PAUL G. FALKOWSKI

Date of Birth: 4 January l951
Place of Birth: New York City, New York
Married, two children

Educational Background

Degree	*Institution Conferring*	*Field*	*Year*
B.S.	City College of the City University of New York	Biology	l972
M.A.	City College of the City University of New York	Biology	l973
Ph.D.	University of British Columbia	Biology	1975

Professional Background

Post-Doctoral Research Associate, University of Rhode Island	1975-76
Assistant Scientist, Brookhaven National Laboratory	1976-78
Associate Scientist, Brookhaven National Laboratory	1978-80
Scientist, Brookhaven National Laboratory (with tenure from 1984)	1980-1993
Visiting Research Scientist, National Institute for Basic Biology (with Dr. Y. Fujita), Okazaki, Japan	1985
Visiting Research Scientist, Dept. of Pure and Applied Biology, Imperial College of Science and Technology (with Dr. J. Barber), London	1985
Visiting Lecturer in summer courses at Hawaii Institute of Marine Biology	1984, 5, 9
Adjunct Senior Scientist, Israel Oceanographic and Limnological Research Institute, Haifa	1985-
Head, Oceanographic Sciences Division, Brookhaven National Laboratory	1987-1991
Visiting Lecturer, Marine Molecular Biology Course, UCLA	1989
Adjunct Full Professor, State University of New York, Stony Brook	1990-
Visiting Research Director, CNRS - Laboratoire de physique et chimie marines, Villefranche-sur-Mer, France (with Dr. A. Morel)	1992
Senior Scientist, Brookhaven National Laboratory	1993-98
Deputy Chairman for Environmental Research, Department of Applied Science, Brookhaven National Laboratory	1994-98
Head, Environmental Biophysics and Molecular Biology Program, Brookhaven National Laboratory	1995-98
Distinguished Professor, Department of Geological Sciences and Institute of Marine and Coastal Science, Rutgers University	1998-
Distinguished Visiting Scholar, University of Hawaii	2002
Board of Governors Professor in Geological and Marine Science, Rutgers University	2005-
Director, Rutgers Energy Institute	2006-
Visiting Research Director, CNRS – Station Biologique, Roscoff, France (with C. de Vargas)	2009
Bennett L. Smith Chair in Business and Natural Resources, Rutgers University	2012-

Awards
Medical Research Council Fellowship in Biophysics (1976)
Thomas Byrne Award - University of British Columbia (1997)
Distinguished Visiting Professor, University of Maryland (1989)
Distinguished Visiting Professor, University of Rhode Island (1991)
John Simon Guggenheim Fellow (1992-1993)
Ida and Cecil Green Distinguished Professor (1995-96)
Huntsman Medal (1998)
Hutchinson Award (2000)
Board of Trustees Award for Excellence in Research, Rutgers University (2000)
Fellow, American Geophysical Union (2001)
Fellow, American Academy of Arts and Sciences (2003)
Vernadsky Medal, European Geosciences Union (2005)
Board of Governors Professor, Rutgers University (2005)
Member, National Academy of Sciences (2007)
Fellow, American Academy of Microbiology (2008)
Gerald W. Prescott Award (2008)
Commemorative Medal Prince Albert 1^{ER} de Monaco (2010)
Ecology Institute Prize in Marine Ecology (2010)
Governing Council, National Academy of Sciences (2010-2013)
Grass Fellow, Radcliffe Institute for Advanced Studies (2011)
Fellow, Ecological Society of America (2012)
Einstein Professor, Chinese Academy of Sciences (2012)

Recent Grants (partial listing)
DOD – SERDP (2003-15)
NASA – Exobiology (2016-19)
NASA – Lifetime analyses in the upper ocean (2009-2011)
Gordon and Betty Moore Foundation - Constructing an Annotated Metabolic Map of Earth's Coupled Microbial Redox Reactions (2015-18)
NSF - Ocean Acidification (2014-17)

Current Research Interests
Biogeochemical cycles, photosynthesis, plant physiology, biological oceanography, molecular biology, biochemistry and biophysics, physiological adaptation, evolution, mathematical modeling, symbiosis.

Member
National Academy of Sciences
American Geophysical Union
American Society of Limnology and Oceanography
American Society of Plant Physiologists
American Phycological Society
The Oceanography Society
Executive Committee, NASA SeaWiFS Science Team

Member, Joint Global Ocean Flux Study Working Group on Primary Productivity
Chairman, Brookhaven Symposium in Biology 1980: Primary Productivity in the Sea
Chairman, First Gordon Conference on Biochemistry and Genetic Engineering of Microalgal Products (August 1988)
Associate Editor, Journal of Phycology (1984-1986)
Chairman, Brookhaven Symposium in Biology 1991: Primary Productivity and Biogeochemical Cycles in the Sea
Chairman, DOE Workshop on Molecular Bases of Ecology, 1991
Member, Joint Global Ocean Flux Study Working Group on Optics
Member, National Research Council Review Committee of Office of Naval Research
Alternative Fluorocarbon Environmental Assessment Study - Ecological Effects Advisory Committee
Guest Editor, Special Volume of Photosynthesis Research on Global Change (1992-1993)
Associate Editor: Global Change Biology (1995 to present)
Co-Chair, NATO Advanced Study Institute on Molecular Ecology of Aquatic Microbes (1994)
Chairman, DOE Initiative for Molecular Ecology Research - Convened Asilomar and Belmont Conferences and wrote/edited conference reports
Chairman, NASA Ocean Primary Productivity Working Group
Member, Scientific Advisory Board - Stazione Zoologica Anton Dohrn, Naples (1994-1999)
Guest Editor, Special Issue of Deep Sea Research (1994, 2001)
Associate Editor, Limnology and Oceanography (1995- 2006)
U.S. Coordinator for IPCC reports on ocean research
Member, US Joint Global Ocean Flux Science Steering Committee
Member, Earth System Science and Applications Advisory Committee (NASA)
Chairman, NASA Biological Oceanography Advisory Board
Member, American Society of Microbiology Workshop on Global Change and Human Health (1997)
Co-organizer, XIth International Photosynthesis Congress
Member, Mars Architecture Planning Committee (NASA)
Member, International JGOFS Science Steering Committee
Board of Reviewing Editors, Science
Member, Astrobiology Oversight Committee (NASA)
Member, US SOLAS Advisory Committee (NSF)
Member, EDOCC Planning Committee (NSF)
Member, DOE Ocean Carbon Sequestration Program
Member, US Carbon Cycle Science Steering Committee
Associate Editor, Encyclopedia of Biodiversity (Academic Press)
Associate Editor, Photosynthesis Research
Associate Editor, Protist (1995-1999)
Associate Editor, Ecosystems (1999-2003)
Member, The New York Academy of Sciences
Member, Sigma Xi
Member, International Geosphere Biosphere Program GAIM
Co-Chair, International Geosphere Biosphere Program—Carbon Cycle Working Group
Member, Astrobiology Roadmap Team (NASA – 2002)

