

Space Technology and Applications International Forum STAIF II

The current Conferences/Sessions with chairs and co-chairs under consideration are as follows:

Conference A: Conventional Technology Wisdom

Charles Suchomel- Chair

Chris Martens- Co-chair

This Conference reviews information based upon recent investigations. For example, what rocket propulsion systems will be used to go to Mars and beyond? What are the limitations of nuclear or solar propulsion? Are there dual capabilities for these devices? Other topics could include devising a communications network for the solar system, analogous to GPS, to approach real-time data acquisition capability. New energetic propellants or unusual uses of propulsion technology would also be of interest.

Conference B: Plasma Physics

John Brandenburg- Chair

Bruce McCandless II- Co-chair

Recent advances in physics have looked at the possibility of new types of particles that may exist and are under current investigation. For instance, WIMPS are particles that supposedly exist as Dark Matter. After several years of investigation, no WIMPS have been identified. Does this mean there is no Dark Matter and if so, how does this explain the need for more gravitational mass throughout the cosmos? Other investigations of Kosyrev's telescope experiments would also be of interest. The potential uses of plasma and magnetohydrodynamics (MHD) to support advanced propulsion are also of concern.

The Conference is open to discussion of all aspects of plasmas including ignition, containment, transmission and applications. Other papers of interest may focus upon unusual nuclear propulsion and energy concepts.

Conference C: Gravitational Waves

Robert Baker- Chair

Gary Stephenson, Clive Woods, Giorgio Fontana- Co-Chairs

STAIF generated a large body of literature concerning high frequency gravitational waves (HFGWs). Low Frequency Gravitational Waves (LFGW) with LIGO and aspects of gravity detection/quantification to study gravitational waves are of significant interest. Moreover, the physics community agrees that Einstein's laws allow for the description of gravity as a hyperbolic partial differential equation. If this is the case, what is the necessary evidence and what are the parameters of interest? Is there any evidence of gravitational anomalies to be gained from celestial bodies? For example, spinning neutron stars or jets from black holes may be generating repulsive gravitation. What is the evidence? What are the physical principles that might allow this to occur? Some papers in this session will also focus on using unification of electromagnetic concepts that might impact gravitational waves as proposed by Gertsenshtein.

Other interests include gravitational waves as they may be used for: propulsion; imagery; mapping; or communications.

Conference D: Advanced Propulsion, Energy Conversion, and Communication Technologies

Cosmos Environment

Charles Suchomel- Chair

Morgan Boardman- Co-chair

This Conference will examine advanced technology to support the above technical disciplines. The objective is to develop requisites for the necessary technologies dealing with the near-abroad with reference to propulsion, gravitational waves and gravitational models as well as space weather. Objectives will also include technologies to support the far-abroad within the solar system and distant galaxies. Other topics to consider will include approaches that may provide insights for advanced propulsion such as the unusual pulsar dynamics and the general character of the space environment. Other topics include mitigating the Near Earth Objects (NEO) originating from the Ort Cloud, the asteroid belt from Mars and Jupiter, and also from the Sun.

Analytical Assessments of Technologies

David Mathias- Chair

Young Bae- Co-chair

This Conference focuses upon analysis used to support the technological disciplines that would contribute to improved NASA TRL standards. Participants will present studies to evaluate these technologies and indicate their potential for the future.

Experimental Assessments of Technologies

Young Bae- Chair

Paul Murad- Co-chair

This session evaluates unusual experiments that are enigmas from the standpoint of conventional wisdom. Many of these are associated with superconductivity. For example, this includes the Podkletnov experiments as well as the recent work in Austria in cryogenics. In general experiments will be presented in which physical evidence challenges conventional wisdom and may support a paradigm shift.

Scientific Anomalies

Paul Murad- Chair

Frank Mead-Co-Chair

We are looking beyond incremental improvements to existing technology with the objective of getting into space in an affordable, greener and more advanced way. We need to examine both fringe and mainstream thinking. Some imaginative experiments have produced anomalous results that appear to contradict the current paradigm. One Russian approach

utilizes a rotating magnetic device. Another recent device exhibited changes in weight, both losses and gains that could not be accounted for under standard assumptions. These devices and at least some of the other magnetic-based inventions seem to act as transducers; the question arises as to whether they are tapping into the ZPE.

