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London DDA Meeting June 11-15 2017

Meeting Update:

Preparations for the 48th meeting of the DDA to be held in London, England, are proceeding well. The meeting will be held at [Queen Mary University of London](#)

Local organizing committee members Craig Agnor (chair), Apostolos Christou (Armagh Observatory), Carl Murray (Queen Mary University of London) and Alice Monet (U.S. Naval Observatory, Retired), are working hard to make this an exciting and productive meeting.

The meeting is being co-sponsored by the Royal Astronomical Society, which will advertise the meeting to its membership.

Please consult the [meeting website](#) for details and updates. Blocks of rooms have been reserved at various hotels of varying room rates. For the most desirable locations and room rates book early (about 60 days prior to the meeting).

Special Sessions:

At the Nashville DDA meeting we held two special topical sessions ("Dynamics of Disks and Ring Systems" and "Impact of Astrometry on Dynamical Astronomy"). Following the success and very favorable response (received in the post-meeting survey) for these sessions we issued a call for proposals for special topical sessions. We received 5 excellent proposals. The DDA Committee reviewed these proposals and selected three special sessions for the London DDA meeting:

- 1) Impact of Gaia Astrometry on Dynamical Astronomy (Chair: Norbert Zacharias, USNO)
- 2) Post-Main Sequence Planetary System Science (Chair: Dimitri Veras, Univ. of Warwick)
- 3) Cassini Grand Finale (Chair: Matt Tiscareno, SETI)

Additional details are given on page 3.

Special Topical Sessions for London Meeting

The following special sessions were selected for the London DDA meeting. Please email the person chairing the session if you plan to contribute a paper to one of these sessions. Note that this email is just to help the Special Session Chairs and the SOC with planning - you will still need to submit an abstract through the regular registration portal which will open in April 2017.

Impact of Gaia Astrometry on Dynamical Astronomy: This session will be coordinated by Norbert Zacharias (US Naval Observatory). The European Space Agency **Gaia** mission will revolutionize our understanding of our Milky Way Galaxy by providing astrometric, radial velocity, and photometric data of unprecedented accuracy. The first data release came out in September 2016. Gaia DR1 results are of particular importance for the DDA community because they provide accurate reference stars for solar system dynamics, parallaxes and proper motions of millions of stars to probe galactic dynamics. They also provide a link for the defining, quasi-inertial, radio celestial reference frame. This session is extending the scope of the traditional themes of a DDA meeting to include a bit more astrometry and as such already has a large overlap with DDA interests at its core. To express interest or to receive more information email session chair [Norbert Zacharias \(USNO\)](#).

Post-main sequence planetary system science: The evolution of planetary systems (planets, asteroids, comets, pebbles, moons) after their parent stars have left the main sequence to become giant stars and white dwarfs has recently gained attention. Over 1000 white dwarfs have been observed to contain rocky debris in their atmospheres, about 40 white dwarfs harbor debris discs -- some of which are eccentric -- and one white dwarf even features an asteroid disintegrating in real time. About 100 planets and several debris discs have also been found orbiting giant and subgiant stars. By merging stellar evolution, planetary dynamics, debris discs, and interior chemistry constrained by Solar System asteroid families, this highly interdisciplinary topic is of growing interest to the dynamics community, since there is a dearth of theoretical models in the face of mounting observational data. In the near future with the additional data anticipated from current and upcoming missions (K2, TESS, HST, Gaia, JWST, LSST, PLATO), firm theoretical foundations need to be established. Please email session chair [Dimitri Veras \(University of Warwick\)](#) if interested.

Cassini Grand Finale:

After almost 20 years in space, the Cassini mission will end in **September 2017**. In late 2016, the Cassini spacecraft began a completely new type of mission at Saturn, featuring repeated close flybys of the planet and the rings from a high polar orbit, and culminating in its latter half with repeated passes between. By June 2017 many early results are already expected. Please email session chair [Matthew Tiscareno \(SETI\)](#) for information or to express interest in this session.

DDA Early Career Prize named for Vera Rubin

On December 14, 2016, the DDA announced to its members via email the creation of a new DDA Early Career Prize to recognize extraordinary contributions by an early career dynamicist. Two weeks later, following the sad news of the passing of long time DDA Member and galactic dynamicist, Vera Rubin, the DDA Committee voted to name this new prize in her honor.

