Harmful Algae, 21-25 October, St. Pete Beach, FL
 92. L.D. McDaniel, B. Wawrick, and J.H. Paul. 2002. Effect of nutrient stimulation on prophage induction in marine *Synechococcus*. 102nd General Meeting of the American Society for Microbiology, Salt Lake City, UT, May 20-23.
 93. S.J. Williamson, R.A. Slepecky, and J.H. Paul. 2002. The occurrence of spore-forming lysogenic bacteria in

- the marine environment. 102nd General Meeting of the American Society for Microbiology, Salt Lake City, UT, May 20-23.
94. Matthew C. Smith, John H. Paul, David P. Fries & Andrew Farmer. 2002. Development of an Autonomous Microbial Genosensor (AMG). Marine Biotech Summit, Ft. Pierce, October 8.
 95. L. D. McDaniel and J.H. Paul. 2002. Development and field testing of the marine prophage induction assay. Marine Biotech Summit, Ft. Pierce, October 8
 96. Gray, M.A., J.H. Paul, L.A. Houchin, and B. Wawrik. 2002. Development of detection strategies for *Karenia brevis* based upon amplification of the ribulose-1,5-bisphosphate carboxylase/oxygenase large subunit (*rbcL*) gene. Marine Biotech Summit, Ft. Pierce, October 8
 97. J.H. Paul, E. T. Casper, M.C. Smith, D. Fries. 2003. Use of real-time NASBA for monitoring coastal water quality. 103rd General Meeting of the American Society for Microbiology, Washington, DC, Abs N-102
 98. M.A. Gray, J.H. Paul, L. Houchin, B. Wawrik. 2003. Development of strategies for the detection and quantitation of *Karenia brevis*, the red tide forming dinoflagellate using the ribulose 1,5 bisphosphate carboxylase/oxygenase large subunit gene (*rbcL*). 103rd General Meeting of the American Society for Microbiology, Washington, DC, Abs N-104
 99. Williamson, S.J., R.A. Slepecky, and J.H. Paul. 2003. Influence of prophage on the sporulation process in marine bacteria. 103rd General Meeting of the American Society for Microbiology, Washington, DC, Abs N-094
 100. M.C. Smith, J.H. Paul, D.P. Fries, A.S. Farmer, E.T. Casper. 2003. Application of a sensitive real-time NASBA assay for the detection of *Synechococcus* sp. In an autonomous microbial genosensor (AMG). 103rd General Meeting of the American Society for Microbiology, Washington, DC, Abs N108
 101. McDaniel, L.D., and J.H. Paul. 2003. Characterization of a lysogenic marine *Synechococcus* isolate. 103rd General Meeting of the American Society for Microbiology, Washington, DC, Abs N-095
 102. Williamson, S.J., and J.H. Paul. 2003. Inorganic nutrient stimulation of lytic phage production by Gulf of Mexico bacterial populations. American Society for Limnology and Oceanography Aquatic Sciences Meeting, February 8-14, Salt Lake City, UT
