



ASTROCHEMISTRY :
Discoveries to Inform the Chemical Sciences
and Engineering Communities

DAY 1

Date – November 8, 2018

Location – Keck Center

- 8:30 AM **Welcome and Opening Remarks**
Ellen Mantus
Director, Chemical Sciences Roundtable
Board on Chemical Sciences and Technology
National Academies of Sciences, Engineering, and Medicine
- Michael J. Fuller, Workshop Planning Committee Member*
Completions Fluids and Stimulation Advisor
Chevron Energy Technology Company
- 8:45 AM **Keynote Speaker**
Paola Caselli, Max-Planck-Institute for Extraterrestrial Physics
University of Virginia
- Session 1: The Chemistry of Space: Novel Chemicals and Reaction Mechanisms*
- 9:30 AM **Introduction to Session 1**
Eric Herbst, Workshop Planning Committee Member
Commonwealth Professor of Chemistry and Astronomy
University of Virginia
- 9:45 AM **Detection of Exotic Species in Space and in the Laboratory**
Michael McCarthy, Harvard-Smithsonian Center for Astrophysics
- 10:15 AM **Observation of Organic Molecules in Disks around Young Stars**
Catherine Walsh, University of Leeds (virtual)
- 10:45 AM Break
- 11:00 AM **PAHs and Fullerenes: Complex Carbon Species throughout the Universe**
Els Peeters, University of Western Ontario



11:30 AM **Production of Interstellar Molecules by Proton Bombardment of Ices**
Reggie Hudson, NASA

12:00 PM **Panel Discussion**
Panelists – Presenters 1-4

12:45 PM **LUNCH BREAK (VISUAL BREAK)**

Session 2: Information from Remote Sensing through Spectroscopy

1:45 PM **Introduction to Session 2**
*Susanna Widicus Weaver, Workshop Planning Committee Member
Associate Professor of Chemistry and Director of Graduate Studies
Emory University*

2:00 PM **Where is the Carbon in the Solar System?**
Ted Bergin, University of Michigan

2:30 PM **Chemistry in Disks of Gas and Dust**
Ilse Cleaves, University of Virginia

3:00 PM **Break**

3:15 PM **Chemistry of Planetary Atmospheres**
Sarah Horst, Johns Hopkins

3:45 PM **Planetary Evolution**
Jonathan Fortney, University of California Santa Cruz

4:15 PM **Panel Discussion**
Panelists – Presenters 5-8

5:00 PM **Adjourn Day 1**



DAY 2

Date – November 9, 2018

Location – Keck Center

Session 3: Discoveries from Spacecraft Missions in the Solar System and from Laboratory Studies of Extraterrestrial Samples”

- 8:30 AM **Introduction to Session 3**
*Stefanie Milam, Workshop Planning Committee Member
JWST Deputy Project Scientist for Planetary Science
NASA Goddard Space Flight Center*
- 8:45 AM **Origins of Complex Organics in Primitive Bodies**
Jamie Elsila, NASA
- 9:15 AM **Preservation of Organics on Mars**
Daniel Glavin, NASA
- 9:45 AM **Break**
- 10:00 AM **Searching for Habitability at the Extremes**
Amanda Stockton, Georgia Tech
- 10:30 AM **The Chemistry of Pluto as Revealed by New Horizons**
Mike Wong, Caltech
- 11:00 AM **Panel Discussion**
Panelists – Presenters 9-12
- 11:45 AM **Closing Remarks**
*Michael J. Fuller, Workshop Planning Committee Member
Completions Fluids and Stimulation Advisor
Chevron Energy Technology Company*
- 12:00 PM **Workshop Concludes**