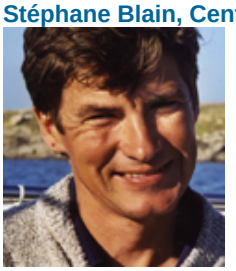
Print

Ocean Iron Fertilization: Brief Biographies of Speakers and Organizers

Bob Anderson, Lamont-Doherty Earth Observatory

Bob Anderson received his PhD in Chemical Oceanography from the WHOI-MIT Joint program in Oceanography. Following graduate school he moved to the Lamont-Doherty Earth Observatory of Columbia University, where he has been ever since. At LDEO Anderson holds a Doherty Senior Scholar position and currently serves as an associate director. His general interests include the marine biogeochemical cycles of carbon, trace elements and their isotopes. His current research seeks to unravel the complex suite of physical, chemical and biological changes in the ocean that governed the tight coupling between late-Pleistocene climate variability and the carbon dioxide content of the atmosphere.

Stéphane Blain, Centre National de la Recherche Scientifique and and Université de la Méditerranée, France



Stéphane Blain received his Ph.D. in chemical oceanography from the University of Brest. In 1993, he served as a post doc at the Moss Landing Marine Laboratories Marine during the preparation of IRONEX1. He is actually professor of chemical oceanography at the Oceanology Centre of Marseille. His research interests are focused on iron biogeochemistry in seawater including the following topics: Development of new analytical methods based on flow injection analysis for the determination of dissolved iron concentrations and for the investigation of the iron speciation in seawater, interaction between iron and phyto or bacterio plankton, and interaction between iron and carbon cycling in the ocean. His research is based on laboratory experiments using trace metal clean cultures and field studies carried out mainly in the open ocean. He is particularly interested in the Southern Ocean where he has recently conducted the natural iron fertilisation experiment KEOPS (Kerguelen Ocean and Plateau Compared Study).

Philip W. Boyd, National Institute of Water and Atmospheric Research and University of Otago, New Zealand

Philip Boyd earned his PhD in microbial ecology from Queens University (Belfast), with postdoctoral work throughout the 10 year JGOFS program in both the UK and Canada. His interest in iron and phytoplankton research was initiated while working in the HNLC waters of the NE subarctic Pacific in the early nineties. He has been a phytoplankton ecologist at NIWA (New Zealand) for 11 years. During this period he led two of the mesoscale iron enrichment experiments - SOIREE (Southern Ocean) and SERIES (NE subarctic Pacific). More recently, he co-chaired a synthesis workshop of all of the meoscale iron experiments in the HNLC and LNLC ocean, and has been involved in other mesocale tracer experiments (FeCycle) to investigate aspects of iron biogeochemistry in unamended HNLC waters. He is currently a member of the scientific steering committee for GEOTRACES.

Ken Buesseler, Woods Hole Oceanographic Institution

Ken O. Buesseler is a Senior Scientist in the Marine Chemistry and Geochemistry Department at the Woods Hole Oceanographic Institution in Woods Hole, Massachusetts, where he received his doctorate in 1986. His latest research is taking him in to the “twilight zone”, the region below the well lit surface ocean and the abyssal depths, where most sinking particles are broken down by biological, physical and geochemical processes, thus effectively reducing the flux of carbon and associated elements to the ocean interior.

John Cullen, University of Dalhousie

John Cullen received his Ph.D. in Biological Oceanography from the Scripps Institution of Oceanography in 1980 and is now the Killam Chair in Ocean Studies at Dalhousie University. His research interests include the physiology and ecology of marine phytoplankton, biological interpretations of optical measurements in surface waters, and real-time ocean observation and prediction systems. With Penny Chisholm, he co-chaired the original “Iron Symposium” of the American Society of Limnology and Oceanography in 1991. He was selected as a Fellow of the Oceanography Society for “fundamental contributions to our understanding of the influence of environmental conditions on phytoplankton function in the ocean.”

Scott Doney, Woods Hole Oceanographic Institution

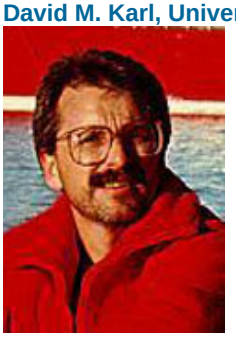
Scott is a Senior Scientist in the Department of Marine Chemistry and Geochemistry of the Woods Hole Oceanographic Institution (WHOI) and the Executive Scientist of the Ocean Carbon and Biogeochemistry Program. Scott returned to WHOI in 2002 following eleven years in the Advanced Study Program (ASP) and Climate and Global Dynamics Division (CGD) at the National Center for Atmospheric Research (NCAR). He received my Ph.D. from the MIT/Woods Hole Joint Program, working with Bill Jenkins on transient tracer data in the ocean. Recent topics of Scott's publications include ocean acidification: Rising atmospheric carbon dioxide

(CO2) levels from fossil fuel burning is lowering surface ocean pH and will severely impact by the end of this century many organisms that build shells from calcium carbonate (e.g., corals, pteropods, coccolithophores), and carbon-climate feedbacks: Future climate warming and changes in the water cycle and ocean circulation will likely decrease the ability of the land biosphere and oceans to store carbon; the resulting carbon-climate feedbacks would accelerate human induced climate-change.

