

Call for White Papers on Opportunities in Plasma Physics (Due 8 March 2019)

Issued by
The Committee on Plasma2020

Dear Colleagues,

The National Academies of Sciences, Engineering, and Medicine has appointed a committee to carry out a study on the science strategy for the field of Plasma Physics. The Committee's Statement of Task involves surveying the status of the field and its impact on other disciplines of science and emerging technologies, identifying key scientific themes that cut across subdisciplines and opportunities for progress, recommending a future science strategy, discussing ways in which the key goals identified by the committee can be addressed by current priorities and activities, and identifying possible opportunities for coordination with international, commercial, and non-for-profit partners.

In addition to collecting input through town hall meetings and presentations from experts, the Committee is requesting community input on these topics in the form of white papers. Please find below recommended topics for white papers and submission guidelines. White papers will be accepted from now until March 8, 2019.

Please note that multiple authorship accurately reflecting a consensus among many individuals and institutions is strongly encouraged. Everyone in the research communities associated with plasma physics and related fields is encouraged to author or collaborate on these papers.

Recommended Topics for White Papers

The following topics, derived from the study's Statement of Task, are suggested. Per the Statement of Task, white papers should not revisit or attempt to redefine the scientific priorities or mission recommendations from the [solar physics decadal survey](#), its mid-decadal, or the [burning plasma studies](#). Instead, they should:

- Discuss areas of significant scientific and technical progress, and how those advances have provided societal and/or economic benefits, since publication of the previous plasma physics decadal study (Plasma2010).
- Identify plasma physics research fields addressing current scientific challenges and in which research should continue to resolve those challenges.
- Discuss new, important areas of plasma-related research and major scientific gaps, and possible changes in the directions of plasma physics research and development to address those challenge.
- Identify challenges the discipline of plasma physics may face over the coming decade and how those challenges might be addressed.
- Discuss how advances in the science and technology of plasma physics results in societal benefit, promotes economic benefit and national security.

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- Identify key cross-disciplinary research opportunities and areas that will both strengthen the core of plasma science and technology, and enrich its impact.
- Comment on strategies and practices that will educate and train a new generation of plasma physics scientists who will rise to the challenges and opportunities of the field.
- Identify key areas where experiment and theory collaborations can help facilitate major scientific discoveries.
- Discuss how to develop and expand partnerships (interagency, International, and public/private) in furthering the goal of achieving a full potential of plasma science.
- Identify key references and reports, originating both domestically and internationally, that discuss progress in the field, new research challenges, societal or economic benefit and demographics.
- Discuss how to enhance diversity and make plasma science a more inclusive community that attracts the broadest cross-section of talent from all demographics.

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Guidelines for White Paper Format and Submission

To facilitate document management, please follow these guidelines:

- White papers may not exceed 5 pages in length. This length includes figures, tables, references, and appendices. Web links to other documents may be included in the references.
- Documents should be single spaced, use 12-pt Times Roman font, and have 1-inch margins on all sides.
- A cover page may be included and will *not* count toward the 5-page limit. The cover page should state the title of the white paper, the primary author's name, phone number, institution, and email address, and a list of co-authors with their respective institutions.
- The permission of each co-author must be explicitly given prior to submission
- Only papers in MS-Word or pdf format will be accepted. Please try to minimize file size.
- File sizes should be made as small as possible. White papers larger than 10 Mb in size cannot be accepted. For file management purposes, please compress figures as much as possible. Hyperlinks to higher resolution versions of illustrations are permissible.
- Number figures in the white paper and provide a "stand alone" caption for each figure including a citation for its origin.
- Appendices may contain other supporting, pre-existing documents, but not further text or other material created for the paper. Please separately upload key references and reports, originating both domestically and internationally, that discuss progress in the field, new research challenges, societal or economic benefit and demographics.
- Given that the committee will be composed of experts in a broad range of plasma physics and related fields, background or introductory material is generally not expected or desired.

White papers must be submitted through the online link located at nas.edu/plasma. Only white papers submitted by means of this system will be accepted. Submissions must be made before 11:59:59 PM EST, 8 March 2019. Questions on the process can be submitted to cjjones@nas.edu. White papers will **not** be accepted at that email address. All white papers will be made publicly available and posted to the committee's website per federal regulations.