

Final

Tuesday, February 23, 2010

Plenary I: Auditorium

8:00 – 10:00 am

New Directions in Space Science and Technology

Moderator: Glen A. Robertson ([Bio](#))
President - Institute for Advanced Studies in the Space, Propulsion & Energy Sciences

- 8:00am (TBD)**
Chris Moore
NASA, Headquarters
- 8:30am From Research to Flight: Surviving the TRL “Valley of Death” for Robotic and Human Space Exploration ([Abstract](#))**
Les Johnson ([Bio](#))
NASA, George C. Marshall Space Flight Center
- 9:00am Transformational Technologies to Expedite Space Access and Development ([Abstract](#))**
John Rather ([Bio](#))
Rather Creative Innovations Group, Inc.
- 9:30am The Historical and Future Economics of Propulsion and Energy Technology: Trends from 1750 and Projections to 2100 ([Abstract](#))**
Darryl W Webb ([Bio](#))
The Aerospace Corporation

****Break****

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Tuesday, February 23, 2010

Plenary II: Auditorium

10:15 – 12:15pm

**Reflections on the First Fifty Years of the Space Age and
Prospects for the Next Fifty: An Astrosociological
Assessment**

Moderator: Roger Launius ([Bio](#))
Curator - National Air and Space Museum Smithsonian Institution

10:15am Reflections on the First Fifty Years of the Space Age ... ([Abstract](#))
Howard E. McCurdy ([Bio](#))
American University

10:45am Leading Spaceflight ([Abstract](#))
Mark Albrecht ([Bio](#))

11:15am Making Spaceflight Policy ([Abstract](#))
John M. Logsdon ([Bio](#))
George Washington University

11:45am Socializing Spaceflight ([Abstract](#))
Linda Billings ([Bio](#))
George Washington University and NASA's Astrobiology Program

****Lunch****

Final

Tuesday, February 23, 2010

Classroom 1

1:30 – 3:00 pm

B01. Current Topics in Thermal Control

Chair: Ted Swanson (Bio)
NASA Goddard Space Flight Center, Greenbelt, MD, 301-286-7854
Ted.Swanson@nasa.gov

Co-Chair: Tung T. Lam (Bio)
The Aerospace Corporation, Los Angeles, CA, 310-336-5408
tung.t.lam@aero.org

1:15 PM **Opening Remarks and a Survey of New Thermal Control Technology Developments from Outside the United States** ([Abstract](#))
Ted Swanson (Bio) and Charles Baker (Bio)
NASA Goddard Space Flight Center, Greenbelt, MD
Tung Lam (Bio)
Aerospace Corporation

B02. Progress in Microgravity Thermophysics

Chair: Fred Best (Bio)
Texas A&M University
fbest@ne.tamu.edu

Co-Chair: TBD

1:45PM **Equilibrium Interface Position During Operation of a Fixed Cylinder Vortex Separator** ([Abstract](#))
(070) Logan Gaul, Cable Kurwitz, and Frederick Best (Bio)

2:15PM **Microgravity Flow Regime Data: Buoyancy and Mixing Apparatus Effects** ([Abstract](#))
(061) Frederick Best and Adam Shephard (Bio)

2:45PM **Analytical Modeling And Test Data Verification Of A System Of Variable/Constant Conductance Heat Pipes** ([Abstract](#))
(091) Denis R. Mahony, Debra R. Zakar, Sheleen Spencer, Robert W. Baldauff, and Triem T. Hoang (Bio)

****Break****

Final

Tuesday, February 23, 2010

Classroom 2

1:30 – 3:00 pm

A01. Advances in Contemporary Propulsion Sciences

Chair: John Cole (Bio)
NASA Marshall Space Flight Center, AL, Retired, (256) 882-0492
john.cole.hsv@gmail.com

Co-Chair: TBD (Bio)

1:15PM Future Propellants for Launch Vehicles - Metallic Hydrogen with Water and Hydrocarbon Diluents ([Abstract](#))

(058) John Cole (Bio)

1:45PM Maglev Launch: Ultra Low Cost, Ultra High Volume Access to Space for Cargo and Humans ([Abstract](#))