Section Head, Faculty of 1000
Associate Editor, Environmental Microbiology
Associate Editor, Geobiology
Member, National Research Council Committee on Defining and Advancing the Conceptual Basis of Biology
Member, Terrestrial Planet Finder Science Working Group
Associate Editor, Encyclopedia Oceanography, Elsevier
Director, Rutgers Energy Institute (2006-)
Co-Director, Center For Marine Biotechnology, Rutgers University (2005-)
Associate Editor, Treatise on Geochemistry, Vol. 11 Organic Geochemistry (2013)
Advisor, National Geographic Television (Atlas Media)
Board of Reviewing Editor - eLIfe

Cruise Experience (partial listing – over 43 cruises)

R/V Knorr	Northwest Atlantic	1981
R/V Oceanus	Northwest Atlantic	1984
R/V Cape Hatteras (Chief Scientist)	Middle Atlantic Bight	1988
R/V Endeavor (Chief Scientist)	Middle Atlantic Bight	1989
R/V A'talant	Subtropical Atlantic/ Northwest Africa upwelling region	1992
R/V Atlantis/RSS Alvin	Juan de Fuca Ridge	2000
R/V Knorr	Black Sea	2001
R/V/ Oceanus	Sargasso Sea	2004
R/V Gould	Antarctica	2016

Peer-Reviewed Publications

1. Falkowski, P.G. l973. The respiratory physiology of hemocyanin in *Limulus polyphemus*. J. Exp. Zool. l86: l-6.
2. Falkowski, P.G. l974. Facultative anaerobiosis in *Limulus polyphemus*: phosphoenolpyruvate carboxykinase and heart activities. Comp. Biochem. Physiol. 49B: 749-759.
3. Falkowski, P.G. l975. Nitrate uptake in marine phytoplankton: (nitrate, chloride)-activated adenosine triphosphatase from *Skeletonema costatum* (Bacillariophyceae). J. Phycol. 11: 323-326.
4. Falkowski, P.G. l975. Nitrate uptake in marine phytoplankton: comparison of half-saturation constants from seven species. Limnol. Oceanogr. 20: 4l2-4l7.
5. Falkowski, P.G. and D.P. Stone. l975. Nitrate uptake in marine phytoplankton: energy sources and the interaction with carbon fixation. Mar. Biol. 32: 77-84.
6. Falkowski, P.G. and R.B. Rivkin. l976. The role of glutamine synthetase in the incorporation of ammonium in *Skeletonema costatum* (Bacillariophyceae). J. Phycol. 12: 448-450.
7. Falkowski, P.G. 1977. A theoretical description of nitrate uptake kinetics in marine phytoplankton based on bisubstrate kinetics. J. theo. Biol. 64: 375-379.
8. Falkowski, P.G. l977. The adenylate energy charge in marine phytoplankton: The effect of

temperature on the physiological state of *Skeletonema costatum* (Grev.) Cleve. J. exp. mar. Biol. Ecol. 27: 37-45.
9. Falkowski, P.G. and T.G. Owens. l978. The effects of light intensity on photosynthesis and dark respiration in six species of marine phytoplankton. Mar. Biol. 45: 289-295.
10. Owens, T.G., D.M. Riper, and P.G. Falkowski. l978. Studies of delta-aminolevulinic acid dehydrase from *Skeletonema costatum*, a marine plankton diatom. Plant Physiol. 62: 516-521.
11. D.M. Riper, T.G. Owens, and P.G. Falkowski. 1979. Chlorophyll turnover in *Skeletonema costatum*, a marine plankton diatom. Plant Physiol. 64: 49-54.
12. Falkowski, P.G., T.S. Hopkins, and J.J. Walsh. 1980. An analysis of factors affecting oxygen depletion in the New York Bight. J. Mar. Res. 38: 479-506.
13. Owens, T.G., P.G. Falkowski, and T.E. Whitledge. 1980. Diel periodicity of chlorophyll in marine phytoplankton. Mar. Biol. 59: 71-77.
14. Falkowski, P.G. and T.G. Owens. 1980. Light-shade adaptation: two strategies in marine phytoplankton. Plant Physiol. 66: 592-595.
15. Falkowski, P.G. and Z. Dubinsky. 1981. Light-shade adaptation of *Stylophora pistillata*, a hermatypic coral from the Gulf of Eilat. Nature 289: 172-174.
16. Falkowski, P.G. 1981. Light-shade adaptation and assimilation numbers. J. Plankton Res. 3: 203-216.
17. Falkowski, P.G. and C.D. Wirick. 1981. A simulation model of the effects of vertical mixing on primary productivity. Mar. Biol. 65: 69-75.
18. Falkowski, P.G., T.G. Owens, A.C. Ley, and D. Mauzerall. 1981. The effect of growth irradiance on the ratio of reaction centers in two species of marine phytoplankton. Plant Physiol. 68: 969-973.
19. Falkowski, P.G. and J. Sucher. 1981. Rapid, quantitative separation of chlorophylls and their degradation products by high-performance liquid chromatography. J. Chromatogr. 213: 349-351.
20. Falkowski, P.G. and T.G. Owens. 1982. A technique for estimating phytoplankton division rates using a DNA-binding fluorescent dye. Limnol. Oceanogr. 27: 776-782.
21. Owens, T.G. and P.G. Falkowski. 1982. Enzymatic degradation of chlorophyll *a* by marine phytoplankton *in vivo*. Phytochem. 21: 979-984.
22. Falkowski, P.G. 1983. Vertical mixing and light-shade adaptation: a comparative field study. J. Mar. Res. 41: 215-237.
23. Precali, R. and P.G. Falkowski. 1983. Incorporation of ^{14}[C]-glutamate into proteins and chlorophylls in *Dunaliella tertiolecta*, a marine chlorophyte. Biol. Plant. 25: 187-195.
24. Malone, T.C., P.G. Falkowski, T.S. Hopkins, G.T. Rowe, and T.E. Whitledge. 1983. Mesoscale response of diatom populations to a wind event in the plume of the Hudson River. Deep-Sea Res. 30: 149-170.
25. Falkowski, P.G., J. Vidal, T.S. Hopkins, G.T. Rowe, T.E. Whitledge, and W.G. Harrison. 1983. Summer nutrient dynamics of the Middle Atlantic Bight: primary production and utilization of phytoplankton carbon. J. Plankton Res. 5: 515-537.
26. Harrison, W.G., D. Douglas, P.G. Falkowski, G.T. Rowe, and J. Vidal. 1983. Summer nutrient dynamics of the Middle Atlantic Bight: nitrogen uptake and regeneration. J. Plankton Res. 5: 539-556.
27. Raps, S., K. Wyman, H.W. Siegelman, and P.G. Falkowski. 1983. Adaptation of the

