

## 2018 DDA Meeting Schedule

### 2018 Annual Meeting of the DDA

#### Oral Presentations

All oral presentation sessions are located in the ballroom of the Four Points Sheraton San Jose Airport

#### Sunday, April 15

- 4:00 DDA Committee Meeting in the Chantilly Boardroom of the Four Points Sheraton San Jose Airport
- 4:00 Registration opens at Hangar Bar and Grill, restaurant of the Four Points Sheraton San Jose Airport

#### Opening Reception

Hangar Bar and Grill, restaurant of the Four Points Sheraton San Jose Airport

5:00 - 8:00

6:00 Food available at the reception until 7:30

#### Monday, April 16

- |      |  |                    |                                |
|------|--|--------------------|--------------------------------|
| 8:20 | Seth Jacobson, Matija Cuk, and Matthew Tiscareno | SOC and LOC chairs | Introduction and announcements |
|------|--|--------------------|--------------------------------|

#### The Astronomer Always Rings Twice

Dynamics of Planetary Rings

Chair: Matthew Tiscareno, SETI Institute

8:30 - 9:30

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|------|---------------------|---------------------|---|
| 8:30 | Phil Nicholson      | Cornell University  | Stellar occultations by Saturn's rings  |
| 8:45 | Matthew Hedman      | University of Idaho | Axisymmetric density waves in Saturn's rings  |
| 9:00 | Maryame El Moutamid | Cornell University  | Derivation of the torque associated to tesseral resonances  |
| 9:15 | Robert Chancia      | University of Idaho | The structure of Jupiter's main ring from New Horizons: a comparison with other ring-moon systems |

#### Party in the Spin Room

Dynamics of Rotation

Chair: Phil Nicholson, Cornell University

9:30 - 10:00

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|------|------------------|----------------------|--|
| 9:30 | Victor Slabinski | US Naval Observatory | Episodic spin-up and spin-down torque on Earth |
| 9:45 | Matija Cuk       | SETI Institute       | Early dynamics of the Moon's core              |

#### Coffee Break and Poster Viewing

10:00 - 10:30

#### Pebble in the Sky: Meteoroids and Their Orbits

Convener and Chair: Matija Cuk, SETI Institute

10:30 - 12:30



10:30	Althea Moorhead	NASA Marshall Space Flight Center	The formation and early evolution of meteoroid streams (Invited)
11:00	Luke Dones	Southwest Research Institute	Asteroids and meteorites from Venus? Only the Earth goddess knows
11:15	Margaret Campbell-Brown	University of Western Ontario	Meteoroid orbits from observations (Invited)
11:45	Peter Jenniskens	SETI Institute	A shower look-up table to trace the dynamics of meteoroid streams and their sources
12:00	Sigrid Close	Stanford University	Electromagnetic effects from impacts on spacecraft (Invited)

**Lunch break**

12:30 - 2:00

**'N Sync**

Dynamics of Resonant Objects

Chair: Marina Brozovic, NASA Jet Propulsion Laboratory

2:00 - 3:45

2:00	Brett Gladman	University of British Columbia	The prevalence of resonances among large-a trans-Neptunian objects
2:15	Kathryn Volk	University of Arizona	Two objects in Neptune's 9:1 resonance -- implications for resonance sticking in the scattering population
2:30	Lei Lan	University of Arizona	Neptune's 5:2 mean motion resonance in the Kuiper belt
2:45	Thomas Rimlinger	University of Maryland	The stability of resonant chains of moons
3:00	Yukun Huang	Tsinghua University	Dynamics of the retrograde 1:1 mean motion resonance
3:15	Paul Wiegert	University of Western Ontario	The first retrograde Trojan asteroid
3:30	Alex Davis	University of Colorado	Full two-body problem mass parameter observability explored through doubly synchronous systems

