

Organic Geochemistry

August 1-6, 2010
Holderness School
Holderness, NH

Chair:
Clifford C. Walters

Vice Chair:
Timothy I. Eglinton

Application Deadline

Applications for this meeting must be submitted by **July 11, 2010**. Please apply early, as some meetings become oversubscribed (full) before this deadline. If the meeting is oversubscribed, it will be stated here. Applications will still be accepted for oversubscribed meetings. However, they will only be considered by the Conference Chair if more seats become available due to cancellations.

The 2010 GRC on Organic Geochemistry will center on cutting-edge research on geochemical processes, their associated organic molecular and isotopic signatures, and their implications for understanding biological, geologic, and petroleum systems. Topics and speakers will draw from a diversity of research fields, including analytical methods, biogeochemistry, molecular biology, and resource geochemistry.

2010 marks the official 40th anniversary of this meeting. We plan to invite several of the participants from the first 1970 conference, who will provide a historic perspective of the discipline. Holderness School continues to be our host and the remodeled Weld Hall will provide an ideal venue for poster presentations and social activities.

Contributors











SUNDAY

2:00 pm - 9:00 pm Arrival and Check-in (Office Closed 6:00 pm - 7:00 pm)

5:00 pm - 6:00 pm Icebreaker

6:00 pm Dinner

7:30 pm - 7:40 pm Welcome / Introductory Comments by GRC Site Staff

7:40 pm - 7:55 pm **40th Anniversary of the Organic Geochemistry GRC**

Geoffrey Eglinton (Dartmouth)
"40 Years On"

7:55 pm - 9:30 pm **Astrobiology / Cosmochemistry**

Discussion Leader: **Joseph Nuth III** (NASA)

7:55 pm - 8:30 pm **Mary A. Voytek** (NASA)
"Stars to Life: contributions of organic geochemistry to Astrobiology"

8:30 pm - 8:45 pm Discussion

8:45 pm - 9:15 pm **Jamie Elsila** (NASA)
"Searching for amino acids in meteorites and comet samples"

9:15 pm - 9:30 pm Discussion

MONDAY

7:30 am - 8:30 am Breakfast

8:45 am Group Photo

9:00 am - 12:30 pm	Petroleum Systems / Reservoir Processes
	Discussion Leader: Erdem Idiz (Shell International B.V.)
9:00 am - 9:10 am	Announcements
9:10 am - 9:40 am	John Stainforth (Shell International Exploration and Production Inc) "State-of-the-art of petroleum generation and expulsion modeling"
9:40 am - 9:55 am	Discussion
9:55 am - 10:25 am	Matt Ashby (Taxon Biosciences) "Exploring the biological-geochemical interface in marine sediments with ribosomal RNA gene sequence tags"
10:25 am - 10:40 am	Discussion
10:40 am - 11:00 am	Coffee Break
11:00 am - 11:30 am	Jeff Sheremata (ConocoPhillips) "Heavy oil and asphaltene molecules: archipelago, continental, or both"
11:30 am - 11:45 am	Discussion
11:45 am - 12:15 pm	David Zinniker (Stanford University) "High-resolution source apportionment in complex petroleum systems"
12:15 pm - 12:30 pm	Discussion
12:30 pm	Lunch
1:30 pm - 4:00 pm	Free Time
4:00 pm - 6:00 pm	Poster Session I
6:00 pm	Dinner
7:30 pm - 9:30 pm	Molecular Biogeochemistry of Microbial Systems
	Discussion Leader: Tim Eglinton (WHOI / ETH Zurich)
7:30 pm - 8:15 pm	Ben Van Mooy (Woods Hole Oceanographic Institution) "Polar lipid indicators of microbial processes in the surface ocean"
8:15 pm - 8:30 pm	Discussion
8:30 pm - 9:10 pm	Jennifer Macalady (The Pennsylvania State University) "Lipid signatures of sulfur redox gradients"
9:10 pm - 9:25 pm	Discussion
9:25 pm - 9:30 pm	Announcements
TUESDAY	
7:30 am - 8:30 am	Breakfast
9:00 am - 12:30 pm	Modern Organisms: Vital Systems for Interpreting Ancient Molecular Fossils
	Discussion Leaders: Ann Pearson (Harvard University) and Roger Summons (MIT)
9:00 am - 9:25 am	Chris Dupont (J. Craig Venter Institute) "Tracking the evolution of metabolic pathways using structural genomics"
9:25 am - 9:50 am	Mak Saito (Woods Hole Oceanographic Institution) "Neoproterozoic oxygenation of Earth surface environments reflected in the late evolution of the O ₂ -dependent vitamin B ₁₂ biosynthesis pathway"
9:50 am - 10:10 am	Discussion of Previous Two Talks
10:10 am - 10:40 am	Coffee Break
10:40 am - 11:05 am	Meytal Higgins (Princeton University) "A taxonomic survey of nitrogen isotope fractionation during chlorophyll biosynthesis: Implications for the use of porphyrins in paleoceanographic reconstruction"
11:05 am - 11:15 am	Discussion
11:15 am - 11:40 am	Paula Welander (Massachusetts Institute of Technology) "Genetic analysis of the hopanoid biosynthetic pathway in an anoxygenic phototroph"
11:40 am - 12:05 pm	David Doughty (Massachusetts Institute of Technology) "Towards understanding the biological function of hopanoids"
12:05 pm - 12:25 pm	Discussion of Previous Two Talks
12:25 pm - 12:30 pm	Announcements
12:30 pm	Lunch
1:30 pm - 4:00 pm	Free Time
4:00 pm - 6:00 pm	Poster Session I
6:00 pm	Dinner
7:30 pm - 9:30 pm	Ultra-deep Biosphere
	Discussion Leader: Tullis C. Onstott (Princeton University)
7:30 pm - 7:55 pm	Andreas Teske "The subsurface biosphere in deep marine sediments: New sites, new organisms, new approaches"
7:55 pm - 8:05 pm	Discussion
8:05 pm - 8:30 pm	Esta van Heerden (University of the Free State) "Multitasking Mechanisms of Deep Subsurface Micro-organisms - the key to survival?"
8:30 pm - 8:40 pm	Discussion

