



60th International Astronautical Congress
DDC, Daejeon, Republic of Korea
October 12 – 16, 2009
NASA Sponsored Student Researcher



Matthew Allner
University of North Dakota

Research Title: Using a 'Distinguishable Phase Model' as a Pre-Mission Awareness Tool to Improve Crew Performance and Group Dynamic Development
Conducting a Mars Simulation Mission with Students and Parents in a Semi-Remote Setting on Earth: An Integration of Scientific Methodologies Shared by the NASA Spaceward Bound Program

Biographical Sketch

Matthew Allner was born and raised in Sioux City, Iowa where he received a BS Biology, BA Secondary Education, and minor in Psychology from Briar Cliff University, 1997. Married his wife (Jessica) in 2000 and they have three wonderful children; Isabelle, Nathan, and Alexandra. Matthew completed his Master's Degree in Space Studies from University of North Dakota, May 2009. Also works as a secondary level science teacher in Colorado Springs, Colorado. Active rescue diver and training officer for the Siouxland Dive Rescue Team for three years while in Iowa. Enjoys extreme sports, high altitude snow and rock climbing, volunteering to coach youth sports, and time with his family.

NASA Research and Education Activities

- NASA Educator Astronaut Teacher (NEAT) program, 2004 - 2007
- NASA Explorer School (NES) program, 2005 - Present
- NASA Student Lunar Design Challenge (Competition Judge/Evaluator), 2006
- NASA Spaceward Bound I, II, III, and IV
- 2008 NASA Sponsored Student for the 37th COSPAR and the 59th IAC
- NASA Student Ambassador, 2008 - Present
- Finalist for 2009 NASA Astronaut Candidate Selection Process

Presentation Schedule

Monday, October 12, 2009, 3:00 PM, Room: Technical Session #19

Tuesday, October 13, 2009, 10:00 AM, Room: Technical Session #10



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Lisa Anderson-Antle
University of Wisconsin-Milwaukee

Research Title: Consequences of Sleep Deprivation on Performance & Mood States

Biographical Sketch

Lisa Anderson-Antle received her Bachelors of Science in Nursing from the University of Wisconsin-Madison, Masters of Science in Nursing with an emphasis in gerontological research from St. Louis University, and is a nursing doctoral candidate at the University of Wisconsin-Milwaukee. She has academically taught various levels of nursing education and practiced as a Gerontological Advanced Practice Nurse for approximately 15 years. Currently, she is working with Dr. Ruth Globus, NASA Ames, co-director of the Bone and Signaling Laboratory, Radiation and Space Biotechnologies Branch/Space Biosciences Division investigating the effects of low energy photon irradiation in the far red to near infrared spectral range known to stimulate mitochondrial energy, metabolism, and promote cell repair. Further, her interests include investigating the role of oxidative stress and apoptosis in the progression of frailty in the older adult.

NASA Research and Education Activities

- Summer Internship, NASA Ames Research Center, NASA Science Technology Institute
- Summer Internship, 2008 Exploration Space Mission Directorate
- 2009 recipient of the Wisconsin Space Grant Consortium Graduate Fellowship

Presentation Schedule

Monday, October 12, 3:00PM, Room: Technical Session #19



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Daniel J. Grebow
Purdue University

Research Title: Advanced Modeling of Optimal Low-Thrust Lunar Pole-Sitter Trajectories

Biographical Sketch

Daniel Grebow received his undergraduate degree in Aeronautical and Astronautical Engineering from Purdue University in spring 2004, and masters in spring 2006. In summers 2005-2006, he researched lunar South Pole coverage using libration point orbits at NASA Goddard Spaceflight Center. Dan is currently working on his Ph.D. dissertation, primarily focused on solving the coverage problem with a single, pole-sitter spacecraft. Pole-sitter trajectories can be supported by low-thrust, originating from either a solar sail or electric propulsive engine. He continues to work at Goddard during the summer months, and is expected to graduate in May, 2010.

