



THE UNIVERSITY
OF QUEENSLAND
AUSTRALIA

Monday, February 2, 2015

TeraWatts, TeraGrams, TeraLiters
Workshop on Challenges and Opportunities for Sustainable Production
of Chemicals and Fuels beyond the Shale Gale

1601 Elings Hall, UC Santa Barbara Campus

8:15 am Hotel shuttle pick-up
8:30-8:50 Coffee and registration
8:50-9:00 Welcome and opening remarks (E. McFarland)

Session 1: Panel Charlie Campbell (Chair), Kate Fountaine, Niels Zussblatt, Fadl Saadi, Matt Aronson

9:00-9:20 The Challenge of Energy Poverty and Insuring Future Opportunities for Everyone (C. Greig, U. Queensland)
9:25-9:45 Clean Coal: A NICE Perspective (C. Wei, National Institute of Clean-And-Low-Carbon Energy, China)
9:45-9:55 Discussion
10:00-10:20 The future of molecules for the energy supply? (C. Mesters, Shell)
10:25-10:45 Issues in Renewable Energy and Feedstocks from a Big Chemical Company Perspective (J. Stevens, Dow)
10:50-11:10 Sustainability – a Key Competitive Advantage in Petrochemicals (V. Chandrashekar, C. Demmelmaier, ChevronPhillips)
11:10-11:20 Discussion
11:20-11:40 Going green with chemicals and fuels - Sustainable at a premium or not? (M.S- Skjøth-Rasmussen, Haldor-Topsoe)
11:45-12:05 Field of Dreams: Renewable feedstock from agriculture beyond food vs fuel (L. Zullo, Greenyug Inc)
12:10-12:30 The chemical industry under the 3rd industrial revolution, how to live under 4000 grams of CO₂ per capita and day (R. Cayuela Valencia, Dow)
12:35-1:00 Discussion

Session 2: Panel Brad Chmelka (Chair), Matt Shaner, Nirala Singh, Bill Gaieck, Alan Derk

1:00-1:20 Challenges and Opportunities for Sustainable Energy from Novel Materials (D. Zhao, Fudan)
1:25-1:45 Another "Climate Change" in the Chemical Industry toward Green and Sustainable Societies (F. Shimizu, Mitsubishi Chemical Group Science and Technology Research Center)
1:50-2:10 Beyond Carbon Neutral: Integrative Ideas about CO₂ Uptake and the Fate of Carbon (M. Barteau, U. Michigan)
2:15-2:35 17 Terawatts to 30 Terawatts what to build and who to build it (A. Smith, Fluor)
2:40-3:00 Discussion
3:00-3:20 Innovating New Grid Technologies: Providing Electricity on Demand (J. Lemmon, US DOE/ARPA-E)
3:25-3:45 Solar Energy Driven Photoelectrochemical Water Splitting (G. Zheng, Fudan)
3:50-4:10 Recycling Nuclear Waste: Potentials and Global Perspectives (M. Nilsson, UC Irvine)
4:15-4:35 Innovative Chemical and Medical Products from an Innovative Nuclear Reactor Design (K. Sorensen, FLiBe Energy)
4:40-5:30 Discussion & Wine Wrap-Up: Big Ideas That Just Might Not Be So Crazy

To Follow for speakers and invited participants, dinner at Mosher Alumni House, UC Santa Barbara Campus