8:40 pm - 9:10 pm **Joseph Suflita** (University of Oklahoma)
"Geochemical and microbiological profiles of deep Alaska North Slope reservoirs"

9:10 pm - 9:20 pm Discussion

9:20 pm - 9:30 pm Announcements

WEDNESDAY

7:30 am - 8:30 am Breakfast

9:00 am - 12:30 pm **Unconventional Petroleum: Present and Future**

Discussion Leader: **Michael Lewan** (United State Geological Survey)

9:00 am - 9:40 am **Chris Boreham** (Geoscience Australia)
"Coalbed Methane and CO₂ Storage"

9:40 am - 10:00 am Discussion

10:00 am Coffee Break

10:30 am - 11:10 am **Sylvain Bernard** (Helmholtz Centre Potsdam GFZ)
"Multiscale study of gas shale properties and thermal evolution"

11:10 am - 11:30 am Discussion

11:30 am - 12:10 pm **Matthew C. Posewitz**
"Algal Carbohydrates, Lipids and Hydrogen: metabolic interplay of a biofuels portfolio"

12:10 pm - 12:30 pm Discussion

12:30 pm Lunch

1:30 pm - 4:00 pm Free Time

4:00 pm - 6:00 pm Poster Session II

6:00 pm Dinner

7:00 pm - 7:30 pm Business Meeting, Part I

(Nominations for the next Vice Chair; Fill out Conference Evaluation Forms; Discuss future Site & Scheduling preferences; Discuss addition of a Gordon Research Seminar)

7:30 pm - 9:30 pm **Frontiers in Biogeochemistry**

Discussion Leader: TBA

7:30 pm - 7:50 pm TBA (selected from poster submissions)

7:50 pm - 8:00 pm Discussion

8:00 pm - 8:20 pm TBA (selected from poster submissions)

8:20 pm - 8:30 pm Discussion

8:30 pm - 8:50 pm TBA (selected from poster submissions)

8:50 pm - 9:00 pm Discussion

9:00 pm - 9:20 pm TBA (selected from poster submissions)

9:20 pm - 9:30 pm Discussion

THURSDAY

7:30 am - 8:30 am Breakfast

8:30 am - 9:00 am Business Meeting, Part II

(Election of the next Vice Chair; Votes on Site & Scheduling preference and the addition of a Gordon Research Seminar)

9:00 am - 12:30 pm **Molecular and Isotopic Proxies - Paleoclimatology and Paleoceanography**

Discussion Leader: **Richard Pancost** (University of Bristol)

9:00 am - 9:40 am **Jessica Tierney** (Brown University)
"Molecular Paleoclimatology: State-of-the-Art and Volatile States"

9:40 am - 10:00 am Discussion

10:00 am Coffee Break

10:30 am - 11:10 am **Matt Huber** (Purdue University)
"Why improving molecular and isotopic proxy paleoclimate records is the most important problem in science today: A climate modeling perspective"

11:10 am - 11:30 am Discussion

11:30 am - 12:10 pm **Simon Belt** (University of Plymouth)
"Declining Arctic sea ice? It's all in the past"

12:10 pm - 12:30 pm Discussion

12:30 pm Lunch

1:30 pm - 4:00 pm Free Time

4:00 pm - 6:00 pm Poster Session II

6:00 pm Dinner

7:30 pm - 9:30 pm **Frontiers in Energy**

Discussion Leader: TBA

7:30 pm - 7:50 pm TBA (selected from poster submissions)

7:50 pm - 8:00 pm Discussion

8:00 pm - 8:20 pm	TBA (selected from poster submissions)
8:20 pm - 8:30 pm	Discussion
8:30 pm - 8:50 pm	TBA (selected from poster submissions)
8:50 pm - 9:00 pm	Discussion
9:00 pm - 9:20 pm	TBA (selected from poster submissions)
9:20 pm - 9:30 pm	Discussion

FRIDAY

7:30 am - 8:30 am	Breakfast
9:00 am	Departure

Last Updated: April 9, 2010