

Institute for Advanced Studies in the Space, Propulsion & Energy Sciences

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SPESIF-2010

Space, Propulsion & Energy Sciences International Forum

February 23-26, 2010—Johns Hopkins University, Applied Physics Laboratory
2010 Theme: Future Directions

Call for Papers and Presentations

ABSTRACT SUBMISSION: Interested authors or presenters are invited to submit abstracts for approval by email through the technical chairs listed within the individual descriptions with a copy sent to the editorial chair at abstract2010@ias-spes.org for cataloging. The email submission should indicate the SPESIF forum, number and title of the technical session in which they wish their abstracts to be considered. The general deadline for submission of abstracts for papers and presentation is July 15, 2009. After this date, approval will depend on space availability. So please submit early. The abstract guidelines/template can be found at www.ias-spes.org/SPESIF2010/SPESIF_Author_page.html. Generally, abstracts should include the name(s), phone number(s) and email(s) of all authors, and clearly indicate the motivation and purpose of the work, important results, significance, applications, and briefly summarize the approach or methodology. Acknowledgment of receipt of submitted abstracts will be sent to the person submitting the abstract. Inquiries can be made by email to spesif@ias-spes.org or by calling (256) 694-7941. The call for papers can be found at www.ias-spes.org/SPESIF.html.

7th SYMPOSIUM ON NEW FRONTIERS IN THE SPACE PROPULSION SCIENCES

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The New Frontiers symposium pertains to the advancement of the space propulsion sciences from current technologies to emerging concepts and theories. The symposium is broken into Five Topic Areas covering the contemporary propulsion sciences, technologies and techniques for short-term objectives supporting near-term space initiatives for Earth, in-orbit, Moon and Mars-based propulsion and power systems over the next 30 years; enhancement of the feasibility of future space propulsion systems; new frontiers in the space propulsion sciences comprising ideas, concepts, experiments, theories and models; and approaches that could lead to new directions in space travel, exploration, astrophysics and particle physics with applications to propulsion, power or communication; or to help combine these areas of science with the space propulsion sciences toward new frontiers in science.

2nd SYMPOSIUM ON ASTROSOCIOLOGY

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The astrosociology symposium focuses on topics common to the space community, though from a social-scientific perspective. That is, a strong consideration of how each topic relates to society, culture, and the individual – the traditional purview of the social and behavioral sciences, humanities, and the arts (hereafter referred to as the “social sciences” for brevity) – defines astrosociology. A major theme of the symposium focuses on how traditional knowledge and findings of the social sciences, which normally focus on terrestrial matters, actually possess important applications for space exploration and related issues. Moreover, the direct application of social science research and theory-building in contemporary and future timeframes receive attention as vital components in the understanding of humanity's efforts in space environments in terms of exploration, settlement, work, and recreation. Examination of the impact of space exploration on terrestrial societies and cultures receives attention in addition to that of humans in space.

MEETING ON FUTURE DIRECTIONS IN SPACE SCIENCE AND TECHNOLOGY

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The Future Directions Meeting seeks to promote space exploration by providing a venue for basic research and current technology developments currently underway in various areas of space science and technology that could prove beneficial in the near future. In any integrated space vehicle, there are a large number of independent and interdependent systems that are needed to accomplish mission success. In some cases, there are engineers and scientists that work with fine focus to produce prototypes of high fidelity subsystems (such as navigation or propulsion) that are relevant for next generation spacecraft; while in other cases, teams of engineers and scientists work diligently and carefully to incorporate the latest cutting-edge subsystems into an integrated spacecraft tailor built to accomplish a specific other-worldly task. In all cases, it is critical that engineers and scientists alike be keenly aware of the trade space of available hardware and technology at their disposal so as to allow them to focus their efforts on the real technical innovation challenges.

14th CONFERENCE ON THERMOPHYSICS APPLICATIONS IN MICROGRAVITY

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This Conference pertains to thermophysical research and technology considered to be important for emerging aerospace applications. Sessions focus on scientific and technology research efforts originating from government, university and commercial research programs. The Conference starts with a session on emerging, and perhaps controversial, thermal control issues, which is followed by discussions on recent progress in fundamental research topics, and then the discussions move on to specific new technologies and applications. Technology discussions focus on: single and two-phase flow technologies, advanced thermal control coatings, convection interfacial mass transfer, innovative thermal control devices for spacecraft applications.

1st SYMPOSIUM ON HIGH-FREQUENCY GRAVITATIONAL WAVES

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Gary Stephenson, Seculine Consulting, P O Box 925, Redondo Beach, CA 90277, (425) 443-8651; seculine@gmail.com

The High-Frequency Gravitational Waves (HFGWs) Symposium provides a forum for discussions pertaining to the means of detecting and generating HFGWs and their practical application. Papers on HFGWs may encompass the high-frequency (100 kHz to 100 MHz), very high frequency (100 MHz to 100 GHz), and ultra high frequency (greater than 100 GHz) bands all referred to as HFGWs and should concentrate on the means for evolving this technology. HFGW generation and detection are paramount interest areas for the Symposium. Specific interests also include (but are not limited to) the description of HFGWs in conventional space-time, applications to astrophysics, communication, nuclear effects, surveillance and remote movement of massive objects. Concepts may be either theoretical or based upon actual experiments or fabricated devices and should include rigorous, logical, scientific support and plausible assumptions and/or data to validate the fundamental aspects of the presented papers.

WORKSHOP ON FUTURE ENERGY SOURCES

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The Workshop on Future Energy Sources seeks to integrate current, emerging and future energy sources for space exploration with Earth applications, including their issues of public interest. Papers and presentations are solicited that examine basic research and theories for conventional (e.g., fusion), non-conventional (e.g., bio-fuels) and speculative future energy sources (e.g., quantum fluctuations, dark energy, gravity, wide frequency EM, etc.). Papers and presentations are also solicited that address the fundamental-impact future energy sources, such as their economics alternatives, breakthroughs in energy source or and sustainability.