NASA Research and Education Activities

- Researched lunar South Pole coverage using libration point orbits at NASA Goddard Space Flight Center

Presentation Schedule

Tuesday, October 13, 10:00 AM, Room: Technical Session #7
Wednesday, October 15, 3:00 PM, Room: Technical Session #7



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Abraham T. Grindle

Massachusetts Institute of Technology

Research Title: Technology Infusion in the NASA Innovation System: Challenges and Opportunities as Viewed Through the RAMSES STTR

Biographical Sketch

Abe Grindle is currently pursuing dual M.S. degrees in Aeronautics & Astronautics and Technology Policy at the Massachusetts Institute of Technology. His research interests include innovation dynamics and practices within complex organizations, policy, and supply chain management in challenging environments. Interspersed with his academic studies, Abe has gained professional experience in a wide variety of settings. Abe was a Student Engineering Trainee (Co-op) at NASA's Kennedy Space Center, working in the Fluids Group of the Space Station Payload Processing Directorate, and at NASA's Jet Propulsion Laboratory, doing trajectory analysis and mission planning work for the Deep Impact mission and Jupiter Icy Moons Orbiter (JIMO) study. He was selected to the 2005 NASA Academy at Goddard Space Flight Center – a broad, multidisciplinary NASA leadership development program – and subsequently served as Co-Manager of the 2006 NASA Academy at Goddard. Abe holds an Honors B.S. degree in Aerospace Engineering from Parks College of Saint Louis University (2006).

NASA Research and Education Activities

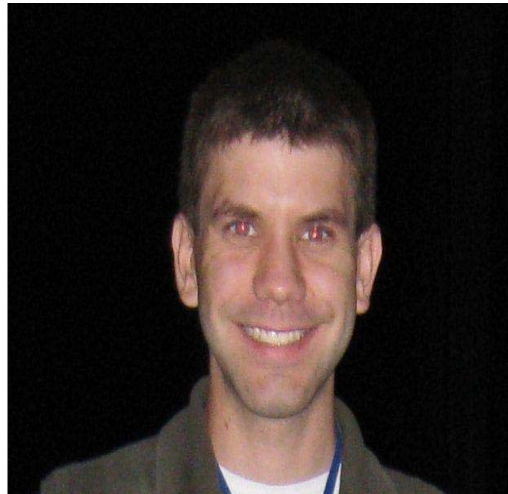
- NASA Kennedy Space Center Student Engineering Trainee
- NASA JPL Deep Impact Mission and Jupiter Icy Moons Orbiter Study
- 2005 & 2006 NASA Academy Goddard Space Flight Center

Presentation Schedule

Thursday, October 15, 6:00 PM, Room: Technical Session #13



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Andrew Klesh
University of Michigan

Research Title: A Comparison of Mars Precursor Mission Designs: Lunar and Arctic

Biographical Sketch

Andrew Klesh is a Postdoctoral Researcher with the RAX spacecraft at the University of Michigan. He graduated as a NDSEG Fellow with a PhD in aerospace engineering, has masters degrees in aerospace and space systems engineering and bachelors degrees in aerospace and electrical engineering all from Michigan. His research includes autonomous exploration, solar-powered flight and space mission design. He attended the NASA PSSS, led a RGSOP team and flew experiments in a GAS Canister. His work experience includes JPL and Raytheon Missile Systems among others. He is an avid runner, American Red Cross instructor, private pilot, diver, outdoorsman and tinkerer.

NASA Research and Education Activities

- NASA PSSS

Presentation Schedule

Thursday, October 15, 2009, 4:00 PM, Room: Technical Session #16



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Ryan Kobrick
University of Colorado at Boulder

Research Title: Applying Lunar Dust Abrasion Data Analysis to Impact Considerations for Spacecraft Design

Biographical Sketch

Ryan Kobrick received his Bachelor's degree in Mechanical Engineering from Queen's University in Kingston, Ontario (2002), his Master's of Space Studies degree from the International Space University in Strasbourg, France (2003), and his Master's of Science degree in Aerospace Engineering from The Pennsylvania State University (2005). Currently at the University of Colorado at Boulder, Ryan's lunar a NASA GSRP grant funds his dust abrasion research and he aims to complete his Ph.D. in Aerospace Engineering Sciences in May 2010. He has participated in several space analogue missions including a 100-day Mars simulation on Devon Island, Nunavut, Canada in 2007.

NASA Research and Education Activities

NASA GSRP with NASA Glenn Research Center (Sept. 2007 - Current) - Ph.D. working title: "Lunar Dust Characterization, Abrasion Testing, and Impact Considerations for Spacecraft Design"

- NASA Education Forum 2009, Cape Canaveral, FL, USA
- NASA Student Participant at IAC 2008 in Glasgow, Scotland, UK

Presentation Schedule

Monday, October 12, 6 PM, Room: DDC 1st Fl., Main Hall



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Swati Mohan

Massachusetts Institute of Technology

Research Title: Tools for Reconfigurable Control System Comparisons for Autonomous Assembly Applications