Other unconventional devices will be considered such as magnetic devices that were observed to levitate when an experimenter accidentally shorted the output. Other inventors claim a consistent COP greater than 1.0 and can use a version of this device to charge an electric car. These claims have some credibility based on contemporary observations by skilled engineers and could conceivably form the basis of advanced propulsion schemes.

Inventions are a form of art and the best ones feature a large intuitive component. The inventor of the Magnetic Energy Converter mentioned above had a dream about a magnetic tornado and translated the image into a mechanical and electrical equivalent. We need to seriously examine unconventional concepts and identify the solution paths to find results. This session will also include “interesting failures” and “interesting physical phenomena” that defy conventional assumptions.

Conference E: Mars Session

John Brandenburg- Chair

Frank Mead- Co-Chair

Human landing and settlement of the Mars system will be a watershed event in human history. It will dwarf the Apollo Moon landings in significance. For the first time humans will journey across deep space and set foot upon another living world. This key challenge defines a new millennium. The attainment of Mars requires a quantum leap in space flight technology and imagination.

Advanced propulsion and space power are key enablers for a human Mars mission. Chemical rocket technology was sufficient for the Moon, but is inadequate for the greater challenge of colonizing Mars. New higher performance propulsion technologies must be developed. Using nuclear or electric heating for thrust presents new dangers and technical difficulties. Conceivably, early missions to Mars can operate with large-scale solar electric propulsion, using the MET (microwave Electro-Thermal), which uses water propellant and has a sufficient exhaust velocity.

A power source for human settlements must be developed. Mars receives only half the sunlight intensity of earth, and dust storms can reduce that to zero for months. Nuclear power would appear to be mandatory for any extended human stay on Mars. However, not all of Mars' realities are as harsh as the Moon's. There is evidence that it may have once supported life and perhaps there is evidence to be found that it still does. We need to understand Mars' history and evolution. Among other puzzles, some geological evidence eons ago may suggest that Mars saw surface nuclear events.

Mars is not only a planet but a system; its two moons Phobos and Deimos provide ready-made space stations. The inner moon Phobos is 10 km long; it provides abundant material for

radiation shield and perhaps propellant. Its weak gravity means that visitors do not land on Phobos but dock with it. The absence of a magnetic field at Mars eliminates the hazards of a van Allen belt and allows easy access to Phobos' surface for astronauts. For a surface landing, Mars' atmosphere provides a convenient brake and also a resource for making rocket fuel for liftoff. Mars has water, useful as propellant as well as a necessity of life. Mars presents us with a historic challenge on one hand, but with abundant resources and help on the other.

We seek technical papers that will develop mission concepts and strategies to address these key issues of Mars.

Conference F: Environmental Sciences

Morgan Boardman- Chair

TBD- Co-chair

The Environmental Sciences Section explores game-changing technologies to remediate the environment. This conference addresses climatic and environmental Black Swan events that fall outside the limits of statistical prediction. The frequency of environmental Black Swans is increasing, creating situations in which multiple challenges must be dealt with simultaneously -- a kind of 'Mega-Black-Swan' event.

This conference aggressively investigates any outlying technology or strategy directed towards solving problems such as weather control, pollution abatement (as in the recent B.P. disaster), and the Daiichi nuclear reactor tragedy. Papers will review green/clean energy solutions, alternative practices, effective philosophies of communication, and social integration. We would span the hard sciences as well, as not leaving any philosophic stone unturned with respect to solutions to our current dire state. Moreover, this section will focus on applications and theory that can mitigate, solve, or eradicate environmental threats and identify leading indicators of environmental collapse. This section is solution oriented, seeking fixes that may be available in the advanced sciences.