**Coffee break and poster viewing**

3:45 - 4:15

**The Fault in Our Stars**

Dynamics of Stars and Black Holes

Chair: Heidi Newberg, Rensselaer Polytechnic Institute

4:15 - 5:30

4:15	Monica Valluri	University of Michigan	Estimating biases in the stellar dynamical black hole mass measurements in barred galaxies and prospects for measuring SMBH masses with JWST
4:30	Heather Wernke	University of Colorado	Tidal disruption events from eccentric nuclear disks
4:45	Rosemary Wyse	Johns Hopkins University	Stellar angular momentum distributions and preferential Radial Migration
5:00	Jing Luan	University of California at Berkeley	DAVs: red edge and outbursts
5:15	Kevin Rauch	University of Maryland	HNbody: a simulation package for hierarchical N-body systems

**Public Lecture: Extreme Solar Systems**

Cristobal Petrovich, Canadian Institute for Theoretical Astrophysics

6:30 - 7:30 at San Jose State University ([map](#) [1])

**Tuesday, April 17**

8:00	Registration opens		
8:20	Seth Jacobson, Matija Cuk, and Matthew Tiscareno	SOC and LOC chairs	Announcements

**Vera Rubin Prize Lecture**

Chair: Luke Dones, Southwest Research Institute

8:30 - 9:15

8:30	Dan Fabrycky	University of Chicago	The realm of close-in planets
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**Hot, Flat, and Crowded**

Dynamics of Tightly-Packed Exoplanets

Chair: Pierre Gratia, Northwestern University

9:15 - 10:00

9:15	Sam Hadden	Harvard University	A resonance overlap criterion for the onset of chaos in systems of two eccentric planets
9:30	Daniel Tamayo	University of Toronto at Scarborough	Predicting instability timescales in closely-packed planetary systems
9:45	Aaron Boley	University of British Columbia	Transit duration variations due to secular interactions in systems with tightly-packed inner planets

**Coffee Break and Poster Viewing**

10:00 - 10:30

**An Oblique Reference to Pop Culture**

## Dynamics of Exoplanets

Chair: Christa Van Laerhoven, University of British Columbia

10:30 - 12:30

10:30	Kassandra Anderson	Cornell University	Teetering stars: resonant excitation of stellar obliquities by hot and warm Jupiters with external companions
10:50	Christopher Spalding	California Institute of Technology	The resilience of Kepler multi-systems to stellar obliquity
11:05	Sarah Millholland	Yale University	On the obliquities of planets in close-in, compact systems
11:25	Daniel Jontof-Hutter	University of the Pacific	Dynamical constraints on non-transiting planets at Trappist-1
11:40	Elizabeth Bailey	California Institute of Technology	Probing the parameters of the HAT-P-2 system
12:00	David Fleming	University of Washington	On the lack of circumbinary planets orbiting isolated binary stars
12:15	Agueda Granados Contreras	University of British Columbia	The formation of co-orbital planets and their resulting transit signatures

## Lunch break

12:30 - 2:00

## In the Beginning There Was Chaos

Dynamics of Planet Formation

Chair: Wing-Kit Lee, Northwestern University

2:00 - 4:00

2:00	Juliette Becker	University of Michigan	Forming hot Jupiters: observational constraints on gas giant formation and migration
2:15	Masahiro Ogihara	National Astronomical Observatory of Japan	Formation of close-in super-Earths in an evolving disk due to disk winds
2:30	Mickey Rosenthal	University of California at Santa Cruz	How turbulence can set the radial distribution of gas giants formed by pebble accretion
2:45	Spencer Wallace	University of Washington	High resolution N-body simulations of terrestrial planet growth
3:00	Matthew Clement	University of Oklahoma	Saving the inner solar system with an early instability
3:15	Rogério Deienno	Southwest Research Institute	Exciting an initially cold asteroid belt through a planetary instability



3:30	Renata Frelikh	University of California at Santa Cruz	Dynamical upheaval in ice giant formation: a solution to the fine-tuning problem in the formation story
3:45	Yu-Cian Hong	Cornell University	Orbital dynamics of exomoons during planet-planet scattering

## Coffee Break and Poster Viewing

4:00 - 4:30

## Lick Observatory Tour

Meet at the entrance of the Four Points Sheraton San Jose Airport at 4:15 pm

6:00 - 10:00 at the observatory

## Wednesday, April 18

8:00	Registration opens		
8:20	Seth Jacobson, Matija Cuk, and Matthew Tiscareno	SOC and LOC chairs	Announcements