cyanobacterium, *Microcystis aeruginosa*, to light intensity. Plant Physiol. 72: 829-832.
28. Falkowski, P.G. 1984. Kinetics of light intensity adaptation in *Dunaliella tertiolecta*: a marine plankton chlorophyte. Photosynthetica 18: 62-68.
29. Malone, T.C., T.S. Hopkins, P.G. Falkowski, and T.E. Whitledge. 1983. Production and transport of phytoplankton biomass over the continental shelf of the New York Bight. Cont. Shelf Res. 1: 305-337.
30. Falkowski, P.G. 1984. Physiological responses of phytoplankton to natural light regimes. J. Plankton Res. 6: 295-307.
31. Falkowski, P.G., K. Wyman, and D. Mauzerall. 1984. Effects of continuous background irradiance on xenon-flash-induced fluorescence yields in marine microalgae. Proc. Sixth Int'l. Photosynthesis Cong., Brussels 1: 163-166.
32. Muscatine, L., P.G. Falkowski, and Z. Dubinsky. 1983. Carbon budgets in symbiotic associations. In *Proc. 2nd int. Coll. Endocytobiology*, W. Schwemmler and H. Schenk, eds., de Gruyter and Co. Pub., p. 649-658.
33. Dubinsky, Z., P.G. Falkowski, L. Muscatine, and J.W. Porter. 1984. The absorption and utilization of radiant energy by light and shade-adapted colonies of the symbiotic coral *Stylophora pistillata*. Proc. Roy. Soc. Lond. B 222B: 203-214.
34. Muscatine, L., P.G. Falkowski, J.W. Porter, and Z. Dubinsky. Fate of photosynthetically fixed carbon in light and shade-adapted colonies of the symbiotic coral, *Stylophora pistillata*. Proc. Roy. Soc. Lond. B 222B: 181-202.
35. Porter, J.W., L Muscatine, Z. Dubinsky, and P.G. Falkowski. Primary production and photoadaptation in light and shade-adapted colonies of the symbiotic coral, *Stylophora pistillata*. Proc. Roy. Soc. Lond. B 222B: 161-180.
36. Falkowski, P.G., Z. Dubinsky, L. Muscatine, and J.W. Porter. 1984. Light and the bioenergetics of a symbiotic coral. Bioscience 34: 705-709.
37. Falkowski, P.G., Z. Dubinsky, and K. Wyman. 1985. Growth-irradiance relationships in phytoplankton. Limnol. Oceanogr. 30: 311-321.
38. Post, A., K. Wyman, Z. Dubinsky, and P.G. Falkowski. 1984. Kinetics of light intensity adaptation in a marine diatom. Mar. Biol. 83: 231-238.
39. Falkowski, P.G., Z. Dubinsky, and G. Santostefano. 1985. Light-enhanced dark respiration in phytoplankton. Verh. Internat. Verein. Limnol. 22: 2830-2833.
40. Falkowski, P.G., K. Wyman, A.C. Ley, and D. Mauzerall. 1986. Relationship of steady-state photosynthesis to fluorescence in eucaryotic algae. Biochim. Biophys. Acta 849: 183-192.
41. Dubinsky, Z., P.G. Falkowski, and K. Wyman. 1986. Light harvesting and utilization in phytoplankton. Plant Cell Physiol. 27: 1335-1349.
42. Post, A.F., Z. Dubinsky, K. Wyman, and P.G. Falkowski. 1985. Physiological responses to light intensity transitions in a marine plankton diatom. Mar. Ecol. Prog. Ser. 25: 141-149.
43. Falkowski, P.G. and D.A. Kiefer. 1985. Chlorophyll a fluorescence: Relationship to primary production and phytoplankton biomass. J. Plankton Res. 7: 715-731.
44. Park, Y., E.J. Carpenter, and P.G. Falkowski. 1986. Ammonium excretion and glutamic dehydrogenase activity of zooplankton in Great South Bay, New York. J. Plankton Res. 8: 489-503.
45. Falkowski, P.G., Y. Fujita, A.C. Ley, and D.C. Mauzerall. 1986. Evidence for cyclic electron flow around photosystem II in eucaryotic algae. Plant Physiol. 81: 310-312.
46. Falkowski, P.G., C.N. Flagg, G.T. Rowe, S.L. Smith, T.E. Whiteledge, and C.D. Wirick,

