

Wisconsin Space Grant Consortium

&

Milwaukee School of Engineering

Present:

**the Nineteenth ANNUAL
WISCONSIN SPACE CONFERENCE**

***“The Cassini Encounter with the Gem of the
Solar System”***

Milwaukee School of Engineering
Milwaukee, Wisconsin

Thursday, August 13 – Friday, August 14, 2009

CONFERENCE 2009 PROGRAM

Thursday, August 13, 2009

7:30-8:45 am **Registration** **Todd Wehr Conference Center**

Continental Breakfast

Posters (formal poster session at 2:45 p.m.)

***** Plenary Session *****

8:45-9:15 am **Welcome and Introductions**

Tom Bray, Dean of Applied Research and Grants, Milwaukee School of Engineering (MSOE); Associate Director for Special Initiatives, (WSGC)

Dr. Herman Viets, President, Milwaukee School of Engineering

R. Aileen Yingst, Director, Wisconsin Space Grant Consortium, University of Wisconsin-Green Bay; NASA Mars Rover Exploration Mission Scientist

9:15-10:15 am **Session 1: Keynote Address**

Dr. Ellis Miner, *The Cassini Encounter with the Gem of the Solar System I*, NASA Science Manager for the Cassini Mission to Saturn

10:15-10:45 am **Morning Break and Refreshments**

***** Plenary Session *****

10:45-11:45 pm **Session 2: NASA Programs Student Panel** **Todd Wehr Conference Center**

Moderator: R. Aileen Yingst, Director, Wisconsin Space Grant Consortium, University of Wisconsin-Green Bay; NASA Mars Rover Exploration Mission Scientist

Aaron Olson, NASA Academy-Goddard Institute of Space Studies, UW-Madison

Cheryl Perich, NASA Academy-Marshall Space Flight Center, Marquette University

Nathan Wong, NASA Academy-Marshall Space Flight Center, UW-Madison

Kenion Blakeman, Undergraduate Student Research Internship-Marshall Space Flight Center, Carthage College

Matthew Kallerud, LARSS Internship-NASA Langley Research Center, MSOE

Vanessa Peterson, LARSS Internship-NASA Langley Research Center, UW-Madison

Isa Fritz, NASA Reduced Gravity Program, Carthage College

11:45-1:00 pm **Lunch**

***** Concurrent Sessions -- Research Streams *****

1:00-2:30 pm **Session 3R: Astronomy/Physics/
Atmospheric Sciences** **Todd Wehr Conference Center**

Moderator: Kevin Crosby, Chair, Division of Natural Science, Carthage College;
WSGC Institutional Representative

Jordan Gerth, *Realizing a Better Hydrostatic Response in NWP with MODIS
Products*, Undergraduate, UW-Madison

Malanka Riabokin, *Gravitational Heating in Galaxy Groups*, Undergraduate Student,
UW-Madison

Cyrus Vandrevala, *Understanding the Evolution of Supernova Progenitors*,
Undergraduate Student, Marquette University

Justin Madsen, *Validation of Novel Rigid Body Frictional Contact Algorithms Using
Tracked Vehicle Simulation: a Stepping Stone for Billion Body Dynamics*, Graduate
Student, UW-Madison

E. Alec Johnson, *Fast Reconnection in Fluid Models of Pair Plasma*, Graduate
Student, UW-Madison

Kerry Kuehn, *Reflection and Refraction of Vortex Rings*, Associate Professor,
Wisconsin Lutheran College

***** Concurrent Sessions -- Education Stream *****

1:00-2:30 pm **Session 3E: K-12 Education & General Public Outreach** **Campus Center 130**

Moderator: Sharon Brandt, Program Manager and Associate Director for Outreach,
WSGC

Coggin Heeringa, *Teaching the Teachers about Astronomy*, Director, Crossroads at
Big Creek

Lee Siudzinski, *Women Soar: Girls Grades 9-12*, Manager, Education Relationships,
Experimental Aircraft Association

/Chrissy Paape, *Space Discovery Week*, Manager, Education Relationships,
Experimental Aircraft Association/Vice President, Space Explorers, Inc.

Brad Staats, *Space Travel Simplified – Part 1*, President, Spaceflight Fundamentals, LLC

Loretta *Fly Girls II*, Women in Technology Program Coordinator, MSOE

2:30-3:00 pm **Afternoon Break and Refreshment** **Todd Wehr Conference Center**

3:00-3:45 pm **Poster Session**

Facilitator: R. Aileen Yingst

Chelsey Jelinski Erickson representing team members: Neal Bitter, Adam Harden , *Narwhal -First Place Rocket Team in the Engineering Division*, Undergraduates, MSOE

Isa Fritz representing team members: Bradley Frye, Samantha Kreppel, Erin Martin, Joseph Monegato, Caitlin Pennington, *Angle of Repose of Lunar Simulants in Reduced Gravity*, NASA Reduced Gravity Program, Undergraduates, Carthage College