 103. Smith, M.C., Paul, J.H., and D.P. Fries. 2003. Developing NASBA for real time detection of microbial RNA targets in the marine environment. American Society for Limnology and Oceanography Aquatic Sciences Meeting, February 8-14, Salt Lake City, UT
 104. McDaniel, L.D. and J.H. Paul. 2004. Development of the marine prophage induction assay (MPIA) for mutagen detection in natural environments. 104th General Meeting of the American Society for Microbiology, May 23-27, New Orleans, LA., Abst. N-195
 105. Casper, E.T., M.C. Smith, B. Wawrik, S. Patterson, S. Gilbert, S. Meyers, and J.H. Paul. 2004. A simplified algorithm for RNA target quantification based upon NASBA and internal calibrators. 104th General Meeting of the American Society for Microbiology, May 23-27, New Orleans, LA, Abs N-211.
 106. Smith, M.C., J.H. Paul, E.T. Casper, A.S. Farmer, G. Gonzales, and D.P. Fries. 2004. 104th General Meeting of the American Society for Microbiology, May 23-27, New Orleans, LA. Abs N-207
 107. Paterson, S.S., M. Smith, L. Stark, D. Huffman, and J.H. Paul, III. 2004. Comparison of Real-time PCR and NASBA for the detection and quantification of Norovirus Genogroup II. 104th General Meeting of the American Society for Microbiology, May 23-27, New Orleans, LA, Abs Q-418.
 108. John, D.E., B. Wawrik, and J.H. Paul. 2004. Finding a needle in a "BAC-stack": The search for *rbcL* genomic fragments I the ocean. 104th General Meeting of the American Society for Microbiology, May 23-27, New Orleans, LA Abs H-186
 109. McDaniel, L.D. and J.H. Paul. 2004. Temperate and virulent cyanophages of marine *Synechococcus*. ASM Conference on New Phage Biology, August 1-5, Key Biscayne, FL
 110. Long, A., S.J. Williamson, and J.H. Paul. 2004. Physiologic and genomic studies of ϕ HSIC, a marine pseudotemperate bacteriophage. ASM Conference on New Phage Biology, August 1-5, Key Biscayne, FL
 111. Smith, M.C. A. Farmer, O. Neumann, E. Casper, S. Patterson, G. Gonzalez, J.H. Paul and D.P. Fries. 2005. The Autonomous Microbial Genosensor-an open platform autonomous genetic sensor for real-time detection of marine microorganisms. ASLO 2005 Aquatic Sciences Meeting, Feb. 20-25, Salt Lake City, UT
 112. Long, A.K., M. de la Rosa, and J. H Paul. 2005. Lysogeny in Marine bacteria-studies with Φ HSIC and natural populations. ASLO 2005 Aquatic Sciences Meeting, Feb. 20-25, Salt Lake City, UT
 113. John, D., B. Wawrik, and J.H. Paul. 2005. Uncovering diversity in the *rbcL* genomic environment of marine

