

## AGU Chapman Conference on the Biological Carbon Pump of the Oceans

## Brockenhurst, Hampshire, England 1–4 September 2009

## (Updated – 3 August, 2009)

Presenting Author	Affiliation	Abstract Title	Presentation Type
C R Benitez- Nelson	University of South Carolina	Investigating the Role of Nitrogen Fixation in Exporting Particulate Carbon to Depth	Poster
D Bianchi	Princeton University	Quantifying the Biogeochemical Impact of Zooplankton Daily Vertical Migrations.	Oral
S Blain	Universite Pierre et Marie Curie	Carbon Export and Natural Iron Fertilization in the Southern Ocean, Large Uncertainties Subsist.	Oral
L Ворр	Laboratoire des Sciences du Climat et de l'Environnement	Stimulating the Biological Pump to Mitigate Climate Change by Means of Iron Fertilization and Enhanced Vertical Mixing: A Review of Modeling Estimates	Oral
P Boyd	University of Otago	Putting the 'Bio' into Modelling the Biogeochemistry of the Twilight Zone	Poster
N Briggs	Darling Marine Center	Can Optical Sensors "See" Sinking Particles? - Interpreting in-Situ Spikes in Fluorescence, Backscatter and Attenuation as Sinking Aggregates.	Oral
K Buesseler, C R Benitez- Nelson	Woods Hole Oceanographic Institution	What Goes Up Must Come DownBut When or Where?	Oral
A Cavagna	Vrije Universiteit Brussel	Biomarkers and Their δ13C Signature in Suspended Particles in the Open Ocean Water Column: The Case of BONUS-GoodHope Expedition (Southern Ocean)	Poster
J Christian	Canadian Centre for Climate Modelling and Analysis	The Biological Pump in the Enhanced Greenhouse: Simulations with the Canadian Earth System Model CanESM1	Oral
K Daly	University of South Florida	The Biological Pump in the Eastern Tropical Pacific Oxygen Minimum Zone	Oral
F Ebersbach	Alfred Wegener Institue for Polar and Marine Research	Impact of Minerals on Degradation of Sinking Aggregates Over the Course of Several Weeks	Poster
S Emerson	University of Washington	Determining the Net Annual Biological Carbon Pump and the CaCO3: Organic Carbon Production Ratio Using In-situ Measurements of O2, N2, pCO2 and pH	Oral
A Fay	University of Wisconsin	Using In-situ pCO2 Observations to Evaluate and Improve Ocean Carbon Models: A North Atlantic Case Study	Poster

G Fones	University of Portsmouth	The Simultaneous Determination of in-situ Vertical Transitions of Color, Redox Sensitive Dissolved Metals and Infaunal Activity in Marine Sediments using G-SPI	Poster
A Forest	University of Tromsø	Spatio-Temporal Phasing Between Primary Production and Vertical Particle Export in the Fram Strait (Arctic Ocean)	Poster
M Gehlen	Laboratoire des Sciences du Climat et de l'Environnement	The Ocean's Biological Pump in Times of Global Climate Change: Is There a Potential for Significant Feedbacks to Atmospheric CO2?	Oral
L Guidi	University of Hawaii	Sub-mesoscale Variability of Particle (>100 µm) Export Around Station ALOHA: The OPEREX Cruise.	Oral
H González	Universidad Austral de Chile	Export Flux of Biogenic Elements (carbon, carbonate) and Their Main Sources (faecal pellets, phytoplankton) to the Deep Sea Along the Humboldt Current System Off Chile (21°-37°S)	Poster
D Harrison	University of Southern California	Estimating Losses to the Radiative Forcing Benefit from Nitros Oxide Production Under Increased Flux in the Biological Carbon Pump	Poster
S Henson	Princeton University	Impact of the North Atlantic Oscillation on Export Flux at the Subpolar – Subtropical Gyre Boundary	Poster
A Hickman	University of Liverpool	Modelling Phytoplankton Distributions in the Ocean: a Novel Multi-Species Approach	Oral
L Hill	University of South Carolina	Phytoplankton Community Characterization Using Imaging Multivariate Optical Computing (IMOC) and Spectral Fluorescence Signatures	Poster
M Hoppema	Alfred Wegener Institute for Polar and Marine Research	Chemical Mass Balance of the Surface Layer in the Southern Ocean for Obtaining Export Production	Oral
J Iriarte	Universidad Austral de Chile	The Importance of Large Cell Size Diatoms to Export Flux of POC and Potential Indicators of Nutrient Change Scenarios in Patagonian Fjords System	Poster
S Jacquet	CEREGE- SE3D	Twilight Zone Carbon Remineralization Efficiency in the Southern Ocean	Poster
N Jiao	Xiamen University	Marine Microbial Carbon Pump	Poster
T Jokulsdottir	University of Chicago	Mechanistic Model of Sinking Biogenic Particles	Oral
B Jonsson	Princeton University	Comparison of O2 Observations and Model Predictions in the Southern Ocean	Poster
D Kadko	University of Miami	Rapid Oxygen Utilization in the Ocean Twilight Zone Assessed with the Cosmogenic Isotope ^7 Be	Oral
C Klaas	Alfred Wegener Institute for Polar and Marine Research	Relation Between POC and Mineral Composition of Sinking Particles in the Water Column: Causes and Consequences	Oral

