

# NCAR'S SUMMER COLLOQUIUM

## Capacity Building in Cross-Disciplinary Research of Earth System Carbon–Climate Connections

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This document is a supplement to “NCAR’s Summer Colloquium: Capacity Building in Cross-Disciplinary Research of Earth System Carbon–Climate Connections,” by Annalisa Bracco, Matthew C. Long, Naomi M. Levine, R. Quinn Thomas, Curtis Deutsch, and Galen A. McKinley (*Bull. Amer. Meteor. Soc.*, **96**, 1381–1384) • ©2015 American Meteorological Society • *Corresponding author*: Annalisa Bracco, School of Earth and Atmospheric Sciences, Georgia Institute of Technology, 311 Ferst Dr., Atlanta, GA 30332-0340 • E-mail: [abracco@gatech.edu](mailto:abracco@gatech.edu) • DOI:10.1175/BAMS-D-13-00246.2

### 2013 ASP COLLOQUIUM STUDENT ATTENDEES AND THEIR AFFILIATIONS.

Caroline Alden, University of Colorado, Boulder  
 Ana Bastos, Universidade de Lisboa  
 Sarah Brody, Duke University  
 Benjamin Bronselaer, University of Oxford  
 Christopher Conrad, University of Colorado, Boulder  
 Elizabeth Drenkard, Woods Hole Oceanographic Institute  
 Yassir Eddebbbar, University of California, San Diego  
 Yujie He, Purdue University  
 Leah Johnson, University of Washington  
 Angela Kuhn, Dalhousie University  
 Emma Littleton, University of East Anglia  
 Marguerite Mauritz, San Diego State University, and University of California, Davis  
 Juan Muglia, Oregon State University  
 Levin Nickelsen, GEOMAR Helmholtz Centre for Ocean Research Kiel  
 Caroline Normile, The Pennsylvania State University, University Park, Pennsylvania  
 Darren Pilcher, University of Wisconsin–Madison  
 Katherine Powell, University of Colorado, Boulder  
 Brett Raczka, The Pennsylvania State University  
 Alexis Santos, University of Wisconsin–Madison  
 Elliot Sherman, University of California, Irvine  
 Carlos Silva, University of Maryland, College Park  
 Jennifer Soong, Colorado State University  
 Brandon Stephens, University of California, San Diego  
 Claire Treat, University of New Hampshire  
 Fan Zhang, Georgia Institute of Technology

List of speakers and oral presentations at the workshop on “Key Uncertainties in the Global Carbon Cycle: Perspectives across Terrestrial and Ocean Ecosystems,” held 6–10 August 2013 in Boulder, Colorado

### **CARBON CYCLE OVERVIEW.**

Jim Randerson, University of California, Irvine—*The State of the Carbon Cycle in CMIP5 Models: Processes, Feedbacks, and Future Research Directions*

Ning Zeng, University of Maryland, College Park—*The Changing Seasonal Cycle of Atmospheric CO<sub>2</sub>*

Taka Ito, Georgia Institute of Technology—*Physical and Biological Controls on the Ocean Carbon Storage*

Ying Ping Wang, Commonwealth Scientific and Industrial Research Organisation—*Effects of Nutrient Limitation on Land Carbon Uptake and Its Implications on Climate Change Prediction and Mitigation*

Phillipe Ciais, Le Laboratoire des Sciences du Climat et de l'Environnement, L'Institut Pierre-Simon Laplace—*Challenges in Soil Carbon Modeling and Links to the River Carbon Cycle*

### **NUTRIENT CYCLING CONTROLS AND IMPACTS ON CARBON CYCLING.**

Curtis Deutsch, University of Washington—*Climate Regulation of the Oceanic N Cycle*

Sara Vicca, University of Antwerp—*Nutrient Availability Determines Forests' Carbon Sequestration—A Global Synthesis*

Anna Cabre, University of Pennsylvania—*Southern Ocean Response to Climate Change in the CMIP5 Models*

### **REMINERALIZATION PATHWAYS AND CONTROLS.**

Adrian Burd, University of Georgia—*The Fate of Particulate Organic Material in the Oceans*

Serita Frey, University of New Hampshire—*Terrestrial Ecosystem Carbon Dynamics: Effects of Heterotrophic Respiration*

Christian Lønborg, Swansea University—*Dissolved Organic Matter (DOM)—Microbe Interactions*

Tom Vanwallingham, University of Córdoba—*Toward Modeling Global Soil Erosion and Its Importance for the Terrestrial Carbon Cycle*

### **ROLE OF INDIVIDUALS IN ECOSYSTEM DYNAMICS.**

Rosie Fisher, National Center for Atmospheric Research—*Competition, Co-Existence and Diversity in Vegetation Models*

Tim Lenton, University of Exeter—*Capturing Evolution and Ecology in a Global Ocean Model*

Sophie Fauset, University of Leeds—*Modeling Tropical Forest Dynamics Using an Individual-Based Forest Simulator*

David Nicholson, Woods Hole Oceanographic Institution—*A Cellular Allocation Modeling Approach for Representing the Ecophysiology of Marine Primary Producers*

### **DATA TO CONSTRAIN CARBON CYCLE FEEDBACKS: ASSIMILATION, METRICS, PARAMETER ESTIMATION, INVERSE METHODS, ETC.**

Galen McKinley, University of Wisconsin–Madison—*Using Data to Elucidate Feedback Mechanisms in the Ocean Carbon Cycle*

Kevin Bowman, Jet Propulsion Laboratory, National Aeronautics and Space Administration—*The NASA Carbon Monitoring System*

Kiona Ogle, Arizona State University—*Strategies for Applying Individual-Based Models of Forest Dynamics at Regional to Continental Scales*

### **ROLE OF PHYSICAL CLIMATE VARIABILITY.**

Jeff Chambers, Lawrence Berkeley National Laboratory—*Tree Mortality and Forest–Atmosphere Interactions under a Warming Climate*

Charles Koven, Lawrence Berkeley National Laboratory—*Modeling Terrestrial Carbon–Climate Dynamics in the Northern High Latitudes*

Nicole Lovenduski, University of Colorado, Boulder—*Carbon in the Southern Ocean: Known Knowns and Known Unknowns*

Rondrotiana Barimalala, Georgia Institute of Technology—*Representation of the Indian Ocean Biophysical Interannual Variability in the CMIP5-ESM Models*

### **ECOSYSTEM DYNAMICS NEW HORIZONS.**

Tom Anderson, University of Southampton—*Role of Zooplankton in Marine Ecosystems and Modeling Perspectives*

Jeff Hicke, University of Idaho—*The Role of Biotic Disturbance Agents in Carbon–Climate Connections*