

Modelling Deep Carbon in a Tectonic and Geodynamic Framework

WORKSHOP / 29 - 30 AUGUST 2016 / THE UNIVERSITY OF SYDNEY

Deep carbon science describes the multi-disciplinary effort to unravel the dynamic interactions of carbon-bearing systems in deep time. This two-day workshop will bring together climate and geo-scientists from around Sydney and international collaborators on the DCO-funded Deep Carbon Modelling project. It will focus on exploring the interplays between the atmosphere, oceans, crust and mantle in the deep carbon cycle and on the modelling tools used for conceptualising and visualising this data in new and innovative ways.

All sessions take place in the Madsen Conference Room 449, Madsen Building F09, School of Geosciences.

DAY ONE, MONDAY 29 AUGUST

Morning

9:00 - 9:20 AM	Meet and greet over morning tea
9:20 - 9:30 AM	Workshop welcome and goals Dietmar Müller , University of Sydney
9:30 - 10:00 AM	Emerging technologies in modelling: moving toward community-driven deep carbon science Sabin Zahirovic , University of Sydney
10:00 - 10:30 AM	Linking climate, deep carbon flux and subduction zone dynamics since 410 Ma Jodie Pall , University of Sydney
10:30 - 10:45 AM	Morning tea
10:45 - 11:15 AM	Paleoceanographic changes in the Bering Sea and past climate reconstructions (<i>working title</i>) Kelsie Dadd , Macquarie University
11:15 - 11:45 AM	Shallow-water calcium carbonate accumulation in the Great Barrier Reef: Implications for the global carbon cycle over the past 30 ka Jody Webster , University of Sydney
11:45 - 12:15 PM	Changes in the ocean carbon sink driven by the Southern Hemisphere Westerlies Willem Huiskamp , University of NSW
12:15 - 1:30 PM	Lunch

Afternoon

1:30 - 2:00 PM	Deep carbon connections between the Underworld and the Earth's surface Louis Moresi , University of Melbourne
2:00 - 2:30 PM	Rift length analysis during Pangea fragmentation and implications for CO ₂ degassing estimates Simon Williams , University of Sydney
2:30 - 3:00 PM	Interplays between silicate weathering, climate and the global carbon cycle Anthony Dosseto , University of Wollongong
3:00 - 3:30 PM	Afternoon tea
3:30 - 4:00 PM	Impact of climate and human activity on soil over the past 12 500 years Leo Rothacker , University of Wollongong
4:00 - 4:30 PM	Spatial patterns of carbon storage in the forested slopes of Puerto Rico; fluxes to the surrounding ocean Gilles Brocard , University of Sydney
4:30 - 5:00 PM	Deep time modelling of oceanic crust as a CO ₂ reservoir Dietmar Müller , University of Sydney

DAY TWO, TUESDAY 30 AUGUST

Morning

9:00 - 9:15 AM	Subduction zone and crustal reservoir modelling review Jodie Pall , University of Sydney
9:15 - 10:15 AM	Modelling deep time atmospheric carbon flux using pyGPlates Sam Doss , University of Sydney
10:15 - 10:30 AM	Morning tea
10:30 - 12:00 PM	Workshop synthesis and open discussion Dietmar Müller (discussion moderator), University of Sydney
12:00 - 1:30PM	Lunch

Afternoon

1:30 - 4:00 PM	'Projecting into the future' discussion session
4:00PM	Afternoon tea