1988. The fate of a spring phytoplankton bloom: export or oxidation. Cont. Shelf. Res. 8: 457-484.
47. Sukenik, A., J. Bennett, and P.G. Falkowski. 1987. Light saturated photosynthesis: limitation by electron transport or carbon fixation? Biochim. Biophys. Acta. 891: 205-215.
48. Sukenik, A., J. Bennett, and P.G. Falkowski. 1988. Changes in the abundance of individual LHC I and LHC II apoproteins with growth irradiance in the marine chlorophyte, *Dunaliella tertiolecta*. Biochim. Biophys. Acta 932: 206-215.
49. Mortain-Bertrand, A. and P.G. Falkowski. 1989. Mise en evidence d'une relation entre fluorescence et carotenoides: une possibilite d'ameliorer les modeles de production primaire. C.R. Acad. Sci. Paris 309: 13-18.
50. Rowe, G., R. Theroux, W. Phoel, H. Quinby, R. Wilke, D. Koschoveck, T. Whitledge, P.G. Falkowski, and C. Fray. 1988. Benthic carbon budgets for the continental shelf south of New England. Cont. Shelf Res. 8: 511-527.
51. Wyman, K.D., Z. Dubinsky, J.W. Porter, and P.G. Falkowski. 1987. Light absorption and utilization among hermatypic corals: A study in Jamaica, West Indies. Mar. Biol. 96: 283-292.
52. Rowe, G.T., S. Smith, P.G. Falkowski, and others. 1986. Do continental shelves export organic matter? Nature 324: 559-561.
53. Sukenik, A., P.G. Falkowski, and J. Bennett. 1987. The potential enhancement of photosynthetic energy conversion in algal mass culture. Biotech. Bioeng. 30: 970-977.
54. Berner, T., and others. 1986. The measurement of primary productivity in a high-rate oxidation pond (HROP). J. Plankton Res. 8: 659-672.
55. Sukenik, A., K.D. Wyman, J. Bennett, and P.G. Falkowski. A novel mechanism for regulating the excitation of Photosystem II in a green alga. Nature 327: 704-707.
56. Sukenik, A., J. Bennett, and P.G. Falkowski. 1989. Energy transfer of LHC II in *Dunaliella tertiolecta* is unusually sensitive to Triton X-100. Photosyn. Res. 21: 37-44.
57. Dubinsky, Z., P.G. Falkowski, A.F. Post, and U.M. van Hes. 1987. A system for measuring phytoplankton photosynthesis in a defined light field with an oxygen electrode. J. Plankton Res. 9: 607-612.
58. Zehr, J., P.G. Falkowski, and D. Capone. 1988. Coupling between ^{13}N ammonium uptake and incorporation in a marine diatom. Limnol. Oceanogr. 33: 518-527.
59. Falkowski, P.G., Z. Kolber, and Y. Fujita. 1988. Dynamics of electron flow around photosystem II during steady-state photosynthesis in eucaryotic algae. Biochim. Biophys. Acta 933: 432-443.
60. Kolber, Z., J. Zehr, and P.G. Falkowski. 1988. Effects of growth irradiance and nitrogen limitation on photosynthetic energy conversion in Photosystem II. Plant Physiol. 88: 923-929.
61. Kolber, Z., K.D. Wyman, and P.G. Falkowski. 1990. Natural variability in photosynthetic energy conversion efficiency: A field study in the Gulf of Maine. Limnol. Oceanogr. 35: 72-79.
62. Zehr, J., D.C. Capone, and P.G. Falkowski. Rapid incorporation of $^{13}NO_3$ by NH_4-limited phytoplankton. Mar. Ecol. Prog. Ser. 51: 237-251.
63. Muscatine, L., P.G. Falkowski, Z. Dubinsky, P.A. Cook, and L. McCloskey. 1989. The effect of external nutrient resources on the population dynamics of zooxanthellae in a reef coral. Proc. R. Soc. Lond. B236: 311-324.

64. Rahav, O., Z. Dubinsky, Y. Achituv, and P.G. Falkowski. 1989. Ammonium metabolism in the symbiotic coral, *Stylophora pistillata*. Proc. R. Soc. Lond. B236: 325-337.
65. Zehr, J. and P.G. Falkowski. 1988. Pathway of ammonium assimilation in a marine diatom determined with the radiotracer ^{13}N. J. Phycol. 24: 588-591.
66. Mortain-Bertrand, A. and P.G. Falkowski. 1990. Photoregulation of the light-harvesting chlorophyll complex associated with Photosystem II in *Dunaliella tertiolecta*. Evidence that LHCII apoproteins are stable without chlorophyll. Plant Physiol. 94: 304-311.
67. Berner, T., K. Wyman, and P.G. Falkowski. 1989. Photoadaptation and the "package" effect in *Dunaliella tertiolecta* (Chlorophyta). J. Phycol. 25: 70-78.
68. Herzig, R. and P.G. Falkowski. 1989. Nitrogen limitation in *Isochrysis galbana* (Haptophyceae). I. Photosynthetic energy conversion and growth efficiencies. J. Phycol. 25: 462-471.
69. Falkowski, P.G., A. Sukenik, and R. Herzig. 1989. Nitrogen limitation in *Isochrysis galbana* (Haptophyceae). II. Relative abundance of chloroplast proteins. J. Phycol. 25: 471-478.
70. LaRoche, J., J. Bennett, and P.G. Falkowski. 1990. Characterization of a cDNA encoding for a 28.5 kDa LHC II apoprotein from the unicellular marine chlorophyte *Dunaliella tertiolecta*. Gene 95: 165-171.
71. Falkowski, P.G. 1991. Species variability in the fractionation of ^{13}C and ^{12}C by marine phytoplankton. J. Plankton Res. 13: 21-28.
72. Wegner, H.C., R. Herzig, P.G. Falkowski, and D.H. Turpin. 1989. Respiratory losses in the light in a marine diatom: Measurements by short-term mass-spectrometry. Limnol. Oceanogr. 34: 1153-1161.
73. Sukenik, A., J. Bennett, A. Mortain-Bertrand, and P.G. Falkowski. 1990. Adaptation of the photosynthetic apparatus to irradiance in *Dunaliella tertiolecta* - A kinetic study. Plant Physiol. 92: 891-898.
74. Dubinsky, Z., N. Stambler, M. Ben-Zion, L.R. McCloskey, L. Muscatine, and P.G. Falkowski. 1990. Effects of external nutrient sources on the optical properties and photosynthetic efficiency of *Stylophora pistillata*. Proc. Roy. Soc. B 239: 231-246.
75. Falkowski, P.G. and J. LaRoche. 1990. Molecular biology in studies of ocean processes. Int. Rev. Cytol. 128, 261-303.
76. Ohki, K., J. Zehr, P.G. Falkowski, and Y. Fujita. 1991. Regulation of nitrogenase in the marine, non-heterogeneous cyanobacterium *Trichodesmium* sp. Arch. Microbiol. 156: 335-337.
77. Falkowski, P.G. and J. LaRoche. 1991. Acclimation to spectral irradiance in algae. J. Phycol. 27(1): 8-14.
78. Falkowski, P.G., D. Ziemann, Z. Kolber, and P.K. Bienfang. 1991. Role of eddy pumping in enhancing primary production. Nature 352: 55-58.
79. Sancetta, C., T. Villareal and P.G. Falkowski. 1991. Massive fluxes of Rhizosolenid diatoms: A common occurrence? Limnol. Oceanogr. 36: 1452-1457.
80. Greene, R., R. Geider, and P.G. Falkowski. 1991. Effect of iron limitation on photosynthesis in a marine diatom. Limnol. Oceanogr. 36: 1772-1782.
81. LaRoche, J., A. Mortain-Bertrand, and P.G. Falkowski. 1991. Light-intensity induced changes in cab mRNA and light-harvesting complex II apoprotein levels in the unicellular chlorophyte *Dunaliella tertiolecta*. Plant Physiol. 97: 147-153.