## Stability, or Instability, That is the Question

Dynamics of Planetary System Stability

Chair: Cassandra Anderson, Cornell University

8:30 - 10:00

8:30	Sacha Gavino	University of Bordeaux	Orbital stability of compact three-planets systems
8:45	Fred Adams	University of Michigan	The stability of tidal equilibrium for hierarchical star-planet-moon systems
9:00	Pierre Gratia	Northwestern University	Stability considerations of packed multi-planet systems
9:15	Jack Lissauer	NASA Ames Research Center	Stability of multi-planet systems orbiting in the Alpha Centauri AB system
9:30	Billy Quarles	University of Oklahoma	Dynamics of circumbinary planets near the stability limit
9:45	Alexander Zderic	University of Colorado	Instability timescale for the inclination instability in the solar system

## Coffee Break and Poster Viewing

10:00 - 10:30

## 1I/ʻOumuamua: the First Known Interstellar Asteroid

Convener and Chair: Luke Dones, Southwest Research Institute

10:30 - 12:30

10:30	Karen Meech	University of Hawaii	Observations of 1I/ʻOumuamua (Invited)
11:00	Darryl Seligman	Yale University	The feasibility and

11:15	Quan-Zhi Ye	California Institute of Technology	benefits of in situ exploration of 1I/ʻOumuamua-like objects Telescopic and meteor observation of 1I/ʻOumuamua, the first known interstellar asteroid (Invited)
11:45	Daniel Scheeres	University of Colorado	Stability limits for rubble pile asteroid shapes
12:00	Darin Ragozzine	Brigham Young University	On the detectability of interstellar objects like 1I/ʻOumuamua (Invited)

**Lunch break**

12:30 - 2:00

**The Good, the Bad, the Ugly: How Do Simulations Compare Their Data to Observers and How Can They Do It Better?**

Convener and Chair: Sarah Loebman, University of California at Davis

2:00 - 3:30

2:00	Nathan Kaib	University of Oklahoma	Using real and simulated TNOs to constrain the outer solar system (Invited)
2:30	Robyn Sanderson	California Institute of Technology	Science with synthetic stellar surveys (Invited)
3:00	Kelly Holley-Bockelmann	Vanderbilt University	Supermassive black holes as revealed by LISA: how gravitational wave astronomy will be a game changer (Invited)

**Coffee Break and Poster Viewing**

3:30 - 4:00

**Stretched Out Dwarfs**

Dynamics of Galaxies

Chair: TBA

4:00 - 4:45

4:00	Cristobal Petrovich	Canadian Institute for Theoretical Astrophysics	Merging black holes in non-spherical nuclear star clusters
4:15	Heidi Newberg	Rensselaer Polytechnic Institute	Reconstructing the dwarf galaxy progenitor from tidal streams using <a href="#">MilkyWay@Home</a> [2]
4:30	Andrew Wetzel	University of California at Davis	Implications of stellar feedback for dynamical modeling of the Milky Way and dwarf galaxies

**Dirk Brouwer Award Lecture**

Chair: Luke Dones, Southwest Research Institute

4:45 - 5:30



4:45	Ortwin Gerhard	Max Planck Institute for Extraterrestrial Physics	The barred inner region of the Milky Way
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## DDA Member's Annual Meeting

Chair: Luke Dones, Southwest Research Institute

5:30 - 6:30

## Conference Banquet

Jade Cathay (1339 N 1st St, San Jose, CA 95110)

Starts at 7:00

## Thursday, April 19

8:00	Registration opens		
8:20	Seth Jacobson, Matija Cuk, and Matthew Tiscareno	SOC and LOC chairs	Announcements
<b>Flat Cats Instead of Spherical Cows</b>			
Dynamics of Disks			
Chair: Kathryn Volk, University of Arizona			
8:30 - 10:00			
8:30	Konstantin Batygin	California Institute of Technology	Schrödinger evolution of self-gravitating disks
8:45	Diana Powell	University of California at Santa Cruz	Using ice and dust lines to constrain the surface densities of protoplanetary disks
9:00	Wing-Kit Lee	Northwestern University	Long-lived eccentric modes in protoplanetary disks
9:15	Andrew Shannon	Pennsylvania State University	The dynamical imprint of lost protoplanets on the trans-Neptunian populations, and limits on the primordial size distribution of trans-Neptunian objects at Pluto and larger sizes.
9:30	Joseph A'Hearn	University of Idaho	Dynamics of multiple bodies in a corotation resonance