(100) James Powell and George Maise, Maglev-2000, LLC
John Rather, RCIG, Inc. ([Bio](#))

2:15PM Nuclear Pumped Lasers for Space Power Beaming Revisit ([Abstract](#))

George H. Miley, Department of Nuclear, Plasma, and Radiological Engineering,
University of Illinois (Bio)

2:45PM OPEN

****Break****

Final

Tuesday, February 23, 2010

Classroom 3

1:30 – 3:00 pm

C01. Astrosociology: Definition, Scope, and Relevance/Astrosociology in the Classroom

Chair: Jim Pass ([Bio](#))

Astrosociology Research Institute, Huntington Beach, CA, (714) 317-6169

jpass@astrosociology.org

Co-Chair: Simone Caroti (Bio)

Purdue University, Department of Literature, West Lafayette, IN, (765) 426-4380

scaroti@purdue.edu

1:15PM Astrosociology in the Classroom: Developing a Practical Applied Sociology Course ([Abstract](#))

(021) Ken Duffy (Bio)

1:45PM Astrosociology and Science Fiction: a Synergy ([Abstract](#))

(054) Simone Caroti (Bio)

2:15PM Justifying and Teaching Astrosociology ([Abstract](#))

(057) Jim Pass ([Bio](#))

2:45PM OPEN

****Break****

Final

Tuesday, February 23, 2010

Classroom 4

1:30 – 3:00 pm

D01. High-Frequency Gravitational Wave (HFGW) Detectors/Receivers

Chair: Gary V. Stephenson
Seculine Consulting, Redondo Beach, Ca, (425) 443-8651
seculine@gmail.com (Bio)

Co-chair: Andrew Beckwith, Menlo Park, California, (650) 322-6768
rwill9955b@yahoo.com (Bio)

1:15PM **Testing the Li-Torr-Chiao conjecture: a novel HFGW detector?** ([Abstract](#))
(005) R. C. Woods, (Bio)

1:45PM **A comparison between the requirements of the Li-Baker detector (direct detection of HFGW) and the QUIET detector (CMBR) in terms of noise generation / control** ([Abstract](#))
(008) Andrew Beckwith (Bio)

D04. High-Frequency Gravitational Wave (HFGW) Applications to the Global Anti-Terrorism

Chair: Robert M L Baker, Jr. (Bio)
GravWave® LLC and Transportation Sciences Corporation, Playa del Rey, CA,
(310) 823-4143; drrobertbaker@gravwave.com

Co-chair: R. Clive Woods (Bio)
Louisiana State University, Electrical & Computer Engineering Department, Baton Rouge, La, (225) 578-8961; cwoods@lsu.edu

2:15PM **Applications of High-Frequency Gravitational Waves to the Global War on Terror** ([Abstract](#))
Robert Baker (Bio)

2:45PM **OPEN**

****Break****

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Tuesday, February 23, 2010

Auditorium

3:30 – 5:30 pm

W1. WORKSHOP ON FUTURE ENERGY SOURCES

Chair: Dave Goodwin (Bio)

Office of Fusion Energy Sciences, Washington, D.C. 20585-1290, (301) 903-6474

Dave.Goodwin@science.doe.gov

Co-Chair: Len Danczyk (Bio)

Santa Barbara, CA 93109-1506, (805) 966-1234

Len@energeticstech.com

Guest Lecturers

3:30PM **Production of Energy for Space Technology through Operation of Magnetic and Gravitational Systems** ([Abstract](#))

(GL1) Mehran Tavakoli Keshe (Bio)

4:30PM ~~**The Pyramid Electric Generator**~~ (Abstract) – **PULLED**

~~(GL2) Peter Grandies (Bio)~~

Final

Wednesday, February 24, 2010

Classroom 1

8:00 – 10:00AM

B03. Two-Phase Thermal Control Systems

Chair: Michael T Pauken (Bio)
Jet Propulsion Laboratory, Pasadena, CA, 818-354-4242
michael.t.pauken@jpl.nasa.gov

Co-Chair: Bill Anderson (Bio)
Advanced Cooling Technologies, Inc., Lancaster, PA 717-295-6066
Bill.Anderson@1-ACT.com