82. Sukenik, A., R.S. Levy, Y. Levy, P.G. Falkowski, and Z. Dubinsky. 1991. Optimizing algal biomass production in an outdoor pond: A simulation model. J. Appl. Phycol. 3: 191-201.
83. Falkowski, P.G., Y.-S. Kim, Z. Kolber, C. Wilson, C. Wirick, and R. Cess. 1992. Distinguishing between anthropogenic and natural factors affecting low-level cloud albedo over the North Atlantic Ocean. Science 256: 1311-1313.
84. Falkowski, P.G. and C. Wilson. 1992. Phytoplankton productivity in the North Pacific in relation to the absorption of anthropogenic CO_2. Nature 358: 741-743.
85. Greene, R.M., R.J. Geider, Z. Kolber, and P.G. Falkowski. 1992. Iron-induced changes in light harvesting and photochemical conversion processes in eucaryotic marine algae. Plant Physiol. 100: 565-575.
86. Falkowski, P.G. 1992. Biotechnology and global climate change. Current Opinion in Biotechnology 3: 286-290.
87. Falkowski, P.G., P. Biscaye, and C. Sancetta. 1994. The lateral flux of biogenic particles from the Eastern North American continental margin to the North Atlantic Ocean. Cont. Shelf Res. 41: 583-601.
88. Falkowski, P.G., Z. Dubinsky, L. Muscatine, and L. McCloskey. 1993. Population control in symbiotic corals. BioScience 43: 606-611.
89. Falkowski, P.G. and Z. Kolber. 1993. Estimating phytoplankton photosynthesis by active fluorescence. In *Ocean Productivity: From Molecules to Space*, S. Maestrini and W. Li, eds., Int. Cons. Explor. Mer. 197: 92-103.
90. LaRoche, J., R. Geider, and P.G. Falkowski. 1993. Molecular biology in studies of oceanic primary production. In *Ocean Productivity: From Molecules to Space*, S. Maestrini and W. Li, eds., Int. Cons. Explor. Mer. 197: 42-51.
91. Falkowski, P.G., R.M. Greene, and R.J. Geider. 1992. Physiological limitations on phytoplankton productivity in the ocean. Oceanography 5: 84-91.
92. Kolber, Z. and P.G. Falkowski. 1993. Using active fluorescence to derive phytoplankton photosynthesis *in situ*. Limnol. Oceanogr. 38: 1646-1665.
93. Kemp, P.F., P.G. Falkowski, C. Flagg, W. Phoel, S. Smith, D.W.R. Wallace, and C.D. Wirick. 1994. Modeling vertical oxygen and carbon flux during stratified spring and summer conditions on the continental shelf, Middle Atlantic Bight, eastern U.S.A. Deep-Sea Res. 41: 629-655.
94. Geider, R.J., R.M. Greene, Z. Kolber, H. MacIntyre, and P.G. Falkowski. 1993. Fluorescent assessment of the maximum quantum efficiency of photosynthesis in the western North Atlantic Ocean. Deep-Sea Res. 40: 1205-1224.
95. Grobbelaar, J.U., F. Schanz, Z. Dubinsky, M.M. Tilzer, T. Burger-Wiersma, M. Rijkeboer, J. Lemoalle, and P.G. Falkowski. 1992. Photosynthetic characteristics of five high light and low light exposed microalgae as measured with ^{14}C-uptake and oxygen electrode techniques. Marine Microbial Food Webs 6(1): 3-19.
96. Greene, R.M., Z. Kolber, D.G. Swift, N.W. Tindale, and P.G. Falkowski. 1994. Physiological limitation of phytoplankton photosynthesis in the eastern equatorial Pacific determined from variability in the quantum yield of fluorescence. Limnol. Oceanogr. 39: 1061- 1074.
97. Olaizola, M., J. LaRoche, Z. Kolber and P.G. Falkowski. 1994. Non-photochemical quenching and the diadinoxanthin cycle in a marine diatom. Photosyn. Res. 41: 357-370.
98. LaRoche, J., D. Henry, K. Wyman, A. Sukenik and P.G. Falkowski. 1994. Cloning and

nucleotide sequence of a cDNA encoding a major fucoxnathin-, chlorophyll a/c-containing protein from the chrysophyte *Isochyrsis galbana*: implications for the evolution of the *cab* gene family. Plant Mol. Biol. 25: 355-368.

99. Kolber, Z., R.T. Barber, K.H. Coale, S.E. Fitzwater, R.M. Greene, K.S. Johnson, S. Lindley and P.G. Falkowski. 1994. Iron limitation of phytoplankton photosynthesis in the equatorial Pacific Ocean. Nature 371: 145-149.
100. Martin et al. 1994. Testing the iron hypothesis in the ecosystems of the equatorial Pacific ocean. Nature 371: 123-129.
101. Vassiliev, I.R., O. Prasil, K.D. Wyman, Z. Kolber, A. Hanson, Jr., J.E. Prentice, and P.G. Falkowski. 1994. Inhibition of PSII photochemistry by PAR and UV radiation in natural phytoplankton communities. Photosyn. Res. 42: 51-64.
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301-302.
58. Falkowski, P.G., Algeo, T., Codispoti, L., Deutsch, C., Emerson, S., Hales, B., Huey, R. B., Jenkins, W. J., Kump, L. R., Levin, L. A., Lyons, T. W., Nelson, N. B., Schofield, O., Summons, R., Talley, L. D., Thomas, E., Whitney, F., Pilcherm C. B. 2011. Ocean Deoxygenation: Past, Present, and Future. EOS, Transactions American Geophysical Union. 92(46): 409-411.
59. Falkowski, P.G. 2012. Le mouvement vital des oceans. In L'Homme et La Mer. Ed. Y. Arthus-Bertrand et Brian Skerry (in French). Foundation GoodPlanet. Paris (pp 48-55).
60. Falkowski, P. G., & Raven, J. A. 2013. Aquatic photosynthesis. Princeton University Press.
61. Falkowski, P. G., & Freeman, K. H. (Eds.) 2014. Volume 12 Organic Geochemistry In H. D. Holland & K. K. Turekian (Eds.), *Treatise on Geochemistry (Second Edition)* (pp. xxiii-xxiv). Oxford: Elsevier.
62. Falkowski, P.G., 2015. *Life's Engines: How Microbes Made Earth and Habitable Planet,*. Princeton University Press.