- Synechococcus*. ASLO 2005 Aquatic Sciences Meeting, Feb. 20-25, Salt Lake City, UT
114. Smith, M.C., A.S. Farmer, J.H. Paul, S. Kedja, S.A. Sampson, D. Ritchey, G. Steimle, and D.P. Fries. 2005. Sensors in the sea, sky and beyond. 105th General Meeting of the American Society for Microbiology, Atlanta, GA abs. O-012
 115. Casper, E.T., S. Patterson, and J. Paul. 2005. Inhibition of NASBA and Real-Time RT-PCR detection of enteric viruses in seawater samples. 105th General Meeting of the American Society for Microbiology, Atlanta, GA abs.N-022
 116. Patterson, S.S., O. Neumann, A. Farmer, E. Casper, M.C. Smith, D.P. Fries, and J.H. Paul. 2005. A handheld NASBA analyzer for portable detection of microbial pollutants. 105th General Meeting of the American Society for Microbiology, Atlanta, GA abs.N-023
 117. Long, A. and J.H. Paul. 2005. Complete genome analysis of phiHSIC-1a, a marine pseudotemperate phage, using macroarray technology. 105th General Meeting of the American Society for Microbiology, Atlanta, GA abs. N-024
 118. Witte, B.H., D. John, J.H. Paul, B.Wawrik, and F.R. Tabita.2005. Functional *Synechococcus* RubisCO from an oceanic metagenomic library. 105th General Meeting of the American Society for Microbiology, Atlanta, GA abs.N-035
 119. Casper, E.T., Stacey S. Patterson, Andrew S. Farmer, David P. Fries, John H. Paul. 2005. A handheld device for the detection of *Karenia brevis* via NASBA. 3rd Symposium on Harmful Algae in the US. October 2-7, Asilomar, CA
 120. Casper, E.T., Stacey S. Patterson, Andrew S. Farmer, David P. Fries, K. Rein, and J.H. Paul. 2006. Portable detection and quantification of *Karenia brevis* using NASBA. ASLO, TOS, AGU Ocean Sciences Meeting, Feb. 20-24, Honolulu, Abs.OS15M-09
 121. McDaniel, L.D., A. Long, and J.H. Paul. 2006. A time to hide: Lysogeny in *Synechococcus* populations in the Gulf of Mexico. ASLO, TOS, AGU Ocean Sciences Meeting, Feb. 20-24, Honolulu, Abs.OS32F-05
 122. Long, A.M., L. McDaniel, M. De La Rosa, and J.H. Paul. 2006. Phage lysis and lysogeny in bacterial populations in the Gulf of Mexico. ASLO, TOS, AGU Ocean Sciences Meeting, Feb. 20-24, Honolulu, Abs.OS35L-06
 123. Authement, N., J. Mobberly, S. Patterson, J.H. Paul, and A. Segall. The genome sequence of a temperate bacteriophage from *Halomonas aquamarina*. ASLO, TOS, AGU Ocean Sciences Meeting, Feb. 20-24, Honolulu, Abs.OS35L-09
 124. John, D.E., B. Witte, S.S. Patterson, X. Liu,Z. Wang, R.H. Byrne, J.M. Lopez, A. Cabrera, J. Corredor, F.R. Tabita, and J.H. Paul. RbcL expression and CO2 Flux in the Mississippi River Plume-A first Look. ASLO, TOS, AGU Ocean Sciences Meeting, Feb. 20-24, Honolulu, Abs.OS44G-05
 125. Mobberley, J.M., and J.H. Paul 2006. Prophage Induction and Frequency of Sporulation in *Bacillus* isolates from the Gulf of Mexico. 106th General Meeting of the American Society for Microbiology, Orlando, FL, May 21-25, 2006. abs. N141
 126. Patterson, S.S. and J.H. Paul. 2006. Development of a Nucleic Acid Sequence Based Amplification (NASBA) method for Detection and Enumeration of Enterococci from Coastal Waters. 106th General Meeting of the American Society for Microbiology, Orlando, FL, May 21-25, 2006. abs.Q417
 127. McDaniel, L., A. Long, and J.H. Paul. 2006. Relationship of Lytic Viral Production and Frequency of Visibly Infected Cells (FVIC) Methods to Lysogeny in Marine *Synechococcus* . 106th General Meeting of the American Society for Microbiology, Orlando, FL, May 21-25, 2006. abs. N157
 128. Paul, J.H. Smith, M.C. Fries, D.P. Casper, E. Patterson, S. Farmer, A.S. 2006. Handheld And Autonomous Nasba-Based Sensors For Red Tide Detection. ASLO Summer Meeting in Victoria, June 4-9
 129. McDaniel, L.D., J.H. Paul and M. Breitbart. 2007. Occurrence of phage integrase-like genes in Tampa Bay. ASLO 2007 Ocean Sciences Meeting, Feb 4-9, Santa Fe, NM
 130. Babcock, Darryl A., B. Wawrik, J. H. Paul, L. McGuinness, L. J. Kerkhof. 2007. Analysis of 30 kb DNA Fragments from Two Dominant Bacteria in the Mid-Atlantic Bight .American Society for Microbiology General Meeting, Toronto Canada
 131. John, D.E., B. Zielinski, D.A. Bronk, R.H. Byrne, J.E. Corredor, and J.H. Paul. 2008. Quantification and cloning of carbon-fixation (Rubisco) mRNA transcripts from the Orinoco River Plume and Eastern Caribbean Sea. ASLO AGU TOS Ocean Sciences Meeting, Orlando, FL, March 3-7
 132. Zielinski, B.L., D.E. John, and J.H. Paul. 2008. Metatranscriptome of a eukaryotic marine plankton community in Tampa Bay, FL. ASLO AGU TOS Ocean Sciences Meeting, Orlando, FL, March 3-7