8:00AM **Innovative Evaporators for Lunar Lander Thermal Control System** ([Abstract](#))
(029) Tadej Semenic ([Bio](#))

8:30AM **SMARTS Thermal Architecture for the PnP-2** ([Abstract](#))
(044) Dave Bugby (Bio)

9:00AM **Performance of the parallel condensers same and different sink conditions**
(Abstract)
(046) Michael Nikitkin, (Bio)

9:30AM **Sodium Variable Conductance Heat Pipe with Carbon-Carbon Radiator for Radioisotope Stirling Systems** ([Abstract](#))
(098) Calin Tarau and William G. Anderson (Bio)

****Break****

B04. High Capacity Heat Rejection Systems – Lasers, Processors, and Nuclear Heat Sources

Chair: Pete Cologer (Bio)
ATK, Beltsville, MD, 301 902 4394
pete.cologer@atk.com

Co-Chair: Gary Adamson (Bio)
Hamilton Sundstrand, Windsor Locks, CT, 860-654-2646,
gary.adamson@hs.utc.com

10:15AM **Advances in Transient Modeling of Loop Heat Pipe Systems with Multiple Components** ([Abstract](#))
(047) Dmitry Khrustalev (Bio)

10:45AM **Active Cooling System for the Solar Probe Power System** (Abstract)
(049) Jack Ercol, (Bio)

Final

B05. Advanced Thermal Control Technologies via Conduction, Convection, and/or Radiation

Chair: Jeffrey Didion (Bio)

NASA Goddard Space Flight Center, Greenbelt, MD, 301 286-4363

Jeffrey.R.Didion@nasa.gov

Co-Chair: Eric Sunada, Jet Propulsion Laboratory / California Institute of Technology, Pasadena, CA, 818-354-1543; eric.t.sunada@jpl.nasa.gov

11:15AM Thermal Control Technology Developments for a Venus Lander ([Abstract](#))

(019) Michael T. Pauken (Bio)

11:45AM Loop Heat Pipe Utilization for Temperature Control of Electronics Deck

Deborah Zakar, Robert Baldauff, Triem T. Hoang and Denis Mahony

****Lunch****

B06. Thermal Control for Lunar and Deep Space Missions

Chair: Dan Butler (Bio)

NASA Goddard Space Flight Center, Greenbelt, MD, 301 286-8618,

Dan.Butler@nasa.gov

1:15PM Messenger Thermal Performance during Mercury Fly by Number 3 (Abstract)

(048) Jack Ercol, (Bio)

1:45PM Two-Phase Thermal Switching System for International Lunar Network (ILN)

Anchor Nodes ([Abstract](#))

(056) D. Bugby (Bio)

2:15PM Thermal Control System Design and Architecture of the Spacecraft for BepiColombo Mercury Mission ([Abstract](#))

(073) Sean L. Tuttle, Jürgen Schilke & D. Angirasa (Bio)

2:45PM Design of an Experimental Facility for an Oscillating Heat Pipe ([Abstract](#))

(103) B. S. Taft, G. F. Nellis, J. M. Pfothenauer and A. D. Williams (Bio)

****Break****

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Wednesday, February 24, 2010

Classroom 2

8:00AM – 3:00PM

A02. Advanced Technologies, Concepts, and Techniques for Space Application

Chair: Chuck Suchomel (Bio)
USAF WPAFB, OH, 937-904-8653
charles.suchomel@wpafb.af.mil

Co-Chair: Frank Mead (Bio)
USAF, Retired
fbmeadjr@yahoo.com

8:00AM **Development Path for Aneutronic Fuel Fusion for Space Power** ([Abstract](#))
(034) George H. Miley (Bio)

8:30AM **The Feasibility of a Stretched Lens Concentrating Solar Array Direct-Driving an Electric Thruster** ([Abstract](#))
(036) Henry W. Brandhorst (Bio)

A03. Frontiers in Propulsion Science

A03.1. Theories, Models and Concepts

Chair: Martin Tajmar ([Bio](#))
Austrian Research Centers GmbH - ARC, Seibersdorf, Austria, +43-50550-3142;
martin.tajmar@arcs.ac.at

