

# Europa/Enceladus Plumes Workshop

## Summary for OPAG

22<sup>nd</sup> February 2017

Carly Howett

Workshop Details:

Caltech

15<sup>th</sup> October 2016

### **Instigators**

Linda Spilker (Cassini), Bob Pappalardo (Europa Mission)

### **Organization**

Carly Howett, Matt Hedman, John Spencer, Scott Edgington

### **Local Logistics**

Andy Ingersoll

# Workshop Details:

## Location

Sharp Lecture Hall  
Caltech

## Date

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Images courtesy of Scott Edgington



# Europa-Enceladus Plumes Workshop

- The purpose of the meeting will be to compare Enceladus and Europa plumes and their sources. In particular, the workshop will consider how our understanding of Enceladus' activity can be applied to European plumes and the observations conducted by the Europa mission.
- A free workshop, thanks to Caltech and SwRI 😊
- Attendance was largely from the Cassini and Europa Clipper community, but abstracts were solicited from the wider community through the DPS mailing list and Facebook's Young Scientists for Planetary Exploration
- ~80 people attended in person, ~5 to 10 by Webex



# Agenda

Time	Author	Topic
9:10	Spencer/Spilker/Pappalardo	Welcome/Introductions
9:30	Joe Spitale	Enceladus Eruptions
9:50	Paul Schenk	Color Signatures of plume deposits
10:10	Bonnie Buratti	Using Remote Sensing Tricks to Identify Regions of Active Plumes
10:30	Zibi Turtle	EIS Capabilities and Plans for Europa Plume-Search Observations
10:50	Britney Schmidt	Geological context of European activity
11:10	Discussion	
11:30	<b>Lunch</b>	
13:00	Candy Hansen	Enceladus Plume Observations at Ultraviolet Wavelengths with UVIS
13:20	Kurt Retherford	Europa Water Vapor Plume Searches with Hubble Far-UV Imaging Spectroscopy: Summary of Efforts Following First Detection
13:40	Melissa McGrath/Bill Sparks	Evidence for plumes on Europa from HST/STIS
14:00	Ben Southworth	Numerically Modeling Europa and Enceladus' Water Vapor Plumes
14:20	Ganna Portyankina	3D DSMC model for Enceladus water vapor jets
14:40	Darrell Strobel	Europa's Water Vapor Plumes: Fact or Fiction
15:00	<b>Break</b>	
15:20	John Cooper	Radiolytic Cryovolcanism Revisited at Enceladus and Europa
15:40	William Farrell	Electro-dynamic pickup of submicron dust in the Enceladus plume: Europa applications
16:00	Ben Teolis	European exospheric models fed by a plume
16:20	Han Huybrighs	Feasibility study of the in-situ detectability of Europa's neutral and plasma plumes from a flyby mission
16:40	Morgan Cable	Overview of the Enceladus Life Flyer (ELF)
16:50	Andy Ingersoll	Does liquid water reach the surface of the Enceladus plumes, and what would that mean for habitability?
17:00	Discussion	
17:30	Adjourn	

# Conclusion

- Very successful and thought provoking workshop
  - Talks on a wide range of topics were given
  - Discussion time enabled a large number of fruitful interdisciplinary discussions
- Request that the workshop be repeated.
  - Possibly in the Fall of 2018