133. McDaniel, L.D., M. Breitbart, and J.H. Paul. 2008. Occurrence of phage integrase-like gene expression in Tampa Bay, FL. ASLO AGU TOS Ocean Sciences Meeting, Orlando, FL, March 3-7
134. Delaney, J.A., R.M. Ulrich, D.P. Fries, and J.H. Paul. 2008. Development of a real-time NASBA assay for the detection of *Pseudonitzschia*. ASLO AGU TOS Ocean Sciences Meeting, Orlando, FL, March 3-7
135. Paul, J.H. and L. McDaniel. 2008. Prophages and GTAs in marine microbial genomes: bioinformatics and function. ASLO Summer Meeting, June 8-13, St. John's Newfoundland.
136. McDaniel, L. and J.H. Paul. 2009. Caught in the act-Gene transfer by gene transfer agents of alpha-proteobacteria in the marine environment. ASLO Ocean Sciences Meeting, Jan 25-30, Nice, France
137. Delaney, J.A., R.M. Ulrich, D.P. Fries, and J.H. Paul. 2009. Evaluation of the *rbcS* gene as a target for real-time NASBA detection of *Pseudo-nitzschia* ASLO Ocean Sciences Meeting, Jan 25-30, Nice, France
138. Zielinski, B., and J.H. Paul. 2009. Development of a SYBR green RT-QPCR assay for *dsrb* gene transcripts to assess the relative activity of sulfate reducing bacteria in marine sediments ASLO Ocean Sciences Meeting, Jan 25-30, Nice, France
139. Young, E., L. McDaniel, K. Ritchie, and J.H. Paul III. 2009. Occurrence of GTA-like particles in α -proteobacteria. 109th General Meeting of the American Society for Microbiology, N-179, Philadelphia, PA
140. Paul, J.H., L. McDaniel, and D. Hollander. 2010. Microbial toxicity and mutagenicity of waters near the Deepwater Horizon Oil spill. American Society for Microbiology Florida Branch Annual Meeting, Islamorada, FL
141. McDaniel, L., E. Young, K. Ritchie, and J. Paul. 2010. High frequency of Horizontal gene transfer in the oceans. American Society for Microbiology Florida Branch Annual Meeting, Islamorada, FL
142. Ulrich, R.M., and J.H. Paul. 2010. Detection and quantification of enterococci using real time nucleic sequence based amplification with internal control RNA (IC-NASBA) from environmental waters. American Society for Microbiology Florida Branch Annual Meeting, Islamorada, FL
143. Young, E., K. Ritchie, J. Paul, L. McDaniel, A. Miller. 2010. Gene transfer agents' effect on coral larval settlement. American Society for Microbiology Florida Branch Annual Meeting, Islamorada, FL
144. Zielinski, B., D. John, and J. Paul. 2010. Optimized methods for isolating a large quantities of eukaryotic mRNA from different river-influenced oceanic samples. American Society for Microbiology Florida Branch Annual Meeting, Islamorada, FL
145. McDaniel, L., E. Young, K. Ritchie, J. H. Paul, A. Miller. 2011 . Ecological Effects of Gene Transfer Agents of Marine Alpha-Proteobacteria. ASLO Ocean Sciences Meeting, San Juan PR
146. Paul, J.H. and D. Hollander. 2011. Microbial Toxicity And Mutagenicity of Waters Near The Deepwater Horizon Oil Spill . ASLO Ocean Sciences Meeting, San Juan PR`
147. Paul III, J.H., L. McDaniel, P. Coble, D. Hollander, D. John, B. Zielinski . 2011. Canaries in the Coal Mine: Microbial toxicity assays at the Deepwater Horizon Oil Spill. American Society for Microbiology General Meeting. New Orleans, LA.
148. Young, E., L. McDaniel, J. Paul and K. Ritchie. The Role of Genetransfer Agents in the Oceans. 2011. American Society for Microbiology General Meeting. New Orleans, LA.
149. McDaniel, L.D., E.C. Young, K.B. Ritchie and J. Paul. 2011. Features of marine alpha-proteobacterial gene transfer agents (GTAs). American Society for Microbiology General Meeting. New Orleans, LA.
150. McDaniel, L.D., M. Breitbart, and J.H. Paul. 2011. Insights into lysogeny provided by comparative viral genomics. Aquatic Viral Workshop 6, 30October to 3 November, Texel, NL
151. Zielinski, B. L.; Sharma, S.; Smith, C. B.; Satinsky, B. M.; Fortunato, C.; Doherty, M.; Coles, V.; Crump, B.; Yager, T.; Moran, M. A.; Paul, J.H. 2012. Making The Connection Between Metatranscriptomics And Biogeochemical Cycles In The Amazon River Plume (Abstract ID: 9481) ASLO Ocean Sciences Meeting, Salt Lake City, Utah Feb. 20-24.
152. Moran R., D. John , J. Paul , R.B. Cary , And F. VAN Dolah. 2012. Development of hand-held, field deployable array biosensors to distinguish multiple *Karenia* species of red tide dinoflagellates. Florida Academy of Science, March 16-17 Tampa, FL.
153. Paul, J.H., Young, E.C., McDaniel, L.D., Daniels, C.A., Voolstra, C.A., Ritchie, K.B. 2013. Novel effects of Gene Transfer Agents in the reef environment. ASLO 2013 Aquatic Sciences Meeting, Feb. 17-22, New Orleans, LA
154. Hilton, J.A, Satinsky, B.M., Crump, B., Doherty, M., Foster, R., Paul, J.H. 2013. Free-living and symbiotic N2-fixing cyanobacteria transcription profiles in the Amazon River Plume. ASLO 2013 Aquatic Sciences Meeting, Feb. 17-22, New Orleans, LA