Co-Chair: Ben Solomon (Bio)
Interstellar Space Exploration Technology Initiative, P.O. Box 831, Evergreen, CO
80437, 303-618-2800
benjamin.t.solomon@iSETI.us

9:00AM **A Light Sail Inspired Model to Harness Casimir Forces for Propellantless Propulsion** ([Abstract](#))
(022) Robert L. DeBiase (Bio)

9:30AM **Emerging Physics for Novel Field Propulsion Science** ([Abstract](#))
(050) Jochem Hauser (Bio)

****Break****

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- 10:15AM** Electromagnetotoroid Structures in Propulsion and Astrophysics ([Abstract](#))
(085) Mario J. Pinheiro (Bio)
- 10:45AM** Propulsion by Rolling oscillators. Geometrically Induced Coulomb Interactions and Bifurcations ([Abstract](#))
(086) Bernd Binder (Bio)

A03.2. Experimental Results

Chair: James Woodward (Bio)
California State University, Fullerton, CA, 714-278-3596
jwoodward@fullerton.edu

Co-Chair: Franklin Felber (Bio)
Starmark, Inc., P. O. Box 270710, San Diego, CA 92198, 858-676-0055
felber@san.rr.com

- 11:15AM** Fiber-Optic-Gyroscope Measurements Close to Rotating Liquid Helium ([Abstract](#))
(015) M. Tajmar, ([Bio](#))
- 11:45AM** A Test for the Existence of Mach Effects With a Rotary Device ([Abstract](#))
(016) James F. Woodward (Bio)

****Lunch****

- 1:15PM** Dynamic Weighing Experiments - the Way to New Physics of Gravitation ([Abstract](#))
(020) A. L. Dmitriev, ([Bio](#)), Evgeniy Nikushchenko ([Bio](#)), Sophia Bulgakova ([Bio](#))
- 1:45PM** Test of relativistic gravity for propulsion at the Large Hadron Collider ([Abstract](#))
(028) Franklin Felber, ([Bio](#))
- 2:15PM** Measuring the Dependence of Weight on Temperature in the Low Temperature Regime using a Magnetic Suspension Balance ([Abstract](#))
(060) M. Tajmar, ([Bio](#))
- 2:45PM** OPEN

****Break****

Final

Wednesday, February 24, 2010

Classroom 3

8:00 – 3:00PM

C02. Science Fiction and Scientific Actuality

Chair: Simone Caroti
Purdue University, Department of Literature, West Lafayette, IN, (765) 426-4380;
scaroti@purdue.edu (Bio)

Co-Chair: TBD

8:00AM **Science-Fictional Advocacy for the First Space Age, 1940-1960** ([Abstract](#))
(055) Simone Caroti, (Bio)

C03. Space Policy and Space Law in a Societal Context

Chair: Christopher M. Hearsey
University of North Dakota, (818) 209-7029
outer.space.analysis@gmail.com (Bio)

8:30AM **Morality and Ethics in Outer Space Laws and Policies: An Astrosociological Approach**([Abstract](#))
(039) Christopher Hearsey, ([Bio](#))

9:00AM **As Above, So Below** ([Abstract](#))
(040) David Damast, ([Bio](#))

9:30AM **OPEN**

****Break****

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C04. Astrosociology and Astrobiology (and SETI)

Chair: Jim Pass ([Bio](#))
Astrosociology Research Institute, Huntington Beach, CA, (714) 317-6169;
jpass@astrosociology.org

- 10:15AM** **The Astrosociological Implications of Astrobiology Revisited** ([Abstract](#))
(082) Jim Pass, (Bio)
- 10:45AM** **Social Implications of the Discovery of Life on Extra solar Planets** ([Abstract](#))
(107) Julia DeMarines ([Bio](#))

C11. Interplanetary Political Economy

Chair: Christopher M. Hearsey, University of North Dakota, (818) 209-7029;
outer.space.analysis@gmail.com ([Bio](#))

- 11:15AM** **Expectations for future funding of NASA and space science: Implications of the Obama FY 2010 budget request** ([Abstract](#))
(037) Colleen Hartman ([Bio](#))
- 11:45AM** **The Political Economy of Outer Space: Considerations in the Development of an Interplanetary Economic System** ([Abstract](#))
(038) Christopher Hearsey ([Bio](#))