Biographical Sketch

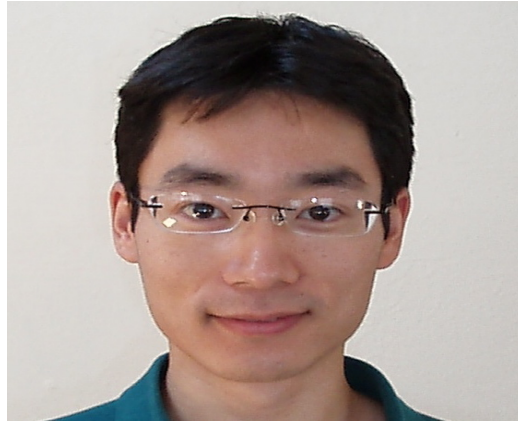
Ms. Swati Mohan had an early interest in space and pursued it with a passion. She received her B.S. in Aerospace Engineering from Cornell University. She has interned at GSFC (Structured Intern Program, Mini-Research Award), KSC (Spaceflight and Life Sciences Training Program) and at JPL. She also worked at JPL for one year as an operations systems engineer on the Cassini-Huygens mission. She is currently working on her PhD at MIT on reconfigurable control techniques for on-orbit assembly, sponsored by the Harriet Jenkins Pre-doctoral fellowship program. As part of her research, she works with a testbed aboard the International Space Station.

NASA Research and Education Activities

- NASA Harriet G. Jenkins Predoctoral Fellowship Project
- Structured Intern Program at NASA GSFC
- Spaceflight and Life Sciences Training Program at NASA KSC
- Operations Systems Engineer on the Cassini-Huygens Mission at NASA JPL



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Yuki Takahasi
University of California

Research Title: A Cosmology Telescope at the South Pole as a Precursor to Observatories in the Lunar Polar Region

Biographical Sketch

Yuki Takahasi is working on a PhD project in experimental physics, in which his team built a telescope at the South Pole to study the Big Bang. After studying physics at Caltech, he completed a master's project on a Moon-based observatory concept thanks to a Fulbright Grant to the UK (2001-2002). He likes snorkeling/diving and hopes to continue learning paragliding. He is still pursuing the dream of going to outer space, which brought him from Japan to the US for high school. He intends to work toward making space travel possible for many people.

NASA Research and Education Activities

1993: Space Academy Level 1, US Space & Rocket Center
1995: Space Academy Level 2, US Space & Rocket Center
1994-1997: Young Astronauts Club volunteer educator, Midland, MI
2000: SIRTf proposal w/ Dr. Beichman, NASA Origins Program, JPL
2001: NASA Reduced Gravity Student Flight Opportunity, JSC
2002: NASA RASC study on "Astronaut-Aided Construction of a Large Lunar Telescope" w/ Dr. Mike Duke
2003: NASA HQ partial sponsorship for International Space University
2006: NASA Planetary Science Summer School, JPL
2006: NASA Student Ambassador to International Astronautical Congress
2008: NASA Student Ambassador to International Astronautical Congress

Presentation Schedule

Thursday, October 15, 2009, 10:00 AM, Room: Technical Session #8:



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Danielle Wood

Massachusetts Institute of Technology

Research Title: 1. The Evolution of Satellite Programs in Developing Countries and
 2. NASA Education and Research Opportunities Preparing Students
 for the Space Exploration Workforce

Biographical Sketch

Danielle Wood is a doctoral student at the Massachusetts Institute of Technology in the Engineering Systems Division. In this unique, interdisciplinary department, Danielle is working to combine aerospace engineering and international development. Danielle is researching the use of satellite-based technology in Africa and other developing regions. She hopes to contribute to the management of international collaborations on satellite projects. Danielle has had many experiences with NASA as a fellow, intern, contractor and student ambassador. Her first NASA experience, and the one that inspired her to pursue a career in aerospace, was as a high school intern at NASA's Kennedy Space Center in 1999.

NASA Research and Education Activities

- NASA Harriet G. Jenkins Predoctoral Fellow
- NASA Student Participant at IAC 2008 in Glasgow, Scotland, UK
- 2007, Guest Researcher, Goddard Space Flight Center Systems Engineering Branch
- Summer Intern 2004 & 2005, NASA Academy Internship Program, Goddard Space Flight Center
- Summer Intern 1999, NASA Summer High School Apprenticeship Research Program, (SHARP), Kennedy Space Center

Presentation Schedule

Monday, October 12, Youth Plenary Session (speaker)

Tuesday, October 13, 10:00 AM, Room: Technical Session #1, Main Auditorium

Thursday, October 15, 4:00 PM, Room: Technical Session #10, Main Auditorium