Vera Rubin is most well known for her work measuring the discrepancy between the observed rotational motions of galaxies and their predicted motion from the gravitational force arising from visible matter. Her observations began a lifelong quest, that now includes generations of astronomers, to better understand the invisible universe and, as stated by the [New York Times](#), "Her work helped usher in a Copernican-scale change in cosmic consciousness, namely the realization that what astronomers always saw and thought was the universe is just the visible tip of a lumbering iceberg of mystery."

During her long career, she continued to make significant discoveries by carefully examining the galactic motions of gas and stars. Ultimately, her work has been recognized by prizes and awards from numerous scientific societies and organizations including the National Medal of Science from President Clinton, the Gold Medal of the UK Royal Astronomical Society, the Bruce Gold Medal of the Astronomical Society of the Pacific, and the James Craig Watson Medal of the US National Academy of Sciences. Dedicating this early career prize in Vera Rubin's honor is particularly fitting since she was not only an extraordinary scientist, but also well known for her kindness towards and encouragement of young scientists. Moreover, she has long been a role model for women scientists and those wishing to overcome institutional barriers of discrimination. Her work as a scientist, as a mentor, and a barrier breaker will always be greatly appreciated.

Representatives of her family responded to the news of this decision with the following statement: "*Vera Rubin had a long career of supporting young scientists. Her family is pleased that the Division on Dynamical Astronomy (DDA) of the American Astronomical Society is recognizing her contributions by naming this award in her honor.*" Candidates for the **Vera Rubin Early Career Prize of the DDA** must have held a recognized doctorate for not more than 10 years on the date on which the nominations are due in a given year. The Rubin Prize will include an honorarium of \$1,000 and an invitation to give an invited talk at the DDA meeting during which the award will be made. The Rubin Prize shall be granted on the basis of the following criteria: (a) excellence in scientific research in dynamical astronomy or closely related fields; (b) impact and influence in the field; (c) promise of continued excellence in research, teaching and the advancement and support of the field of dynamical astronomy. Nomination procedures and requirements are available on the [DDA website](#). Nominations for the 2017 award are due by **March 1, 2017 (not February 15th as previously announced)** and should be submitted to the secretary of the DDA (dda.secretary@gmail.com).

Highlights of the Awards Review Committee Report

In the summer of 2016 the DDA Committee appointed an ad hoc Awards Review Committee (ARC) to review procedures for the annual Brouwer Award, and to recommend procedures for a new early career award (now named the Vera Rubin Early Career Prize of the DDA). The committee was chaired by Curtis Struck (Iowa State University), and included Rachel Kuzio de Naray (Georgia State University), Man Hoi Lee (University of Hong Kong), Renu Malhotra (University of Arizona), and Dimitri Veras (University of Warwick). The ARC began its deliberations in August and submitted its report to the DDA Committee in mid November. The Charge to the ARC was as follows:

- 1)** Establish guidelines for a new DDA Early Career Award, including but not limited to the eligibility rules and nomination process. The inaugural award is planned to take place in 2017.
- 2)** Review and if necessary revise the process by which Brouwer Award candidates are nominated, as well as the procedures involved in reviewing the nominations and selecting the candidate.
- 3)** Develop a set of best practices for the procedures involved in selecting all DDA awards to ensure that the nomination slate reflects the diversity of the DDA membership, that conflicts of interest are minimized, and that the deliberation process is fair and ethical. The highlights of the report are given below. The full report is available on request from the Secretary of the DDA.

Avoiding Conflicts-of-interest (COI): The DDA awards procedures should include COI procedures: **(a)** Nominees for a given award cannot serve on the relevant award committee, be involved in the award review by the DDA Committee, or be involved in the award deliberations in any way. **(b)** Former Ph.D. or postdoctoral mentors, recent close collaborators, and colleagues from the same institution should not be involved in the selection of a nominee. They should recuse themselves from the discussions of and voting on the nominee in the awards committee and the DDA Committee. **(c)** DDA Committee and Awards Committee members should not be involved in the consideration of a candidate for whom they have written a letter of support. **(d)** The DDA Committee, like the AAS, should recommend the document "Avoiding Implicit Bias," from the Association of Women in Science (AWIS), be circulated to award committee members. Current AAS conflict of interest guidelines should also be provided.

Simplify the Selection Process: Previously the Brouwer Award Selection committee submitted rank-ordered list with multiple candidates to the DDA Committee that then voted on the final selection. In future DDA awards committees will recommend a single recipient, or no recipient, to the DDA Committee, except in very unusual circumstances. If for some reason the DDA Committee cannot accept the nominee, then the matter should be referred back to the awards committee for an alternate recommendation, if possible.
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Report of the Awards Review Committee (cont.)