## Danger, Will Robinson! Danger!

Dynamics of Hazardous Asteroids

Chair: Althea Moorhead, NASA Marshall Space Flight Center

9:45 - 10:30

9:45	Alan Harris	MoreData!	NEA impactors: what direction do they come from?
10:00	Douglas Hamilton	University of Maryland	Deadly sunflower orbits
10:15	Aaron Rosengren	University of Arizona	Chaotic Transport in Circumterrestrial Orbits

## Coffee Break and Poster Viewing

10:30 - 11:00

## Ringleaders and Fellow Travelers

Dynamics of Moons

Chair: Maryame El Moutamid, Cornell University

11:00 - 11:45

11:00	Marina Brozovic	NASA Jet Propulsion Laboratory	Orbits of the inner satellites of Neptune
11:15	Valery Lainey	NASA Jet Propulsion Laboratory	Interior properties of the inner Saturnian moons from space astrometry data
11:30	William Oldroyd	Brigham Young University	More sophisticated fits of the orbits of Haumea's interacting moons

### Never Tell Me the Odds

Dynamics of the Kuiper Belt

Chair: Rogerio Deienno, Southwest Research Institute

11:45 - 1:05

11:45	Benjamin Proudfoot	Brigham Young University	Modeling the dynamical structure of the Haumea family
12:00	Nathan Benfell	Brigham Young University	Assessing backwards integration as a method of KBO family finding
12:15	Tali Khain	University of Michigan	The generation of the distant Kuiper belt by planet nine from an initially broad perihelion distribution
12:35	Steven Maggard	Brigham Young University	Dynamical classifications of the Kuiper belt
12:50	Christa Van Laerhoven	University of British Columbia	Determining the plane of the Kuiper belt with OSSOS

## Poster Presentations

All poster presentation sessions are located in the back section of the ballroom of the Four Points Sheraton San Jose Airport

### Available all week

1	Aaron Boley	The University of British Columbia	The sustainable development of space: astro-environmental and dynamical considerations
2	Michael Cahill	University of Wisconsin-Washington County	Cellular analysis of boltzmann most probable ideal gas statistics
3	Rogerio Deienno	Southwest Research Institute	Terrestrial planet formation from an annulus -- revisited
4	David Fleming	University of Washington	Coevolution of binaries and circumbinary gaseous disks
5	Robert Jacobson	Jet Propulsion Laboratory	Constraints on the mass and location of planet 9





6	Seth Jacobson	Northwestern University	set by range and VLBI observations of Cassini
7	Satish Malhotra		Planetary cross-breeding: geochemical mixing during planet formation
8	Chris Mankovich	University of California at Santa Cruz	Gravity does it: redshift of light from the galaxies yes, expanding universe no!
9	William Polycarpe	IMCCE	A View into Saturn through its Natural Seismograph
10	Zeeve Rogoszinski	University of Maryland	Titan crossing a 5:1 MMR with Iapetus: constraining the tidal recession of Titan and giving an explanation for Iapetus' current orbit
11	Chris Simonson		Supermassive black holes as revealed by LISA: how gravitational wave astronomy will be a game changer
12	Spencer Wallace	University of Washington	High-velocity cloud complex h and Weaver's "jet": two candidate dwarf satellite galaxies for which dark matter halo models indicate distances of ~27 kpc and ~108 kpc
			The influence of dynamical friction and mean motion resonances on terrestrial planet growth

**Source URL:** <https://dda.aas.org/meetings/2018/schedule>

## Links

[1] <http://bit.ly/2sH98RJ>

[2] <mailto:MilkyWay@Home>