I Kriest	Leibniz Institute of Marine Sciences IFM-GEOMAR	Parameterisation of Export, Sinking and Remineralisation and its Effect on Simulated Tracers in Large-scale Models of Marine Biogeochemistry	Oral
E Kwon	Princeton University	The Impact of Remineralization Depth on the Air- Sea Carbon Balance	Poster
C Lamborg	Woods Hole Oceanographic Institution	A Brief Review of Recent Advances in Twilight Zone Sinking Particle Collection	Oral
R Lampitt	National Oceanography Centre	The Biological Carbon Pump and Geoengineering: A Story Which is Neither Pure Nor Simple	Oral
R Lampitt	National Oceanography Centre	Developing PELAGRA: Advances in the use of A Neutrally-Buoyant Sediment Trap	Poster
E Lawrenz	University of South Carolina	Spectral Fluorescence Approaches to Characterizing Phytoplankton Community Composition: Towards Continuous In Situ Observations of "Sinkers and Floaters"	Poster
F Le Moigne	National Oceanography Centre	The Role of Calcite in Enhancing the Flux of Particulate Organic Carbon Into the Deep Ocean. CalMarO project RT12	Poster
M Lomas	Bermuda Institute of Ocean Sciences	A Multi-year Increase in Shallow POC Export is Countered by Enhanced Mesopelagic POC Attenuation in the Sargasso Sea	Poster
C Mahaffey	University of Liverpool	*Seasonality of Bloom Formation in the Permanently Stratified North Pacific subtropical gyre. *	Poster
K Maiti	Woods Hole Oceanographic Institution	Thorium-234 Excess and Particle Remineralisation below the Euphotic zone	Poster
A Marchetti	University of Washington	The Morphometrics of Pennate Diatom Frustules in the Sediments are Potential Indicators of Iron- limited Growth in Past Oceans	Oral
l Marinov	University of Pennsylvania	Sensitivity of Atmospheric pCO2 to Changes in the Biological Pump: Does Anthropogenic CO2 Matter?	Poster
A Martin	National Oceanography Centre	Tracing the Biological Carbon Pump Through the Full Water Column: Insights from the Porcupine Abyssal Plain Site	Poster
P Martin	National Oceanography Centre	Export Pulses During Sedimentation of the North Atlantic Spring Bloom	Oral
A McDonnell	Woods Hole Oceanographic Institution	Relating Stocks and Sinking Fluxes of Particles in the Mesopelagic Zone: Case Studies from the Subtropical North Atlantic and the West Antarctic Peninsula	Poster
R Mills	National Oceanography Centre	Quantifying Past Carbon Export and Burial in the Southern Ocean	Oral
J C Miquel	International Atomic Energy Agency	Biologically Mediated Carbon Export in Different Trophic Environments in the South-East Pacific	Poster