Matthew Kallerud, *Dynamic Analysis for NASA’s Electron Beam Freeform Fabrication System*, NASA LARSS Internship at Langley, Undergraduate, MSOE

Aaron Olson, *Shock Heritage for Detectors*, Undergraduate, UW-Madison

Vanessa Peterson, *Modeling Wake Vortices for the Use of Ground-Based Lidar*, NASA LARSS Internship at Langley, Undergraduate Student, UW-Madison/

Bradley Rentz, *A Comparative Study of Type IIb Supernovae*, Undergraduate, Marquette University

Harrison Skye, *Mixed Gas Joule Thomson Cycles with Precooling*, Graduate Student, UW-Madison

***** Concurrent Sessions -- Research Stream *****

3:45-5:15 pm **Session 4R: Chemistry/Biology** **Campus Center 130**

Moderator: David Block, Associate Professor of Environmental Science, Carroll University

Dan Hawk, *Extremophile Research*, Undergraduate Student, College of Menominee Nation

Cheryl Perich, *Vapor Compression Distillation Flight Experiment and Urine Processor Assembly Brine Extraction*, NASA Academy Intern at Marshall, Undergraduate Student, Marquette University

Megan Christenson, *Understanding Risk Determinants of Chagas Disease in Southern Peru*, Graduate Student, UW-Madison

Kenion Blakeman, *Toxic Off-gassing Analysis at Marshall Space Flight Center*, NASA Internship at Marshall, Undergraduate Student, Carthage College

Nathan Wong, *Techniques for Oxygen Production from Lunar Materials*, NASA Internship at Marshall, Undergraduate Student, UW-Madison

Vera Kolb, *The Newest Cases of Fossilization Via Silicification and their Relevance for the Search for Life on Mars*, Professor, UW-Parkside

***** Concurrent Sessions -- Education Stream *****

3:45-5:15 pm **Session 4E: Education and Public Outreach** **Campus Center 130**

Moderator: John Borg, Professor, Department of Mechanical Engineering, Marquette University; WSGC Associate Director for Higher Education

Bill Farrow, *Freshman Engineering Video-Rocket Design Project*, Assistant Professor, MSOE

Jennifer Johanson, *Expanding GIS Across the Curriculum*, Assistant Professor, Alverno College

Harald Schenk, *A Course in Astronautics*, Associate Lecturer, UW-Sheboygan

Jeffery Thomas, *Providing High School Students with Earth Imaging Tools*, Assistant Professor, UW-Whitewater

***** Adjourn for the Day *****

**Wisconsin Space Conference
Friday, August 15, 2008**

8:00-9:00 am **Registration** **Todd Wehr Conference Center**

Continental Breakfast

8:00-8:45 am **Undergraduate Workshop** **CC130**

***** Plenary Session *****

9:00-10:00 am **Session 5: Keynote Address** **Todd Wehr Conference Center**

Dr. Ellis Miner, *The Cassini Encounter with the Gem of the Solar System II*, NASA Science Manager for the Cassini Mission to Saturn

10:00-10:30 am **Morning Break and Refreshments**

***** Plenary Session *****

10:30-12:00 am **Session 6: Student Satellite Program**

Moderator: Bill Farrow, WSGC Associate Director for Special Initiatives, Assistant Professor, Milwaukee School of Engineering

Balloon Payload Team:

Antonio Castillo, University of Wisconsin-Madison
Brittany Hauser, Milwaukee School of Engineering
Zachary Parsons, Milwaukee School of Engineering
Chris Reichard, Milwaukee School of Engineering
Victorialynn Salas, Marquette University
Max Witte, Milwaukee School of Engineering

Balloon Launch Team:

Eric Deering, Milwaukee School of Engineering
Brian Nguyen, Milwaukee School of Engineering
Nathan Sward, Milwaukee School of Engineering

Sounding Rocket Teams:

First Place, Non-Engineering, *Schmitt Triggers*, Brad Hartl representing team members: Jacob Wardon, Steven Welter, Mark Witte, UW-LaCrosse and Western Technical College

Third Place, Engineering, *Rocky Mountain Miners*, Ryan May representing team members: Brian Mortensen, Jon Neujahr, Undergraduates, Milwaukee School of Engineering

Second Place, Engineering, *Drew and Crew*, Wesley Larrabee representing team members Drew Falkenburg, Caleb Varner, Undergraduates, Milwaukee School of Engineering

12:00-12:15 pm **Group Photograph** **As Directed**

12:15-1:15 pm **Awards Luncheon** **Todd Wehr Conference Center**

1:15-1:45 pm **Awards Ceremony**

R. Aileen Yingst, Director, Wisconsin Space Grant Consortium
Sharon D. Brandt, Program Manager, Wisconsin Space Grant Consortium
Karen Valley, Chair, WSGC Advisory Council
Program Associate Directors

1:45-2:00 pm **2010 Conference**

2:00 pm **Conference Adjourned**

***** Adjournment *****

2:00-4:00 pm **Advanced Undergraduate Research Workshop** **Computer Lab, S-130**