Other Publications

1. Falkowski, PG. 2003. When politics trumps science. New York Times 21 June.
2. Falkowski, PG. 2001. A climate pact without America. New York Times 25 July.
3. Falkowski, PG. 2000. The environment, and our votes. New York Times 31 August.
4. Falkowski, PG. 2007. Secret life of plants. (book review) Nature 447: 778).
5. Falkowski, PG. 2008. Find our energy expertise. New York Times 13 July.
6. Falkowski, PG. 2015. Taking the Oxygen Out of the Room. Huffington Post Science 20 August.
7. Falkowski, PG. 2015. Two Solutions That Cut Down on Fossil Fuels . Huffington Post Science 27 August.

Radio and Television

NPR radio- Leonard Lopate Show, NPR news with Richard Harris, NHK television, National Geographic Television.

Invited Lectures and Meetings

2006 Louisiana State University, School of the Coast and Environment
Central Caribbean Marine Institute for Educational Fundraising, London
AAAS - Invited speaker
Lehigh University
PSA Meeting - Juneau, Alaska
ASLO/AG Meeting - Honolulu, HI
Peking University, Beijing
Center for Quaternary Research, Xian
University of Xiamen
Chinese Academy of Sciences Eighth International Conference on Development of Drylands Feb 25-28, 2006 - Invited speaker

2007 Natural Science Foundation - NRC Committee
Conceptual Basis of Biology Meetings - Seattle, Washington
European Phycological Congress - Invited speaker, Oviedo, Spain
International Photosynthesis Congress - Invited speaker, Glasgow, Scotland
The Royal Society - London, UK
Jacques Monod Conferences - Roscoff, France
NASA Science Update Panel SeaWiFS Anniversary
AQUAFLUO Conference - Invited speaker, Prague, Czech Republic

2008 Sagin Lecture - AGU
Plenary Lecture Ocean Sciences
University of Tokyo, Japan
University of Nagoya, Japan
University of Kyoto, Japan
University of Paris, France
St. Andrews University, UK
University of Dundee, UK

2009 Revelle Lecture - Washington DC
Yale
Scripps Institute of Oceanography
Marine Biological Laboratory
Lamont Doherty Earth Observatory
CNRS - Roscoff, France
GRC - Marine Microbial Ecology, Italy
SGM Spring Conference - EICC, Edinburgh, UK

2010 Ecology Prize Lecture, Germany
University of Pennsylvania
CNRS - Paris
Princeton University
NASA Ames Conference
Canadian Society for Ecology and Evolution Conference – Quebec, Canada

2011 GRC - Metals in Biology
Harvard University
MIT
Keystone Symposia, Singapore, China
International Conference on Science – STHESCA, University of Krakow, Poland
Brazilian Congress of Marine Biology, Natal, Brazil
Aharon Katzir-Katchalski 30th Annual Lecture - Weizmann Institute of Science, Israel

2012 Wiese Lecture - University of Southern Alabama

Royal Society, London, UK
Chinese Academy of Sciences, Beijing, China
USP Conference - University of Sao Paulo, Brazil

2013 GRC - Geobiology, University of Southern California
City College of New York
Santa Fee Institute
University of Rhode Island
Cambridge University, Clare College, Cambridge, UK
Oxford University, Oxford, UK
European Science Foundation
Warsaw Technical University
University College of London
Wildlife Conservation Society
Algae Biomass Summit
Schmidt Ocean Research Symposium

2014 Institut de Ciencies del Mar (ICM), Barcelona, Spain
Comparative genomic approaches to understanding the architecture of metazoans, Coral Workshop, Rutgers University
University of Michigan
Kellogg Biological Station, Michigan State University
American Museum of Natural History
Monterey Bay Aquarium Research Institute (MBARI)
Earth Life Science Institute, 2nd ELSI International Symposium, Tokyo, Japan
Sorbonne University, Paris, France
CNRS - Roscoff, France
International Society for Applied Phycology (ISAP), Sydney, Australia
GRC – Biomineralization, Colby-Sawyer College
Massachusetts Institute of Technology
Carnegie Institute of Washington
Geological Society of America, Vancouver, Canada
Utrecht University, Amsterdam, Netherlands
American Geophysical Union, San Francisco

2015 Second Xiamen Symposium on Marine Environmental Sciences, China
Eastern Photosynthesis Conference, Woods Hole
University of Montana
McMaster University, Canada
CNRS - Roscoff, France
La Sorbonne, University Marie and Pierre Curie
CNRS - Ville de Franche-Sur-Mer Oceanographic Laboratory, France
Oceanographic Institute, Monaco
Carnegie Institute of Washington
UNESCO World Oceans Day, France

Positive Economy Forum, Le Havre, France
GSA Annual Meeting 2015, Baltimore

2016 Harvard University
AGU - ASM Colloquium, American Geophysical Union, Washington
Institute for Advanced Study, Princeton
Eastern Photosynthesis Conference, Woods Hole
Ocean and Evolution of Earths Biogeochemical Cycles Symposium, Rutgers
Tongji University, China
ASM Microbe 2016, Boston
Leon H. Charney School of Marine Sciences, University of Haifa, Israel
Global Co-Evolution of the Ocean Environment and its Ecology Workshop, University of Bristol, England
17th International Congress on Photosynthesis Research, Maastricht, Netherlands
IMBC2016 Conference, Baltimore
Oceans World Meeting, Woods Hole
GSA, Denver
The Royal Society, London
Goddard Space Flight Center, Maryland
2016 Symposium on Biomaterials, Islen NJ
Frontiers in Genomics, Nation Autonomous University of Mexico (UNAM), Mexico City

