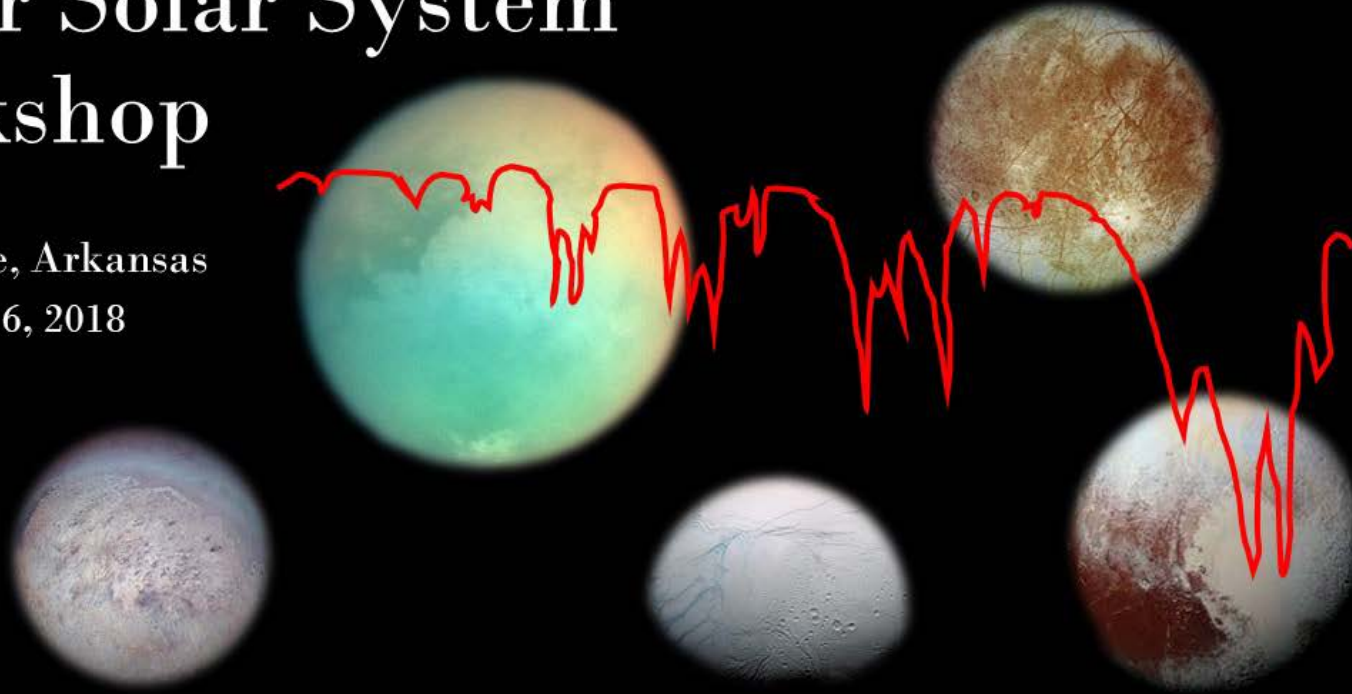


# Experimental Analysis of the Outer Solar System Workshop

Fayetteville, Arkansas  
August 15–16, 2018

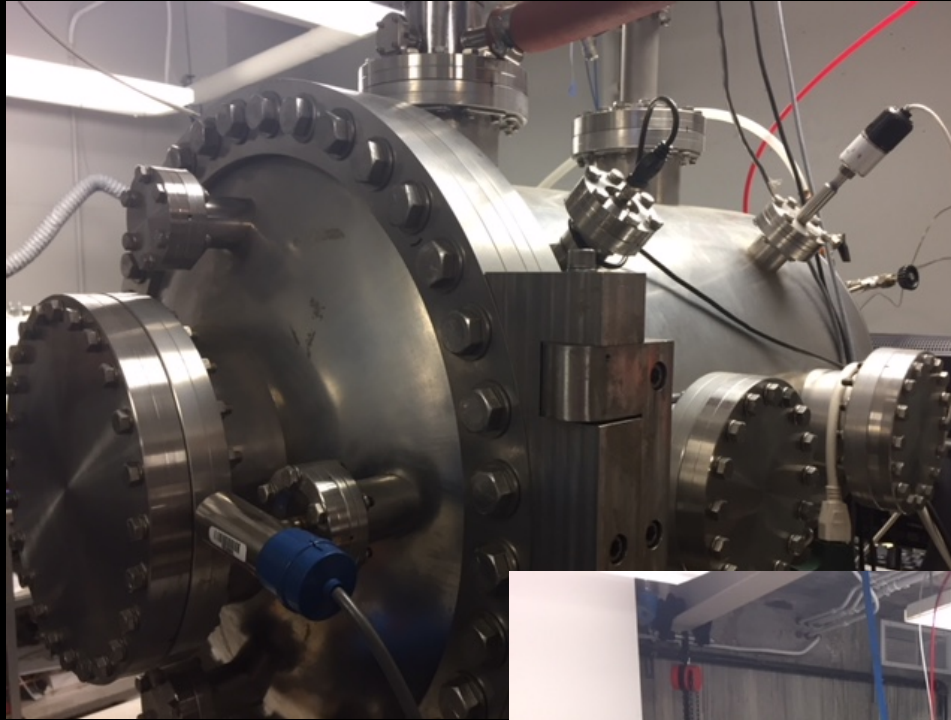
**#ExOSS**



Organizing Committee:  
C. Ahrens, V. Chevrier, L. Roe

# Science Areas

- Ice phases
- Rheology
- Geophysics
- Atmospheric chemistry
- Irradiation
- Spectroscopy
- Laboratory facilities/instrumentation



# Main findings:

- Results from thermodynamics/kinetics of nitrogen dissolution from Titan Simulation Lab (UARK)
- Use of mineral physics laboratories to constrain mechanical/thermal properties for ocean world interiors or cryovolcanism materials
- Nitrogen exsolution under Titan conditions create bubble action
- Ice phases of nitrogen-methane mixtures verified using Pluto Simulation Chamber (UARK)
- Detectability of volatiles/complex organics from dust accelerator experiments
- Testing the hardness of hydrocarbons and nitrile ices at Titan conditions for analogy of terrestrial geomorphology
- Testing instruments for drilling into Titan-analogue cryogenic materials
- Organic mixtures in evaporation processes under simulated Titan conditions to supplement Cassini infrared data

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# Future workshop

- Add more atmospheric experimental research in program
- Add more mission or instrumentation-testing facilities
- Open topic area to comets and asteroids, including Ceres/Vesta
- Open to modelers who would benefit from experimental work
  
- Mid-August ideal time, every 2 years. Next workshop: 2020!
  
- Special thanks to LPI for supporting our workshop and OPAG for this opportunity to present!