155. McDaniel, L.D., Rosario-Cora, K., Breitbart, M., Paul, J.H. 2013. Comparison of lytic and temperate viral metagenomes from Tampa Bay, Florida. ASLO 2013 Aquatic Sciences Meeting, Feb. 17-22, New Orleans, LA
156. Wee, J.L., Patterson, J., Cattolico, R.A., Paul, J.H., Millie, D.F. 2013. Effects of light slop crude oil on the growth of a *Skeletonema costatum* strain isolated from the Lake Pontchartrain Basin Estuary. ASLO 2013 Aquatic Sciences Meeting, Feb. 17-22, New Orleans, LA
157. Paul, J.H. 2013. Dangerous Molecular Time Bombs II: The Sequel. Aquatic Virus Workshop 7, St Petersburg
158. McDaniel, L.D. 2013. Lysogenic metaviromes. Aquatic Virus Workshop 7, St Petersburg
159. J.H. Paul et al, 2014 (Patterns of Microeukaryotic Gene Expression Parallel Biogeochemical Measurements in the Amazon River Plume 2014 ASLO Meeting Honolulu, HI
160. JH Paul 2016 Lysogeny in the Marie Environment. USF Health, Tampa, October 5.
161. Aljandel, S. and JH Paul 2016. The 8th Aquatic Viruses Workshop at Plymouth University, UK: "Gene Transfer Agents In The Ocean" July 10-13.
162. L. McDaniel, J. Basso, J. H. Paul. 2016. Persistence of Mutagenicity in sediments three years post DWH Spill. Gulf of Mexico Oil Spill and Ecosystem Science Conference. Houston, January
163. Paul, J.H., Hubbard, K., Nieuwkerk, D., Ulrich, R., Tilney, C., Hoaglund, A., Olesin, E. 2017. PCMHAB: Implementing the *Karenia* tricorder to improve red tide monitoring and management in the Gulf of Mexico. ASLO Aquatic Sciences meeting., Honolulu, Feb 27-March 3.
164. McDaniel, L., and Paul, JH. 2017. Development of Marine Mutagenicity Assay. Gulf of Mexico Oil Spill Conference, February 7-10, New Orleans, LA.
165. J.H. Paul, K. A. Hubbard, D. M. Nieuwkerk, A. E. Hoeglund, C. L. Tilney, R. M. Ulrich, B. Kirkpatrick, R. Currier. 2017. Implementing the *Karenia* tricorder to improve red tide monitoring and management in the Gulf of Mexico. NOAA Observing Systems Council (NOSC) Emerging Technologies for Observations Workshop 2017, August 22-23, College Park, MD.
166. D. M. Nieuwkerk, R. M. Ulrich, A. A. Hoeglund, C. L. Tilney, K. A. Hubbard, J. H. Paul. 2017. Improving Standards For Molecular Quantification Of The Florida Red Tide Dinoflagellate. 9th International HAB Meeting, Nov. 11-16 Baltimore, MD
167. Paul, J.H., K. A. Hubbard, D. M. Nieuwkerk, A. E. Hoeglund, C. L. Tilney, R. M. Ulrich. Monitoring Habs By Isothermal Rna Amplification Using Handheld Genetic Sensors (Aka "Tricorders"). 9th International HAB Meeting, Nov. 11-16 Baltimore, MD
168. Hoeglund, A.E, C.L. Tilney, L.R. Markley, K.Henschen, D.M. Nieuwkerk, J.H. Paul, R.M. Ulrich, B. Kirkpatrick, R. Currier, K. A. Hubbard. 2017. Integrating tools for in situ detection of the red tide alga *Karenia brevis* into a state monitoring program. 9th International HAB Meeting, Nov. 11-16 Baltimore, MD
169. Tilney, C.L, S. Shankar, A.E. Hoeglund, E. Olesin, C. Chadwick, E. Muhlbach, C. Villac, A. A. Corcoran, L.J. Flewelling, D. Nieuwkerk, R. M. Ulrich, J.H. Paul, K.A. Hubbard. An Integrated Look At *Karenia Brevis* Photophysiology. . 9th International HAB Meeting, Nov. 11-16 Baltimore, MD.

