

Katherine Dzurilla

Current Address

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Education

University of Arkansas
2018 – Fall 2022 (*expected*)

Ph.D. Space and Planetary Sciences

Oklahoma State University
2012 - 2017

B.S. Biochemistry, B.S. Physics
Minors: Chemistry, Microbiology

Experience

Research Assistant
Arkansas Center for Space and Planetary Sciences

January 2018-present

My dissertation topic involves investigating the production of Titan organics and the physical and chemical changes that occur through interactions of organics and Titan lakes.

Autonomous Robotics Research for Ocean Worlds (ARROW) Consultant

October 2020-present

During the duration of this grant, I assisted the JPL ARROW team in the development of a virtual and physical bed for testing mission concepts investigating ocean worlds. Our design focused on Europa and its surface characteristics, however, it is developed for general ocean world's use.

JPL's Planetary Science Summer School

May 2021-August 2021

Working with a team of 17 other individuals, we produced a preliminary mission, Venus Environment Research and Novel Exploration (VERNE), to investigate how global intrinsic magnetic fields might be maintained on rocky worlds, and how they could then go extinct. This mission also observed what role atmospheric sulfur chemistry plays in climates of Earth-like planets.

National Academy of Science-Space Studies Board Intern

September 2020-October 2021

I was responsible for attending and transcribing minutes from various committee meetings for the 2022 Planetary Science Decadal Survey and wrote the glossary for the draft report. I also assisted with Early Career events for the decadal and other outreach events.

NASA Dragonfly Observer

November 2020

I was selected to observe the 2020 Dragonfly all-hands meeting. This experience provided insight into the day-to-day operations that occurred after a mission is selected by NASA.

Teaching Assistant

May 2018-August 2018

University of Arkansas-Physics Department

I instructed 48 undergraduate students during in-person and virtual lab times to complete various astronomy-related labs.

Current Skills

General wet-lab experience
Experience with sputtering and tholin production
Experience with cryogenic and LN experimental protocols
FTIR, MALDI, and LCMS-ESI analysis
Mass spectroscopy analysis

Extracurriculars

Space Hogs Jan 2018-present
This group facilitated science outreach events for underserved communities in Northwest Arkansas.

Graduate and Professional Student Congress (elected student government for UARK graduate students)
President 2021-2022
Vice-President 2020-2021
Treasurer 2019-2020

During my time in the Graduate and Professional Student Congress (GPSC) leadership, we advocated not only to the university, but to the state and federal government, for the issues and interests of graduate students.

Fitness Instructor Jan 2021-present
As a fitness instructor at the university's recreation center, I created and taught fitness classes, as well provided 1-on-1 training sessions with various clients.

UARK Graduate School Ambassador Jan 2018-present
I provided campus tours and met with potential graduate students considering the University of Arkansas.

Awards

GPSC Leadership Award 2022
3 Minute Thesis Award – 2nd place 2017
Oklahoma State University

Publications

E. Czaplinski, X. Yu, **K. Dzurilla**, V. Chevrier, (2020) Experimental Investigation of the Acetylene–Benzene Cocrystal on Titan, *The Planetary Science Journal* 1(3):76 DOI: 10.3847/PSJ/abf57

Selected Conference Abstracts

H. Alpert, C. Ahrens, T. Bell, C. Bierson, K. Bonnet, R. Dhingra, R. Dinsmore, **K. Dzurilla**, J. Garland, E. L. Gustafson, J. Knicely, C. Kremer, V. Lowry, N. Naz, S. Niemoeller, P. O'Brien, A. White 5, A.

Zucherman, L. Lowes, T. Hudson, K. Mitchell. (2022) Verne: Revealing The Mysteries And Histories Of Venus, *LPSC LIII*, Abstract # 1012.

E. C. Czaplinski , J. Cámara, **K. Dzurilla**, M. A. Hossen, B. Schmerl , J. Su, and P. Jamshidi., (2022) Ai For Addressing Unknown Unknowns In Outer Solar System Missions, *LPSC LIII*, Abstract # 2734.

K. Dzurilla, D. Nna Mvondo, D. Mège, V. Chevrier, (2022) Detection and Reactivity of Titan Tholins in Liquid Hydrocarbons Containing Polar Compounds, *LPSC LIII*, Abstract # 2849

K. Dzurilla, C.J. Ahrens, V.F. Chevrier, (2020) Grain Sizes of Different Titan Lake Beach Locations and Possible Organic Influences, *LPSC LI*, Abstract # 2848

K. Dzurilla, D. Nna Mvondo, D. Mège, V. Chevrier, (2019) Detection and reactivity of Titan tholins in liquid hydrocarbons containing polar compounds, *Titan after Cassini-Huygens Workshop*, Abstract # 14

K. Dzurilla, D. Nna Mvondo, D. Mège, V. Chevrier, (2019) Detection and reactivity of Titan tholins in liquid hydrocarbons containing polar compounds, *EPSC-DPS2019*, Abstract # 1855