J Mohler	Arizona State University	Molecular Time Series of Phytoplankton Export from the Upper Water Column at the Bermuda Atlantic Time-Series Station (BATS)	Oral
C M Moore	National Oceanography Centre	Interactions Between Large Scale Circulation and Iron Supply to the Atlantic Ocean: Implications for Nitrogen Fixation and the Biological Carbon Pump	Oral
S Mori	Geodyne One	Marine Food Chain Possibly Attributed to Petroleum Deposits	Poster
B Moriceau	Université Européenne de Bretagne	*Si-OC Interactions in Diatoms and Their Impact on Diatom Degradation*	Poster
P J Morris	National Oceanography Centre	Assessing the Influence of Biominerals, Calcite and Opal, on the Euphotic Zone Export of Particulate Organic Carbon	Poster
C Mouw	University of Wisconsin- Madison	Satellite Retrieval of Phytoplankton Community Size Structure in the Global Ocean	Poster
S Neuer	Arizona State University	Biological Carbon Pump Comparisons Across a Subtropical Gyre: What Have we Learned?	Poster
M C Nielsdottir	University of Southampton	The Impact of Natural Fe Fertilisation to the Scotia Sea	Poster
S Owens	Woods Hole Oceanographic Institution	A New Record of Particle Flux at the Bermuda Atlantic Time-Series Site From Neutrally Buoyant Sediment Traps	Poster
U Passow	University of California, Santa Barbara	Up or Down: The Biological Pump and Global Change	Oral
Y Plancherel	Princeton University	*A Global Determination of Marine Stoichiometric Remineralization Ratios. *	Poster
F Planchon	Royal Museum for Central Africa	234Th, POC and PON Fluxes Along a Transect from Cape Basin to the Northern Weddell Gyre (BONUS-GOODHOPE)	Poster
H Planquette	Rutgers University	*Trace Metal Distributions and Effects in One of the Most Productive Antarctic Polynyas: the Amundsen Sea.*	Poster
P Pondaven	Institut Universitaire Européen de la Mer	*The Possible Contribution of Higher Trophic Levels to the Biological Pump*	Poster
A J Poulton	National Oceanography Centre	Coccolithophores and the Efficiency of the Biological Carbon Pump	Poster
F Primeau	University of California, Irvine	Controls on the Remineralization Profiles of Sinking Organic Matter	Oral
O Ragueneau	Institut Universitaire Européen de la Mer	*A Low Global POC Export Controlled by Seasonality*	Oral
T Richardson	University of South Carolina	Food Web Dynamics and Carbon Fluxes from the Surface Ocean: Primary Producers and Their Protozoan Predators	Oral
H Saito	Tohoku National Fisheries Research Institute	Vertical and Horizontal Carbon Transport through the Ontogenetic Vertical Migration of Copepods	Oral
J Salisbury	University of New Hampshire	Diagnosing Phytoplankton Uptake of Dissolved Inorganic Carbon (DIC) From Space	Oral

I Salter	Université Pierre et Marie Curie	The Impact of Diatom Community Structure on the Biological Carbon Pump: Results from a Naturally Iron-fertilised Region of the Southern Ocean	Poster
R Sanders	University of Southampton Waterfront Campus	A New Estimate of Sinking Carbon Export From the Photic Zone	Oral
J Sarmiento	Princeton University	The Status of Modeling Water Column Remineralization	Oral
R Schlitzer	Alfred Wegener Institute	Quantification of Downward Carbon Fluxes and Remineralization Rates by Assimilation of Water Column Data	Oral
V Smetacek	Alfred Wegener Institute for Polar and Marine Science	Plankton Evolution and the Biological Carbon Pump: Moving from How Much, to Why.	Oral
C Smith	University of Hawaii at Manoa	Abyssal Ecosystems and the Biological Carbon Pump: Food Limitation, Climate Warming and Iron Fertilization	Oral
C Somes	Oregon State University	Modeling Nitrogen Isotopes in a Global Marine Ecosystem Model: Constraints on the Coupling Between Denitrification and Nitrogen Fixation	Oral
C Soler	Université Européenne de Bretagne	Formation of SI-OC Interactions During Diatom Growth, Under Variable Limitations	Poster
P Statham	National Oceanography Centre	Fe Recycling Relative to C From Particles Leaving the Upper Ocean in the Southern Ocean	Poster
D Steinberg	The College of William and Mary	Biological Controls on Flux Through the Twilight Zone: What Do Ee Know, and What Do We Need to Do Next?	Oral
M Stinchcombe	National Oceanography Centre	Diatoms and New Production: From the Tropics to Sub-polar waters	Poster
S Torres-Valdes	National Oceanography Centre	Distribution of Dissolved Organic Nutrients and Their Effect on Export Production Over the North Atlantic Ocean	Poster
T Trull	University of Tasmania	Phase Lags, Sinking Rates and the Transport of Organic Carbon to the Ocean Interior	Oral
J Tweddle	Boston University	Sources and Sinks of Chlorophyll and Phytoplankton Carbon	Poster
B Van Mooy	Woods Hole Oceanographic Institution	Assessing Rates of Bacterial Carbon Demand in the Twilight Zone: Results from VERTIGO and Future Approaches.	Oral
W Wang	University of Maryland	Interannual to Decadal Variations of Export Production in the Equatorial Pacific: A Basin-Scale Modeling Study of Climate Impacts	Poster
P Wassmann	University of Tromsø	Principle Aspects of the Particulate Carbon Flux Through and From the Upper Layers	Oral
F Wenzhoefer	Alfred Wegener Inst. for Polar and Marine Research and Max Planck Inst. for Marine Microbiology	Benthic Carbon Mineralization: Importance for the Regional and Global Carbon Budget	Oral

S Wilson	Monterey Bay Aquarium Research Institute	Contribution of Zooplankton Fecal Pellets to Carbon Flux in the Deep Ocean at Station M, an Abyssal Time-series Site in the California Current Region of the Eastern North Pacific Ocean	Oral
G Wolff	University of Liverpool	Organic Matter Fluxes and the Response of the Deep-sea Benthos. Clues From the Southern Indian Ocean.	Oral