David Freestone, World Bank and University of Hull

David Freestone has written widely on European and international environmental law, particularly fisheries and marine issues. Prior to moving to The World Bank in 1996 he had acted as a legal consultant for, among others, the Commonwealth Secretariat, the Legal Office of FAO, the UN Environment Programme and the UN Development Programme. In 2001 he gave the Josephine Onoh Memorial Lecture: "'Come Hell or High Water...' - International Law and Sustainable Development in the Twenty-First Century."

David M. Karl, University of Hawaii at Manoa



David M. Karl is a microbial oceanographer whose research has focused on the ecology of microorganisms. By integrating observations and measurements at scales ranging from cellular to oceanic, Karl has led the development of a quantitative understanding of the marine carbon cycle and global biogeochemistry.

David Keith, University of Calgary

Professor Keith works near the interface between climate science, energy technology and public policy. His technical and policy work addresses the capture and storage of CO_2, the economics and climatic impacts of large-scale wind power, the use of hydrogen as a transportation fuel, and the technology and implications of geoengineering. Keith spent most of his career in the U.S. at Carnegie Mellon, Harvard and the National Center for Atmospheric Research. He returned to Canada in 2004 to build a research group on energy and environmental systems in Calgary.

Hauke Kite-Powell, Woods Hole Oceanographic Institution

Analysis of public policies and private management decisions in technology-intensive industries and markets, with emphasis on the interdisciplinary application of models and analytical techniques from the fields of economics, engineering, and management.

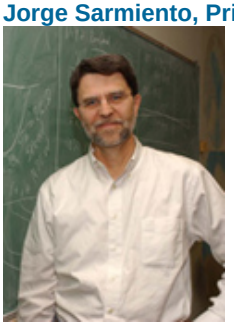
Tony Michaels, University of Southern California

Tony Michaels' primary research interests over the past 21 years involve the role of biological community structure in the cycling and export of organic matter from the surface ocean. In recent years, this has grown to include the study of some unique biological processes, their disproportionate influence on nutrient and carbon cycles and their relative importance on global scales. As his career has evolved to include running the Wrigley Institute for Environmental Studies, Tony has been able to keep an active research program in this area. However, he has also started to add other research foci that reflect a broader set of marine and environmental interests.

Till Neeff, EcoSecurities

Till Neeff has worked as a Senior Consultant at EcoSecurities since October 2005. He provides analytic, financial, and environmental advisory services for private and public sector clients to support the development of greenhouse gas (GHG) reduction projects and GHG management strategies. He specializes in policy, markets and project implementation in the land-management sector, clean-energy and agriculture. Till has over five years of experience in the field of carbon, climate change policy, and carbon sinks. With a PhD in Biometrics, he has profound scientific expertise and in-depth knowledge of monitoring technology. Before joining EcoSecurities, Till has worked for private and public sector institutions, including IUCN, FAO, and the Brazilian National Institute for Space Research.

Jorge Sarmiento, Princeton University



Dr. Jorge L. Sarmiento is a Professor of Geosciences at Princeton University.He obtained his Ph.D. at the Lamont-Doherty Geological Observatory of Columbia University in 1978, and then served as a post-doc at the Geophysical Fluid Dynamics Laboratory/NOAA in Princeton before joining the Princeton University faculty in 1980.He has published widely on the oceanic cycles of climatically important chemicals such as carbon dioxide, on the use of chemical tracers to study ocean circulation, and on the impact of climate change on ocean biogeochemistry.He has participated in the scientific planning and execution of many of the large-scale multi-institutional and international oceanographic biogeochemical and tracer programs of the last two decades.He was Director of Princeton's Atmospheric and Oceanic Sciences Program from 1980 to 1990 and 2006 to the present, and is Director of the Cooperative Institute for Climate Science.He has served on the editorial board of multiple journals and as editor of Global Biogeochemical Cycles.He is a Fellow of the American Geophysical Union and the American Association for the Advancement of Science.

Andy Watson, University of East Anglia

For Andy Watson's early career, he studied the evolution of Earth's and other planets' atmospheres before moving to the marine laboratories at Plymouth and becoming more ocean-oriented. He worked there from 1981-1996 before moving to UEA. Andy developed tracer techniques that can be used to perform a new class of large-scale experiments in the ocean, and in collaborative experiments through the 1990s he used these techniques directly to observe the slow rates of mixing in the open ocean, and to show by release experiments that iron is a critical limiting nutrient for plankton. His group at UEA works on observations of the ocean carbon system and ocean physics using tracers, funded by EU and NERC grants. They also use a variety of models to investigate the processes affecting atmospheric carbon dioxide and oxygen concentrations through time. Andy was elected FRS in 2003 and awarded the EGU's Nansen Medal for "fundamental contributions to the understanding of the integrated oceanic system" in 2004.

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