Technical Abstract, Papers and Session Chairmen Requirements

STAIF II sits on the boundary between established science and speculative science. The spirit of this conference is rigorous but open minded. We need speculative science because this is where innovative ideas originate. Speculation must be based upon fundamental scientific principles. However, as serious investigators, we are obligated to take the big step into new concepts.

Conference reviewers should adhere to certain guidelines, which we should generate through discussions with one another. It takes a certain open-mindedness to be a reviewer. For example, Bob Forward always said that he was willing to read any paper, no matter how radical, that proposed a new idea.

We need papers that do not violate the fundamental laws of physics, as we currently understand them; or if they do, they must be logically supported. We also need conceptual papers from authors who are able to put their ideas into a logical and mathematical context. In

some cases an idea may defy conventional wisdom, but have independent merit. As serious investigators we are obligated to consider it.

Technical papers must have suitable technical references (not websites) and be presented in a format that is appropriate for a scientific investigation. Technical papers will contain an introduction explaining the reason for the initial investigation, a discussion of the author's methodology, analysis that follows scientific principles, followed by results and finally a conclusion. The conclusion should indicate the reason the paper is important.

We are interested in evaluating abstracts that will be from 200 to 250 words long. The abstract must be simply written. It will cover the topic, describe the work to be discussed in the paper, provide meaningful results, and explain why a reader should want to read the paper. . The decision to accept a paper will be based upon the quality of the abstract.

Both abstracts and papers will be peer reviewed. If improvements are needed the author and the session chairman will negotiate changes. If a reviewer must interact with the author more than twice, the paper may be declined.

Once a paper is accepted, the session chairman will review the final version to ensure that the paper follows the abstract and provides sufficient validation for the result. The reason for peer review is that we have a responsibility to improve the author's capabilities to present difficult technical material. Papers will be required to maintain a very high standard so that they will be stored in a technical archive. Moreover, peer reviewers will provide added value for these papers. Session chairmen will be responsible for assisting the authors to make suitable presentations as well at the technical meeting. The purpose of the process is to assist the next generation of engineers and scientists in producing high-quality papers and improving their presentation skills.

We are interested in finding suitable session chairmen. These individuals will be responsible for judging the abstracts, suggesting changes as needed and supervising peer review to ensure value-added contributions to the papers. An additional review will be conducted at a higher level before papers are accepted, with the objective of meeting archival requirements.

Deadlines

Abstracts are required by September 12 with the first draft due on November 1 and the camera-ready final copy due on January 20.

Format

The AIAA guidelines will be followed for both abstracts and papers with a single column format. No footnotes will be accepted. Material that would ordinarily appear in footnotes may be included in the References.

All speakers must have submitted an approved conference paper.

Authors will be required to acknowledge that their work contains no classified information or violations of the MCTL/MCTR.

Visit the link below to download the AIAA forma guidelines:

http://www.staif2.org/images/wdoc/AIAA_Format_Guidelines.doc

Please cc: all abstracts to the conference chairs.

Thank you,

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Registration Details

The Conference will take place in Albuquerque on March 13 – 15, 2012 with an early registration fee of \$350.00 USD. The Conference may run for a fourth day depending upon the number of papers.

Visit the link below to register online using a credit/debit card via our secure payment processor PayPal:

<http://www.staif2.org/registration.html>

If you prefer to pay by check, visit the link below to download the printable registration form:

<http://www.staif2.org/images/pdf/registration.pdf>

Discounts for students and seniors will be available.

The host hotel is the Albuquerque Marriott Pyramid North.

<http://www.marriott.com/hotels/travel/abqmc-albuquerque-marriott-pyramid-north/>

5151 San Francisco Road NE, Albuquerque, NM 87109 1-505-821-3333 1-800-262-2043

The conference rate will be \$90.00 plus tax, single or double occupancy; this will include a complete American breakfast for one or two occupants, free internet and other amenities. In order to obtain this rate you must tell them you are with STAIF II. The banquet is priced separately at \$50.00.

As a special incentive for early registration, the first forty (40) participants to register and pay the full conference rate will have their room rate reduced by \$30 per night, courtesy of STAIF II. If other discounts become available they will be extended to early registrants.