Deliberations should be carried out via teleconference(s): As a matter of best practice, all DDA Awards Committees should have at least one teleconference to openly and frankly discuss the merits of the nominees. Teleconference(s) should be arranged to be as confidential as possible, and should not leave a record that could be easily opened accidentally or by an external agency.

Continued consideration of awards nominations: Current Brouwer award nominations are kept active for five years. For other AAS prizes, nominations are kept active for 3 years. In future, nominations wishing to be kept active after 3 years need to be resubmitted.

Eliminate the requirement that past awardees serve on the selection committee: Continue to have 5 members of the committee with the understanding that a past awardee could be one of them and this person will serve for one year.

Self-nomination for DDA awards: The AAS now allows self-nomination for all its prizes. A similar policy should be followed by the DDA. To ensure that the awards selection committees are "blind" to the nominator, nominations will be submitted to the DDA Secretary and not the chair of the Awards committee.

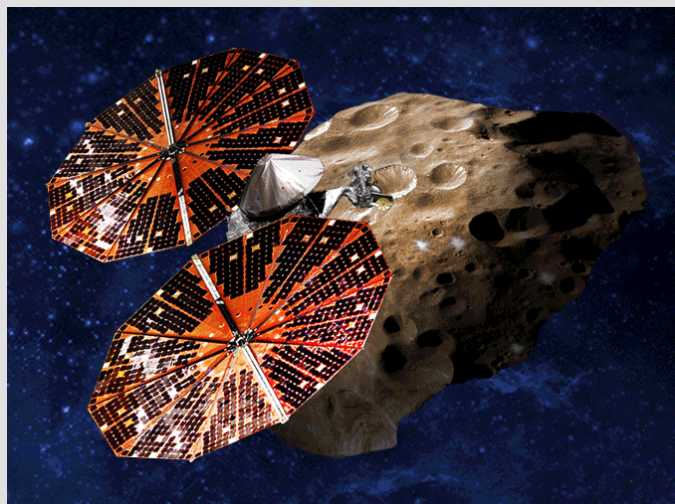
Early Career Award: The ARC made recommendations for the requirements for the DDA Early Career award which are reflected in the guidelines posted on the [website](#).

All the recommendations from the ARC were discussed by the DDA Committee and voted upon individually, and adopted either as recommended or with modifications.

We are extremely grateful to the Awards Review Committee, and its Chair Curtis Struck for their excellent work in undertaking comprehensive overhaul of our awards selection process and preparing a thoughtful and useful report. The report is not just of value to the DDA, but has been commended by the AAS Executive Office as a model for other Divisions to follow. We are confident that by adopting the recommendations made by the ARC, the DDA will continue to maintain the highest standards for the selection of its awards.

Notes and Announcements

NASA selects two solar system exploration discovery missions: On January 4th, 2017 [NASA announced](#) that it has selected two missions that have the potential to open new windows on one of the earliest eras in the history of our solar system. The missions, [Lucy](#) and [Psyche](#), are both of great interest to DDA members.



DDA member and former Chair **Hal Levison** (Southwest Research Institute, Boulder CO) is the PI of Lucy which is a robotic mission to explore six Jupiter Trojan asteroids and a main belt asteroid. The image on the left (Wikipedia) is an artist's conception of Lucy (named for the humanoid fossil of the same name) flying by an asteroid. Psyche (PI, Lindy Elkins-Tanton of Arizona State University in Tempe) will orbit the asteroid 16 Psyche, which, unlike most other asteroids, that are rocky or icy bodies, is thought to be made up of metallic iron and nickel (like the Earth's core). Lucy and Psyche were chosen from [five finalists](#) and are expected to launch in 2021 and 2023, respectively.

DDA Webmaster Required: We urgently need a Webmaster and invite volunteers for this post. The new DDA website (hosted by AAS) was created under the Drupal Content Management System and is much easier to update/maintain than previous website management software. Treasurer Alice Monet has been doing an amazing job of managing our current website and is looking to pass the torch to someone else. If you are willing to help, please contact the DDA Secretary dda.secretary@gmail.com. It is not more than a few hours of work per month and although this is a volunteer position, you will bask in the undying appreciation of the entire DDA for your efforts!

Proposals Solicited for DDA Meetings in 2018 and beyond: While preparations are going well for the London meeting we do not as yet have confirmation of a venue for DDA meetings in 2018 and beyond. If you would like to host a meeting or propose a venue please email the DDA Secretary at dda.secretary@gmail.com

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