****Lunch****

C06. Space Societies/The Settlement of Space Environments

Chair: Simone Caroti (Bio)
Purdue University, Department of Literature, West Lafayette, IN, (765) 426-4380
scaroti@purdue.edu

Co-Chair: Jim Pass ([Bio](#))
Astrosociology Research Institute, Huntington Beach, CA, (714) 317-6169;
jpass@astrosociology.org

- 1:15PM** **Preventing and Identifying Delusions in Space & Society** ([Abstract](#))
(043) Terry Tang, ([Bio](#))
- 1:45PM** **Space Exploration and the Greenland Norse; a Comparative Study on the Application of Technology for Exploration** ([Abstract](#))
(079) Theodore D. Swanson (Bio)
- 2:15PM** **Lessons for Space Age Exploration; Technology in the Polynesian Diaspora into the Pacific** ([Abstract](#))
(078) Theodore D. Swanson (Bio)

2:45PM **OPEN**

****BREAK****

Final

Wednesday, February 24, 2010

Classroom 4

8:00 – 3:00PM

**D03. High-Frequency Gravitational Wave (HFGW) Applications to
Cosmology/Astrophysics**

Chair: Andrew Beckwith (Bio)
Menlo Park, California, (650) 322-6768,
rwill9955b@yahoo.com

Co-chair: Giorgio Fontana (Bio)
University of Trento, Trento, Italy, +390461883906;
giorgio.fontana@unitn.it

8:00AM **Detection of Gravitational waves with semi classical features and cosmological implications (of such semi classical features)** ([Abstract](#))

(009) Andrew Beckwith, (Bio)

8:30AM **Stretched neutrinos, and the supposed linkage to Gravitons/ HFGW data sets** ([Abstract](#))

(007) Andrew Beckwith, (Bio)

9:00AM **A New Cosmological Model for Matter, Energy, Sound, the Origin of the Universe and Gravity** ([Abstract](#))

(013) Madonna-Megara Holloway ([Bio](#))

9:30AM **OPEN**

****BREAK****

D06. Theoretical High-Frequency Gravitational Wave (HFGW) Research

Chair: Giorgio Fontana (Bio)
University of Trento, Trento, Italy, +390461883906
giorgio.fontana@unitn.it

Co-chair: R. Clive Woods (Bio)
Louisiana State University, Electrical & Computer Engineering Department, Baton Rouge, La, (225) 578-8961
cwoods@lsu.edu.

10:15AM **Towards an Unified Engineering Model for Long Range Forces** ([Abstract](#))

(004) Giorgio Fontana (Bio)

10:45AM **Study of Gravity** ([Abstract](#))

(011) Mike Gamble (Bio)

Final

11:15AM **A nature of gravitation and the HFGWs generation problem** ([Abstract](#))
(023) Valentyn A. Kanibolotsky, ([Bio](#))

****Lunch****

W1. WORKSHOP ON FUTURE ENERGY SOURCES

Chair: Dave Goodwin (Bio)
Office of Fusion Energy Sciences, Washington, D.C. 20585-1290, (301) 903-6474
Dave.Goodwin@science.doe.gov

Co-Chair: Len Danczyk (Bio)
Santa Barbara, CA 93109-1506, (805) 966-1234
Len@energeticstech.com

1:15PM **A Study of Defense Applications of Space Solar Power** ([Abstract](#))
(033) Paul Jaffe, (Bio)

1:45PM **Permanent Magnet Spiral Motor for Magnetic Gradient Energy Utilization:
Axial Magnetic Field** ([Abstract](#))
(052) Thomas Valone (Bio)

2:15PM **Fusion Research State-of-the-Art** (Abstract)
(104) D. Goodwin (Bio)

2:45PM **Quantum Vacuum Engineering for Power and Propulsion from the Energetics
of Space** ([Abstract](#))
(108) Dave Froning ([Bio](#))

Final

Wednesday, February 24, 2010

Auditorium

3:30 – 5:30 pm

Lecture Series

3:30PM **Advanced Space Propulsion Concepts for Interstellar Travel** ([Abstract](#))
(LS1) Greg Meholic (Bio)