2017 Antarctic Cruise, R/V ARSV Lawrence M. Gould
QuEBS 2017, Workshop on Quantum Effects in Biological Systems, Jerusalem
NSF Geosciences AC-GEO, Washington
NASA Europa Lander Mission Concept Town Hall, Mesa, Arizona
The Rockefeller Foundation, The Bellagio Center, Writing Residency, Italy

Students

D.M. Riper - SUNY at Stony Brook, M.Sc. 1979
J. Budin - SUNY at Stony Brook
J. Sucher - Southampton College
N. Noy - SUNY at Stony Brook
G. Santostefano - Southampton College
Y. Park - SUNY at Stony Brook, Ph.D. 1988
T. Arroll - Southampton College, B.Sc. 1990
M. Tedesco - SUNY at Stony Brook, M.Sc. 1991
D. Henry - SUNY at Stony Brook, M.Sc. 1991
A. Milligan - SUNY at Stony Brook, M.Sc. 1991
M. Olaizola - SUNY at Stony Brook, Ph.D. 1993
A. Subramaniam - SUNY at Stony Brook, Ph. D. 1995
J. Bauman - SUNY at Stony Brook, M.Sc. 1993
S. Tozzi- Rutgers University, M.Sc. 2002

Z. Finkel - Rutgers University, Ph. D. 2004
T. Shi - Rutgers University, Ph. D. 2006
M. Oliver – Rutgers University, Ph. D. 2006
F. Wolfe - Rutgers University, Ph. D. 2006
S. Whittaker – Rutgers University, M.Sc. 2008
A. Kahl – Rutgers University, Ph. D. 2008
R. Howard – Scripps Institute of Oceanography, Ph.D.
C. Yan - Rutgers University, M. Sc. 2009
G. Robbins – Rutgers University, M.Sc. 2010
C. Yan – Rutgers University, M.Sc. 2012
J. D. Kim - Rutgers University, Ph.D. 2013
D. Lyons – Rutgers University, M Sc. 2014
J. Harrold - Rutgers University, Ph.D. 2014
J. Drake - Rutgers University, Ph.D. 2015
J. Kim - Rutgers University, Ph.D. 2016
B. Jelen - Rutgers University, Ph.D. (in progress)
A. Agarwal - Rutgers University, Ph.D. (in progress)
W. Liu – Rutgers University, Ph.D. (in progress)
J. Casey – University of Hawaii, Ph.D. (in progress)
Y. Sherman – Rutgers University, Ph.D. (in progress)
K. Yu Cheong – Rutgers University, Ph.D. (in progress)

Ph.D. Advisor for

Elizabeth Cosper - Columbia University, Ph D. 1980
Stephen Schaffer - New York University, Ph D. 1984
Ivor Elrifi - Queens University, Kingston, Ontario Ph. D. 1988
Richard Greene - SUNY at Stony Brook, Ph. D. 1994
Richard Reynolds - University of Southern California, Ph. D. 1993
Ming-Yi Sun - SUNY at Stony Brook, Ph. D. 1992
Zachary Johnson - Duke University, Ph. D. 2000
Jay Cullen - Rutgers University, Ph D. 2000
Joseph Grzymski - Rutgers University, Ph. D. 2001
Tricia Bergmann - Rutgers University, Ph.D. 2003
Nicolas Cassar - University of Hawaii, Ph. D. 2003
Matthew Oliver - Rutgers University, Ph.D. 2006
Yongchen Ji - Rutgers University, Ph.D. 2006
Alex Kahl - Rutgers University, Ph.D. 2008
John Kim - Rutgers University, Ph.D. 2013
John Harrold - Rutgers University, Ph.D. 2014
Joomi Kim – Rutgers University, Ph.D. 2016

Visiting Scientists (Scientists who have worked in my laboratory)

Dr. Zvy Dubinsky, Bar Ilan University, Ramat Gan, Israel
Robert Precali, Ruder Boskovic Institute, Rovinj, Yugoslavia
Dr. Anton Post, Laboratory of Microbiology, University of Amsterdam
Dr. Robert Kinzie, Dept. of Zoology, University of Hawaii
Dr. Tamar Berner, Dept. of Life Sciences, Bar Ilan University
Dr. James Aiken, Inst. of Marine Environmental Research, Plymouth, U.K.
Dale Robinson, University of Southern California
Dr. Leonard Muscatine, University of California, Los Angeles
Dr. Richard Geider, College of Marine Science, University of Delaware
Dr. Kaori Ohki, National Institute for Basic Biology, Ikazaki, Japan
Dr. Ondrej Prasil, Institute of Microbiology, Czech Academy of Sciences, Trebon, Czech Republic
Dr. Ian Davison, Dept. of Botany, University of Maine, Orono
Dr. Joseph Berry, Carnegie Institute for Plant Science, Stanford, California
Dr. Jean-Marc Ducruet, Dept. Of Biophysics, Saclay, France
Dr. Barry Osmond, Australian National University
Dr. Heather Stoll, Harvard
Dr. Mario Giordano, University of Ancona, Italy
Dr. Yong Park, Inha University, Korea
Dr. Maria Segovia, Queens University, Belfast
Dr. Sang Hoon Lee, Oceanographic Research and Development Institute, Korea
Dr. Amos Israel, University of Haifa
Dr. Rosalind Rickaby, Oxford University
Dr. Jean Paul Gattuso, CNRS – France
Dr. Alan Townsend, University of Colorado
Dr. Joon-Baek Lee, Cheju National University, Korea
Dr. Moshe Ben-Tzion, Bar-Ilan University, Israel
Dr. Sinjae Yoo, Korean Ocean Research and Development Institute, Inchon, Korea
Dr. Frederico Pereira Brandini, Oceanographic Institute of São Paulo University, Brazil

