

## Getting to know the neighbors:

Detecting and characterizing exoplanetary systems with high-contrast imaging and interferometry

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**Abstract:** Over 4000 exoplanets have been discovered since the early 90s using a variety of methods. High-contrast imaging with ground-based telescopes has led to the detection and characterization of dozens of giant exoplanets and sub-stellar companions. With improved instrumentation, including adaptive optics, coronagraphs, interferometers, and high-resolution spectrographs, the next generation of instruments will find and characterize more diverse populations. Direct imaging and interferometry are on the path to answering outstanding questions in exoplanet science such as (1) Where, when, and how do planets form?, (2) How diverse are exoplanet atmospheres?, and (3) Does life exist on other worlds? In this talk, I will give an overview of some of the exciting science and challenges in the exoplanet field, discuss plans to leverage current instruments to advance our understanding of planet formation and exoplanet atmospheres, and describe ongoing efforts to enhance our capabilities in the future.



**About our speaker:** Garreth Ruane is an Optical Engineer at NASA's Jet Propulsion Laboratory (JPL) who specializes in technologies for the direct detection and characterization of exoplanets. His research interests include the science of exoplanets and circumstellar disks and advanced astronomical instrumentation. He is involved in the development of instruments for W.M Keck Observatory, the Thirty Meter Telescope (TMT), and the Habitable Exoplanet Observatory (HabEx) mission concept.



**Wednesday, March 11th, 2020**

**Reception: 6:00pm**

**Dinner: 7:00pm**

**Members: \$35 Non-Members: \$40**

**OSSC Student Members: \$10**

**Presentation: 8:00pm**

**Please register by 7 March to avoid \$5 late registration fee!**

**Jet Propulsion Laboratory**

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On-line Registration: [www.osscc.org](http://www.osscc.org) or

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**Registration is limited to 100 People.  
Sign up soon!!**

Please post this notice and invite your friends & colleagues to attend!