4:30PM **Exotic Technologies: Changing The Global Village and the Future...** ([Abstract](#))
(LS3) Paul Murad (Bio)

****5:30 - OPEN BAR****

Banquet Dinner

6:00 – 8:30 pm

7:00PM **Unknown Stories from Space**
Robert Zimmerman ([Bio - Abstract](#))

Final

Thursday, February 25, 2010

Classroom 1

8:00 – 3:00PM

B07. Advances in Spray Cooling

Chair: Kirk L. Yerkes (Bio)
USAF/ Air Force Research Laboratory, Wright-Patterson AFB, OH
kirk.yerkes@wpafb.af.mil

Co-Chair: Eric Gollhofer (Bio)
NASA Glenn Research Center, Cleveland, Ohio 44135, 216-433-6575
eric.l.gollhofer@nasa.gov

8:00AM Monte-Carlo spray simulation ([Abstract](#))
(072) Paul Kreitzer (Bio)

B08. Advanced Heat Pipe Technologies

Chair: Bob Reid
Los Alamos National Laboratory, Los Alamos, NM, 505-667-2626
rsr@lanl.gov (Bio)

Co-Chair: D. Angirasa (Bio)
EADS Astrium, Stevenage, Hertfordshire, SG1 2AS, UK, +44-1438-774072
a_devarakonda@yahoo.com

8:30AM Thermal Control of an Electric Power Processor with Heat Pipes Onboard a Mercury Bound Spacecraft ([Abstract](#))
(075) Giovanni Cavallo and D. Angirasa (Bio)

9:00AM Thermal Performance of Ammonia Heat Pipes after Above Critical Temperature Endurance ([Abstract](#))
(093) J. A. Gonzalez, D. Angirasa, S. Barraclough & D. Stramaccioni (Bio)

9:30AM The Use of Mercury as a Heat Pipe Fluid in a High Temperature and Pressure Hydrogen Environment ([Abstract](#))
(097) E. Michael Flores, Michael A. Inbody and Robert S. Reid (Bio)

Final

B09. Smart Materials

Chair: Kenneth Shannon,
Eclipse Energy Systems, 2345 Anvil Street North, St. Petersburg, FL, 727-344-7300,
kshannon@eclipsethinfilms.com (Bio)

10:15AM Variable Emittance Skins For Active Thermal Control In Spacecraft Based On Conducting Polymers, Ionic Liquids and Specialized Coatings ([Abstract](#))
(094) Prasanna Chandrasekhar (Bio), Brian J. Zay, Scott Barbolt, Robert Werner and Edmonia Caldwell

10:45AM OPEN

11:15AM OPEN

11:45AM OPEN

****Lunch****

1:15PM OPEN

1:45PM OPEN

2:15PM OPEN

2:45PM OPEN

Final

Thursday, February 25, 2010

Classroom 2

8:00 – 3:00PM

A04. Toward New Directions in Astrophysics/Particle Physics with application to Propulsion, Power or Communications

A04.1. New Directions in Astrophysics/Particle Physics

Chair: Bernd Binder,
Quanics, Salem, BW, Germany, ++497553827390,

8:00AM **Non-Gaussian Photon Probability Distribution** ([Abstract](#))
(012) Benjamin T Solomon (Bio)

8:30AM **On using Greenberger-Horne-Zeilinger three-particle states for superluminal communication** ([Abstract](#))
(071) Raymond Jensen (Bio)

A04.2. Unconventional Physical Principles and Gravitational Models

Chair: Paul Murad (Bio)
Vienna, VA, (703) 759-2028
ufoguypaul@yahoo.com

Co-Chair: John Brandenburg, ORBITEC, Madison, WI, 608-229-2790,
brandenburgj@orbitec.com (Bio)

9:00AM **An Anzatz About Gravity and Cosmology** ([Abstract](#))
(002) Paul Murad, (Bio)

9:30AM **Quantum GEM (Gravity-Electro-Magnetism) the Kursunoglu-Brandenburg Hypothesis and GRB (Gamma Ray Bursters)** ([Abstract](#))
(017) John E. Brandenburg (Bio)

