## 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, 5:00-8:00 | taurant of the Four Points Sheraton San Jose Airport |
| 6:00 | Food available at the reception until 7:30 |
| Monday, April 1.6 |  |
| 8:20 | Seth Jacobson, Matija SOC and LOC chairs Introduction and <br> announcements  <br> Cuk, and Matthew   <br> Tiscareno   |

The Astronomer Always Rings Twice
Dynamics of Planetary Rings
Chair: Matthew Tiscareno, SETI Institute
8:30-9:30

| 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 | 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 |
| Coffe 10:00 | er Viewing |  |  |

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 <br> 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
$\left.\begin{array}{lll}\text { 2:00 } & \text { Brett Gladman } & \begin{array}{l}\text { University of British } \\ \text { Columbia }\end{array} \\ \text { 2:15 } & \begin{array}{l}\text { The prevalence of } \\ \text { resonances among } \\ \text { large-a trans-Neptunian } \\ \text { objects }\end{array} \\ \text { Kathryn Volk } & \text { University of Arizona } & \begin{array}{l}\text { Two objects in } \\ \text { Neptune's } 9: 1 \\ \text { resonance -- } \\ \text { implications for } \\ \text { resonance sticking in } \\ \text { the scattering }\end{array} \\ \text { population }\end{array}\right\}$

## 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
$\left.\begin{array}{lll}\text { 4:15 } & \text { Monica Valluri } & \text { University of Michigan } \\ & & \begin{array}{l}\text { Estimating biases in the } \\ \text { stellar dynamical black } \\ \text { hole mass } \\ \text { measurements in }\end{array} \\ \text { barred galaxies and } \\ \text { prospects for } \\ \text { measuring SMBH }\end{array}\right\}$

## 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

## Vera Rubin Prize Lecture

Chair: Luke Dones, Southwest Research Institute 8:30-9:15

8:30
Dan Fabrycky
Hot, Flat, and Crowded
Dynamics of Tightly-Packed Exoplanets
Chair: Pierre Gratia, Northwestern University 9:15-10:00
$\left.\begin{array}{lll}\text { 9:15 } & \text { Sam Hadden } & \text { Harvard University } \\ \text { 9:30 } & \begin{array}{l}\text { A resonance overlap } \\ \text { criterion for the onset } \\ \text { of chaos in systems of }\end{array} \\ \text { two eccentric planets }\end{array}\right\}$

Coffee Break and Poster Viewing 10:00-10:30

An Oblique Reference to Pop Culture

| Dynam Chair: 10:30 | oven, University of British | Columbia |  |
| :---: | :---: | :---: | :---: |
| 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 |  |  |  |
| 12:30 |  |  |  |
| In the | W Was Chaos |  |  |
| Dynam | mation |  |  |
| $\begin{aligned} & \text { Chair: } \\ & \text { 2:00 - } \end{aligned}$ | hwestern University |  |  |
| 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 | Rogerio Deienno | Southwest Research Institute | Exciting an initially cold asteroid belt through a planetary instability |

University of California at Santa Cruz

Cornell University

Dynamical upheaval in ice giant formation: a solution to the fine-tuning problem in the formation story 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

## Stability, or Instability, That is the Question

Dynamics of Planetary System Stability
Chair: Kassandra 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/`Oumuamua: the First Known Interstellar Asteroid Convener and Chair: Luke Dones, Southwest Research Institute 10:30-12:30}} \\ \hline & & & \\ \hline 10:30 & Karen Meech & University of Hawaii & Observations of 1I/`Oumuamua (Invited) |  |  |  |
|  |  |  |  |

|  |  |  | benefits of in situ exploration of 11/`Oumuamua-like objects |
| :---: | :---: | :---: | :---: |
| 11:15 | Quan-Zhi Ye | California Institute of Technology | Telescopic and meteor observation of 1I/ Oumuamua, 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 1//'Oumuamua (Invited) |
| $\begin{aligned} & \text { Lunch } \\ & \text { 12:30 } \end{aligned}$ |  |  |  |

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 |
| :--- | :--- | :--- |
| 2:30 | Using real and <br> simulated TNOs to <br> constrain the outer |  |
| 3:00 | Robyn Sanderson | California Institute of system (Invited) |
| Science with synthetic <br> stellar surveys (Invited) |  |  |
|  | Kechnology | Telly <br> Holley-Bockelmann |
|  | Vanderbilt University | Supermassive black <br> holes as revealed by |
|  | LISA: how gravitational <br> 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 MilkyWay@Home [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
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

Max Planck Institute for The barred inner region Extraterrestrial Physics of the Milky Way

## Thursday, April 19

8:00
Registration opens
8:20
Seth Jacobson, Matija
Cuk, and Matthew Tiscareno
Flat Cats Instead of Spherical Cows
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 Center9:45-10:30 |  |  |  |
| 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 Viewing10:30-11:00 |  |  |  |

## 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 |
|  |  |  |  |
| Dynamics of the Kuiper Belt |  |  |  |
| Chair: Rogerio Deienno, Southwest Research Insitute 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

2

3

4

5

Aaron Boley

Michael Cahill University of Wisconsin-Washington County

Southwest Research Institute

University of Washington

Jet Propulsion Laboratory

The University of British The sustainable Columbia development of space: astro-environmental and dynamical considerations Cellular analysis of boltzmann most probable ideal gas statistics
Terrestrial planet formation from an annulus -- revisited Coevolution of binaries and circumbinary gaseous disks Constraints on the mass and location of planet 9

6

7

8

9

10

11

12

Seth Jacobson

Satish Malhotra

Chris Mankovich

William Polycarpe

Zeeve Rogoszinski

Chris Simonson

Spencer Wallace
set by range and VLBI observations of Cassini
Northwestern University Planetary
cross-breeding:
geochemical mixing during planet formation Gravity does it: redshift of light from the galaxies yes, expanding universe no!
University of California A View into Saturn at Santa Cruz through its Natural Seismograph
Titan crossing a 5:1 MMR with lapetus: constraining the tidal recession of Titan and giving an explanation for lapetus' current orbit
Supermassive black holes as revealed by LISA: how gravitational wave astronomy will be a game changer High-velocity cloud complex h and Weaver's "jet": two candidate dwarf satellite galaxies for which dark matter halo models indicate distances of $\sim 27 \mathrm{kpc}$ and $\sim 108 \mathrm{kpc}$ 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

