



2017 IAA Planetary Defense Conference: 15-19 May 2017, Tokyo, Japan

<http://pdc.iaaweb.org/>

Call for Papers

Papers are solicited in the areas listed below for the *2017 IAA Planetary Defense Conference (PDC)*, sponsored by the **International Academy of Astronautics (IAA)**. The 2017 PDC will include a hypothetical NEO/Earth impact event scenario that will be part of the conference (similar to what was done at the 2013 & 2015 conferences). Conference attendees may also use the hypothetical scenario as their topic for papers and presentations. Additional details about the hypothetical scenario are provided below¹).

An overall theme of the conference is to identify the most important areas that need development for an international program of planetary defense. Topic areas for papers include:

Key International and Political Developments

- Focus on the latest non-technical developments that are moving planetary defense forward

Advancements in NEO Discovery

- Highlight the latest developments related to discovery of possibly threatening asteroids and comets
- Describe current progress and define requirements for future surveys and for astronomical techniques for characterization of NEOs
- Current NEO survey progress and future prospects

New NEO Characterization Results

- Latest findings related to characterizing NEO physical, dynamical, and orbital properties
- Emphasis on characterization of properties most crucial to mitigation mission success
- Identify technologies to characterize NEOs via remote sensing and spacecraft flyby/landing
- Recent work on planned or active flight missions to NEOs (e.g., OSIRIS-REx, Hayabusa 2, etc.)

Deflection & Disruption Modeling and Testing

- Recent results in modeling/experimentation that characterizes the effects of proposed NEO deflection and disruption techniques and technologies
- Discuss recent progress and identify key technologies that need to be developed for active defense (mitigation) of an identified NEA impactor

Mission & Campaign Design

- New work in the design of in-space mission campaigns to respond to hazardous NEOs (reconnaissance, characterization, mitigation)
- Development of NEO response mission campaigns, including an international approach
- Design of planetary defense flight validation missions (e.g., AIDA, etc.)

Impact Consequences

- New results on effects of ocean and land NEO impacts, including tsunamis generated by impacts; characterization of the damage footprint for NEO impacts
- Interactions between incoming NEOs and the atmosphere; understanding the process of atmospheric break-up and airbursts for a variety of NEO types; could include summaries of the Chelyabinsk superbolide and its lessons
- Possible effects on near-Earth space and space systems (e.g., communications) due to NEO debris in space
- Consideration of the hazards of an individual impactor; consideration of the ensemble hazard integrated over the predicted population of impactors

Disaster Response

- Lessons learned from public education, alerts, and warnings of natural disasters that would inform developments of similar notices for a pending NEO impact disaster

The Decision to Act

- Current outlook on the NEO response decision-making process at various levels (e.g., global, national, etc.)

¹ The conference will include an exercise where participants will simulate the decision-making process for developing deflection and civil defense responses to a threat posed by hypothetical asteroid designated “2017 PDC.” Information on the threat will be posted at <http://neo.jpl.nasa.gov/pdc17/> on June 1st, 2016 (11 months before the conference) and updates typical of what would be known if the threat were real will be provided in the months leading up to the conference. Attendees are invited to use the hypothetical asteroid “2017 PDC” as a subject for their own exercises and for papers to be presented at the conference. During the conference, updates on the threat will be provided daily, and participants will develop a set of actionable recommendations based on that information.

For more information: <http://pdc.iaaweb.org/>



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- Identify areas of greatest risk and suggest analysis tools that could aid decision makers
- Discuss the value of international collaboration and suggest ways to distribute the responsibility for defense against incoming NEAs.

Public Education and Communication

- Current status of planetary defense / NEO-related public education and communication efforts
- Concepts for improving NEO / planetary defense public education and communication
- Connections to disaster response, e.g., effective formatting and dissemination of alerts, etc.

ABSTRACT SUBMITTAL: Technical paper abstracts (250 to 500 words in length) in the areas described above or related to planetary defense will be accepted electronically by email to [iaapdc \(at\) iaamail.org](mailto:iaapdc@iaaemail.org) beginning **October 1st, 2016**. Please be sure to designate the topic area your paper addresses (see topics listed above). The deadline for receipt of abstracts is **January 13, 2017**. Letters of official acceptance will be mailed on or before **February 09, 2017**.

PAPERS: Full paper manuscripts or two-page extended abstracts are due by close of business on **May 6th, 2017**. Revisions and corrections will be accepted within two weeks after the end of the conference. The format for papers is specified on the conference web site. Accepted papers (including two-page extended abstracts and poster papers) will be published on the official conference proceedings memory stick and hosted at the conference website (<http://pdc.iaaweb.org/>).

STUDENT COMPETITION: One or more of the best student paper(s) will be awarded a prize. The aim of the student competition is to help promote academic work and informed political debate by enhancing research and general understanding essential for sound decision making on NEO impact threats in years to come.