****BREAK****

10:15AM **Observation of Inverted Rydberg Matter and Implications for Energy Production** ([Abstract](#))
(032) George H. Miley (Bio)

10:45AM **Possible States Theory and the Occurrence of Change** ([Abstract](#))
(063) Shelley Thomson (Bio)

11:15AM **Reactionless Torque Generation** ([Abstract](#))
(076) Bojidar Djordev (Bio)

Final

11:45PM **Minimum Contradictions Physics and Propulsion via Superconducting Magnetic Field Trapping** ([Abstract](#))
(027) A. A. Nassikas ([Bio](#))

****Lunch****

A05. Far Term Space Transport/Environment Models and Theories

A05.1. Far Term Space Transport and Environment Models & Theories

Chair: Eric Davis (Bio)
Warp Drive Metrics, Austin, TX, 512-342-2187
ewdavis@earthtech.org

Co-Chair: Ray Lewis (Bio)
Pennsylvania State University, Boalsburg, PA, 814-466-6187
r3l@psu.edu

1:15PM **FTL (Faster Than Light) Travel Using Tachyons, the GEM theory, and Causality** ([Abstract](#))
(025) John Brandenburg (Bio)

1:45PM **The fourth law of motion in classical mechanics and electrodynamics** ([Abstract](#))
(084) Mario J. Pinheiro (Bio)

A05.2 Conceptual Models and Theories Promoting Alternative Space-times

Chair: Gregory V. Meholic (Bio)
The Aerospace Corporation, El Segundo, CA, 310 336-2919
Greg.V.Meholic@aero.org

2:15PM **Unlabored Motion in Higher Dimensional Realms by Specially Conditioned Electromagnetic Fields** ([Abstract](#))
(018) H. David Froning (Bio)

2:45PM **Higher Dimensional Spacetimes for Visualizing and Modeling Possibilities for Subluminal-Luminal-Superluminal Flight** ([Abstract](#))
(051) H. David Froning (Bio)

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Thursday, February 25, 2010

Classroom 3

8:00 – 3:00PM

C05. Planetary Defense and Societal Protection

Chair: Lindley Johnson (Bio)
NASA Headquarters, Washington, DC, (202-358-2314; lindley.johnson@nasa.gov)

- 8:00AM** **Latest NEO Activities at NASA**
Lindley Johnson
- 8:30AM** **NEO Survey: An Efficient Search for Near-Earth Objects by an IR
Observatory in a Venus-like Orbit ([Abstract](#))**
(074) Robert F. Arentz (Bio)
- 9:00AM** **Challenges of Deflecting an Asteroid or Cometary Nucleus with a Nuclear
Burst ([Abstract](#))**
(087) Paul A. Bradley ([Bio](#))
- 9:30AM** **OPEN**

****Break****

**C07. Technology Transfers and Spinoffs: How Space Technologies Improve
Life on Earth**

- Chair:** Douglas A. Comstock (Bio)
Director, Innovative Partnerships Program (NASA HQ), 202 358-2221
doug.comstock@nasa.gov
- Co-Chair:** Daniel P. Lockney (Bio)
Spinoff Editor, NASA Center for AeroSpace Information (CASI), 301-621-0224
Daniel.P.Lockney@nasa.gov
- 10:15AM** **Satellite Technology for Developing Countries: A Research Agenda ([Abstract](#))**
(024) Danielle Wood (Bio)
- 10:45AM** **(Not Should, but) Do Spinoffs Help Public Acceptance of NASA, especially
Human Space Exploration? ([Abstract](#))**
(041) Howard D. Ross, ([Bio](#))
- 11:15AM** **The Secrets of Their Success (Abstract)**
(105) S. Beam (Bio)

Final

C09. Medical Astrosociology

Chair: Melvin Marsh (Bio)
Covington GA 30016; 770-778-9016
melsmarsh@gmail.com

Co-Chair: Simone Caroti (Bio)
Purdue University, Department of Literature, West Lafayette, IN, (765) 426-4380
scaroti@purdue.edu

11:45AM Ethical Issues Regarding Informed Consent for Minors for Space Tourism
([Abstract](#))
(062) Mel Marsh (Bio)

