

**Virginia Space Grant Consortium
Student Research Conference Agenda
Hampton University Student Center, Hampton, Va.
April 9, 2009**

8:00-8:30

**Registration-Outside of Student Center Ballroom A
Continental Breakfast-Student Center Ballroom C**

8:30-8:45

**Welcome -- Dr. Joyce Jarrett, Provost, Hampton University
Mary Sandy, VSGC Director and Chris Carter, VSGC Assistant Director
Student Center Theater**

**Cyber Lounge
Student Center - Second Floor**

**Student Lounge
Student Center - Second Floor**

**Theater
Student Center - First Floor**

Session

Presenter

Session

Presenter

Session

Presenter

8:50 a.m.

Austin Creasy - VT
Self-healing Biological
Molecules for Use in
Engineering Materials

Matthew Bitzer - VT
Progress Report for Hy-V
Project

Carl Arrington - HU
Developing a Web-Based
Application to Visually
Represent Satellite Data

9:05 a.m.

Andy Sarles - VT
Biomolecular Networks for Novel
Protein-Powered Active
Materials

William Eberhart - UVA
Sensing of External Flow
Disturbances Through a
Boundary Layer

Kevin Leavor - HU
Development of the Hampton
University LIDAR system and
the REALM LIDAR network

9:20 a.m.

**Structures
and Materials
Session Chair:
Dr. Laurie
Sanderson-WM**

Steven Anton - VT
Novel Piezoelectric Energy
Harvesting Devices for
Unmanned Aerial Vehicles

**Aerospace
Systems
Session Chair:
Dr. Colin Britcher-
ODU**

Justin Murtha - VT
Evidence Theory Within Fault
Tree Analysis for Reliable, Small
UAV Design

**Planetary
Science
Session Chair:
Dr. Pat
McCormick-HU**

Jasper Lewis - HU
Correlation of Lidar
Backscatter to PM 2.5
Concentration in a Regional
Aerosol Transport Study

9:35 a.m.

Crystal Bertoncini - WM
Applications of Ultrasonographic
Nondestructive Evaluation for
Dentistry

Christopher Rock - VT
Supersonic Fuel Injection and
Mixing Research for Scramjet
Engines

Christopher Spells - HU
Influence of the Saharan Air
Layer (SAL) on the
Development and Intensity of
Atlantic Hurricanes

9:50 a.m.

Michael Francis - UVA
A First Principles Study of
Mechanisms Important to
Environmentally Assisted
Hydrogen Embrittlement of
Aluminum

Chad Smith - UVA
Velocity Measurements for
Scramjet Engine Development

Melissa Yesalusky - HU
Detection of Nearly Sub-visual
Cirrus Clouds Impact on the
Spectral Distribution of the
Infrared Radiative Cooling of
the Atmosphere

10:05-10:35 a.m.	Break -- Undergraduate Research Scholar Poster Presentations Student Center Ballroom C - First Floor					
10:40 a.m.	Astrophysics Session Chair: Dr. Robert Orwoil-WM	Erin Blass - ODU Development of a Compressed Carbon Dioxide Propulsion Unit for Near-term Mars Surface Applications	Aerospace Systems Session Chair: Dr. Lepsha Vuskovic-ODU	Jennifer Camp - WM Aviation in the Last Frontier	Applied Physics Session Chair: Dr. John Anderson-HU	Cara Campbell - WM Ultrasound Signal Processing and Modeling for Medical Applications
10:55 a.m.		Meridith Elrod - UVA Oxygen in the Atmosphere of Saturn's Rings		Jason Howison - UVA Particle Image Velocimetry and Computational Fluid Dynamics Study of a Dual-Mode Scramjet Inlet Nozzle		John Leckey - WM Qweak – A Search for New Physics
11:10 a.m.		Ryan Fortenberry - VT Theoretical and Computational Studies of Interstellar C _{2n} H and SiC _{2m+1} H		David Hubble - VT A Hybrid Method for Measuring Heat Flux		Candice Rockell - ODU Green's Function Technique for Radiation Transport in Three Dimensions
11:25 a.m.		Joleen Miller - UVA Searching for Evidence of Past Planet Accretion in Rapidly Rotating K Giant Stars		Brianne Williams - ODU A Design of Experiments Approach for Characterization of NASA Langley 12-FT Wind Tunnel Roll Oscillation System		Meghan Revelle - WM Looking for All the Right Pieces: An Exploratory Study of Feature Location Techniques
11:40 a.m.		Daniel Wik - UVA Physics and Observational Effects of Collisions Between Galaxy Clusters		Structures and Materials Session Chair: Ivy Krystal Jones-HU (Graduate Fellow Alumna)		Jenifer Warner - UVA Environmental Fatigue Crack Propagation and Inhibition in Al-Zn-Mg-Cu vs Al-Cu-Mg/Li Alloys
Noon-2:00 p.m.	Luncheon to Honor the 2008-09 Research Scholars and Fellows Sponsored by Hampton University Dr. William R. Harvey, President, Hampton University will introduce Keynote Speaker, James M. Russell III, Ph.D., Hampton University <i>'The Hampton University Aeronomy of Ice in the Mesosphere Satellite Mission Overview and Science Results'</i> Student Center Ballroom A-B - First Floor					
2:00-2:30 p.m.	Break -- Undergraduate Research Scholar Poster Presentations Student Center Ballroom C - First Floor					

2:45 p.m.	Astrophysics Session Chair: Dr. Robert Orwoll-WM	Amy Reines - UVA The Birth of Super Star Clusters	Structures and Materials Session Chair: Ivy Krystal Jones- HU (Graduate Fellow Alumna)	Christina Haden - UVA Development of a Biomimetic Excitable Media Tube Pump Using Ionic Fluid Polymer Gel	Applied Physics Session Chair Dr. John Anderson-HU	Dereth Drake - ODU Characterization of Simulated Martian Atmospheric Entry Plasma
3:00 p.m.		Gail Zasowski - UVA Exploring Extinction and Structure in the Milky Way Disk		Clayton Pullins - VT Comprehensive Calibration of a Durable High Temperature Heat Flux Sensor		Joseph Battistelli - UVA Spatial Distribution of Autotrophic Nitrifying Microorganisms in Engineered Reactor Systems
3:15 p.m.		Jacob Simon - UVA X-ray State Transitions in Black Hole Accretion Disks		Keith Moored - UVA Developing a Morphing Wing for a Biomimetic Autonomous Underwater Vehicle		
3:30 p.m.		Nicole Gugliucci - UVA PAPER: The Precision Array to Probe the Epoch of Reionization - A Progress Report		Thomas Bliss - UVA CPG Control of Tensegrity Structures		
3:45 p.m.	Closing -- Chris Carter - VSGC - Student Center Theater - First Floor					