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RESEARCH CRUISE EXPERIENCE

- 1977 R/V Calanus, 10 days, Bahamas, D.G. Capone, Chief Scientist
- 1982 USNS Hayes, 16 days, Georges Bank and Gulf Stream
- 1984 R/V Bellows, 6 days, Gulf of Mexico, Ken Carder, Chief Scientist
- 1984 R/V Bellows, 4 days, Gulf of Mexico, Bob Steward, Chief Scientist
- 1985 R/V Bellows, 5 days, Dry Tortugas, J.H. Paul, Chief Scientist
- 1985 R/V Suncoaster, 14 days, Gulf of Mexico, J.H. Paul, Chief Scientist
- 1987 R/V Bellows, 5 days, Dry Tortugas, J.H. Paul, Chief Scientist
- 1988 R/V Bellows, Cay Sal, Bahamas, J.H. Paul, Chief Scientist
- 1990 R/V Pelican, 8 days, Gulf of Mexico, J.H. Paul, Chief Scientist
- 1990 R/V Cape Hatteras, 8 days, Bahamas, J.H. Paul, Chief Scientist
- 1991 R/V Bellows, 2 days, chief scientist
- 1992 R/V Pelican, 12 days, chief scientist
- 1993 R/V Pelican, 8 days, chief scientist
- 1993 R/V Suncoaster, 5 days, chief scientist