****Lunch****

1:15PM Biochemical Stress Markers for Depression, Mood State, and Back Pain in Healthy Men during Simulated Microgravity: Implications for Long Duration Spaceflight ([Abstract](#))
(102) Balwant Rai, Jasdeep Kaur, Maria Catalina (Bio)

C10. Overview Effect

Chair: Frank White
Co-Chair: Loretta Hidalgo Whitesides

1:45PM Virtual World Astrosociology ([Abstract](#))
(014) William Sims Bainbridge, (Bio)

2:15PM The Overview Effect and Overview Thinking ([Abstract](#))
(080) Frank White (Bio)

2:45PM The Overview Effect: It is Up to Us to Impact the Evolution of Society
([Abstract](#))
(106) Loretta Hidalgo Whitesides (Bio)

****Break****

Final

Thursday, February 25, 2010

Classroom 4

8:00 – 3:00PM

E01. Enabling Technologies for Lunar/Mars Surface Science

Chair: Pamela E. Clark ([Bio](#))
NASA – GSFC, Greenbelt, MD 20771, 301-286-7457
pamela.e.clark@nasa.gov

- 8:00AM** Ultra Low Temperature Ultra Low Power Instrument Packages for the Lunar Surface ([Abstract](#))
(030) P.E. Clark ([Bio](#))
- 8:30AM** SPARCLE: Electrostatic Dust Removal Tool for Lunar Surface Successful Test of Concept ([Abstract](#))
(031) P.E. Clark ([Bio](#))
- 9:00AM** Thermal conductivities of ionic liquid-regolith mixtures: Improving heat transfer for innovative thermal and power systems at the Lunar surface ([Abstract](#))
(068) M. Smiglak, G. Parker, and R. Rogers ([Bio](#))
- 9:30AM** Status of Ultra Low Power Space Electronics for Exploration ([Abstract](#))
(066) G. Maki and P. S. Yeh ([Bio](#))

****Break****

- 10:15AM** Regolith Flywheel Drilling Possibilities ([Abstract](#))
(065) B. Beaman and M. Bradley ([Bio](#))
- 10:45AM** Lunar Geothermal Free Piston Stirling Power Source Concept ([Abstract](#))
(064) R. Boyle and B. Beaman ([Bio](#))

E02. Nuclear Technologies for Lunar/Mars Missions

Chair: Michael G. Houts ([Bio](#))
NASA – MSFC, Huntsville, AL, 256-544-8136
Michael.houts@nasa.gov

- 11:15AM** Fission Surface Power Technology Development ([Abstract](#))
(109) Michael G. Houts ([Bio](#))
- 11:45AM** Fission Technology for Space Exploration ([Abstract](#))
(110) Michael G. Houts ([Bio](#))

****Lunch****

Final

E03. Advanced Concepts for Lunar/Mars/Beyond Missions

Chair: Mehdi Lali ([Bio](#))
Department of Physics and Astrophysics at the University of North Dakota
omidmed@hotmail.com

1:15PM **Analysis and Design of a Human Spaceflight to Mars, Europa, and Titan**
([Abstract](#))
(092) Mehdi Lali ([Bio](#))

E04. Transformational Technologies to Expedite Space Access and Development

Chair: John Rather ([Bio](#))
RCIG, Inc., 313-549-5034
jrather@RCIGinc.com

1:45PM **New Technologies and Strategies to Exploit Near Earth Asteroids for Breakthrough Space Development** ([Abstract](#))
(099) John Rather ([Bio](#))

2:15PM **MIC – Large Scale Magnetically Inflated Cable Structures for Space Power, Propulsion, Communications and Observational Applications** ([Abstract](#))
(101) James Powell, George Maise and John Rather ([Bio](#))

2:45PM **OPEN**

Final

Thursday, February 25, 2010

Auditorium

3:30 – 5:30 pm

Lecture Series

3:30PM **Distributed Fusion Power Sources for Mars Exploration** ([Abstract](#))
(LS2) George Miley ([Bio](#))

4:30PM **The Chameleon Solid Rocket Propulsion Model** ([Abstract](#))
(LS5) Glen A. Robertson ([Bio](#))