Post-doctoral Fellows

Dr. Assaf Sukenik (Director, Israel Limnological Center)
Dr. Zbigniew Kolber (Research Engineer, MBARI)
Dr. Jonathan Zehr (Professor of Marine Science, UC Santa Cruz)
Dr. Ronny Herzig (Professor, University of Haifa - deceased)
Dr. Julie LaRoche (Professor, Dalhousie University)
Dr. Anne Mortain-Bertrand (Professor, University of Bordeaux)
Dr. Paul Kemp (Professor, University of Hawaii)
Dr. Richard Greene (Research Scientist, EPA)
Dr. Jean-Michel Escoubas (Research Scientist, CNRS)
Dr. Ilya Vasil'ev (Senior Scientist, Lasertech -deceased)
Dr. John Berges (Professor, University of Wisconsin, Milwaukee)

Dr. Michael Behrenfeld (Research Scientist, Goddard Space Flight Center; Professor Oregon State)
Dr. Ondrej Prasil (Director of Research, Trebon, Czech Republic)
Dr. Juan Vergara (Associate Professor, University of Cadiz)
Dr. Dion Durnford (Professor, University of New Brunswick, Canada)
Dr. Maxim Gorbunov (Research Professor, Rutgers University)
Dr. Ilana Berman-Frank (Professor, Bar Ilan University)
Dr. Yibu Chen (Information Technology Specialist, University of Southern California)
Dr. Debora Iglesias-Rodriguez (Professor, University of California, Santa Barbara)
Dr. Yorum Gerchman (Associate Professor, Haifa University)
Dr. Yi Sun (Research Associate, Waksman Institute)
Dr. Michal Koblizek (Research Scientist, Trebon, Czech Republic)
Dr. Antoinetta Quigg (Assistant Professor, Texas A&M)
Dr. Daniel Grzebyk (Assistant Professor, University Montpellier)
Dr. Kay Bidle (Professor, Rutgers University)
Dr. Elena Litchman (Associate Professor, University of Michigan)
Dr. Andrew Irwin (Associate Professor, Mount Alison College)
Dr. Danny Tchernov (Professor, University of Haifa)
Dr. Bas van Schootbrugge (C2 Professor, Johann Wolfgang Goethe University, Frankfurt)
Dr. Trevor Bailey (Lecturer, University of Cardiff)
Dr. Thomas Bibby (Lecturer, Southampton Oceanography Centre)
Dr. Lin Jiang (Assistant Professor, Georgia Institute of Technology)
Dr. Allen Milligan (Assistant Research Professor, Oregon State University)
Dr. Diana Nemergut (Associate Professor, University of Colorado)
Dr. Huiyan Yang (Maricopa Association of Governments)
Dr. Yael Helman (Principal Investigator, The Hebrew University of Jerusalem)
Dr. Pedro Cermeno (Post-doctoral Associate, Instituto de Ciencias del Mar, Universidad de Vigo)
Dr. Tracy Quan (Assistant Professor, Oklahoma State University)
Dr. Assaf Vardi (Assistant Professor, Weizmann Institute of Science)
Dr. Matthew Johnson (Assocate Scientist, Woods Hole Oceanographic Institute)
Dr. Michele Vitadello (Assistant Professor Medgar Evers College, NYC)
Dr. Miguel Frada (Research Associate, Waksman Institute)
Dr. Eric Hajanirana Andrianasolo (Research Associate, Rutgers University)
Dr. Stefan Senn (Post-doctoral Associate, University of Salzburg)
Dr. Tali Mass (Assistant Professor, Haifa University)
Dr. Jorge Dinamarca (Research Scientist, Algenol Biofuels)
Dr. Benjamin Bailleul (Research Associate, IBPC Sorbonne University)
Dr. Arye Harel (Research Scientist, Volcani Institute)
Dr. Hanzhi Lin (Post-doctoral Associate, University of Maryland Center for Environmental Science)
Dr. Fedor Kuzminov (Scientist II, Synthetic Genomics)
Dr. Orly Levitan (Assistant Research Professor, Rutgers University)
Dr. Stanilas Von Euw (present post-doc)
Dr. Hagai Raanan (present post-doc)

Dr. Elisha Moore (present post-doc)
Dr. Andrew Mutter (present post-doc)
Dr. John Kim (present post-doc)
Dr. Manjula Mummadisetti (present post-doc)

Consultant

Algenol Biofuels
Satlantic
Sapphire Energy

Patents

Pump and probe fluorometer (with Z. Kolber). U.S. Patent No. 4,942,303 (July 17, 1990).

Fast repetition rate fluorometer and method for measuring fluorescence and photosynthetic parameters (with Z. Kolber) U.S. Patent No. 5,426,306 (June 20, 1995).

Fast repetition rate (FRR) flasher (with Z. Kolber) U.S. Patent No. 5,602,446 (February 11, 1997)

Multiple protocol fluorometer and method (with Z. S. Kolber) U.S. Patent No. 6,121,053 (September 19, 2000).

McFP encoding nucleic acids, polypeptides, antibodies and methods and use thereof. (with Y. Sun, M. Gorbunov, K. Wyman, Y. Chen) U.S. Patent No. 6,933, 375 (August 23, 2005).

McFP encoding nucleic acids, polypeptides, antibodies and methods and use thereof. (with Y. Sun) U.S. Patent No. 7,067,645 (June 27, 2006)

McFP encoding nucleic acids, polypeptides, antibodies and methods and use thereof. (with Y. Sun) U.S. Patent No. 7,091,318 (August 15, 2006)

Fluorescent protein from Montastraea cavernosa (with Y. Sun, M. Gorbunov, K. Wyman, Y. Chen) U.S. Patent No. 7,358,336 (April 15, 2008)

Compositions and methods for treating cancer (with E.H. Andrianasolo, L. Haramaty, E. White, R. Lutz) U.S. Patent No. 8,183,395 (May 22, 2012)

Compositions and Methods for Enhancing Lipid Production in Marine Microalgae (with Frada, M., Wyman, K., & Gibson, J.) U.S. Patent No. 0282676 A1 (November 8, 2012).

Compositions and methods for enhancing lipid production in microalgae via induction of cell cycle arrest (with J. Kim) WO 2013028952 A3 . (May 8, 2014).

Chemically Modified Graphene (with M. Vittadello et al.). U.S. Patent No. 20,140,154,770. (June 5, 2014).

Chemically Modified Graphene (with M. Vittadello et al.). US Patent App. 15/155,695 (November 3, 2016)