1994 R/V Pelican, 8 days, chief scientist
 1995 R/V Cape Hatteras, 10 days, chief scientist
 1996 R/V Pelican, 8 days, Gulf of Mexico, Chief Scientist
 1997 R/V Pelican, 11 days, Gulf of Mexico, Chief Scientist
 1999 R/V Pelican, 8 days, Gulf of Mexico, Chief Scientist
 2001 FG Walton Smith, 14 days, Gulf of Mexico, Chief Scientist
 2005 R/V Pelican, 8 days, Gulf of Mexico, Chief Scientist
 2006 R/V Pelican, 8 days, Southern Caribbean
 2009 R/V Pelican, 8 days, Gulf of Mexico
 2010 R/V Weatherbird II. Gulf of Mexico
 2012 R/V Atlantis, South Atlantic

Scheduled, planned and coordinated sampling in the Mamala Bay Study Commission Sampling of Mamala Bay, Hawaii-Feb, 1994; July, 1994; November, 1994

Planned, coordinated, and led sampling efforts in Key Largo, March, June, and December, 1994, May, October, 1995, Long Key, January, and November, 1996, Marathon, June 1997, and Saddlebunch Keys, January and August, 1998.

Planned DOE GRIST experiment, July, 2002

Service to Scientific Community

1. Meetings Organized

1990. Suncoast Biotech Conference, St. Petersburg, FL
 2002 DOE-Biotechnological Investigations, Ocean Margins Program , St. Petersburg, FL, Dec. 5-7
 2005 ACT Workshop on Genetic Sensors

2. Scientific Review Panels

1992. National Science Foundation Panel on Molecular Marine Biology and Biotechnology Fellowships, May, 1992.
 1995. National Science Foundation Panel, Biological Oceanography, November 1995
 2001. DOE Microbial Genome Panel Review Member, February 2001.
 2002. ECOHAB Panel, March, 2002
 2007. NSF Microbial Genome Sequencing Panel, June 2007

3. Workshop Invited Participant

2000. NSF Workshop on Ecological Genomics. Washington, DC. April 19-20
 2000. NSF Workshop on Ecological Determinants of Ocean Carbon Cycle. March 13-16, Timberline, Oregon
 2002. ONR Workshop on Mine Countermeasures. April 2-4, 2002, Pensacola, FL
 2002. US EPA Workshop on Environmental Applications of Genomics. May 9,10 Kansas City
 2002. National Academy of Sciences Workshop: Frontiers in Polar Biology. September 9-11, Lake Tahoe, Nevada
 2005 National Council of Science and the Environment, Feb 3-5, Washington, DC
 2005 NOPP Workshop on Genetic Sensors, March 7-10, Washington
 2005 International Census of Marine Microbes (IcoMM), May 10-11, Honolulu, HI
 2006 Ocean Observing System Workshop, January, St. Petersburg

MEMBERSHIP IN PROFESSIONAL SOCIETIES

1. American Society for Microbiology
2. American Society for Limnology and Oceanography
3. American Association for the Advancement of Science

SERVICE

1. Chapter Member, St. Peter Episcopal Cathedral, 1/98
2. Outreach Ministry Chairman, St. Peter Episcopal Cathedral, 5/98
4. Vestry member, St. Bede's Episcopal Church, 1/87 - 1/90
5. Stewardship Chairman, St. Bede's Episcopal Church, 1/88 - 1/90
6. Conference Director, Suncoast Biotech Conference, 8/88 - 4/90
7. Department of Marine Science Committees:
Faculty Recruiting Long Range Planning
Tenure and Promotion Budget
Student Fellowship
8. College of Arts and Sciences Committees:
Tenure and Promotion
6. National Science Foundation Panel on Molecular Marine Biology and Biotechnology Fellowships, May, 1992.
7. Editorial Board, Applied and Environmental Microbiology, 1995-present
8. National Science Foundation Panel, Biological Oceanography, November 1995
9. DOE Microbial Genome Panel Review Member, February 2001.
10. NSF Site Visit Team, C-MOP Science and Technology Center June 27-29, 2012, Chair site review team