

**Virginia Space Grant Consortium
2021 Student Research Conference Program
April 9, 2021**

**Each presentation listed in the Conference Agenda below is color coded by the general category of research.
Please refer to this legend to identify the research area of each presentation**

Aerospace (Blue)	Applied Science/Other (Green)	Astrophysics (Pink)	Structures and Materials (Yellow)	
8:00-8:30	Attendees Login to WebEx Conference Platform			
8:30-8:45	Mary Sandy, VSGC Director and Joyce Kuberek, STEM Education Program Specialist Main Room			
Presentation Room Number:	Graduate Presentation Room #1	Graduate Presentation Room #2	Graduate Presentation Room #3	Undergraduate Presentation Room #4
8:50 a.m.	<p style="text-align: center;">Imran Khasawneh Old Dominion University A 3-Axis PID Gain Tuner for eVTOL Hover Flight Mode Session Chair: Dr. Megan Duncan Virginia Tech</p>	<p style="text-align: center;">Austin Tapp Old Dominion University Modeling and Simulation of Pulsed Electromagnetic Fields to Maintain Bone Density During Prolonged Low Gravity Exposure Session Chair: Jean Muhammad Hampton University</p>	<p style="text-align: center;">Hannah Richstein University of Virginia Ultra-Faint Dwarf Galaxies: Shedding Light on Dark Matter Session Chair: Dr. Kunio Sayanagi Hampton University</p>	<p style="text-align: center;">Abigail Morgan Re Virginia Tech The Construction and Development of an NFT System for Mushroom Cultivation in Space Session Chair: Juan Yakisich Hampton University</p>

<p>9:05 a.m.</p>	<p>Rebecca Skeleton-Marshall University of Virginia Analysis of Galvanic Coupling in Fastener Session Chair: Dr. Megan Duncan Virginia Tech</p>	<p>Carly Norris Virginia Tech Investigating Space Brain: How Do Brain Cells Respond to the Effects of Increased Intracranial Pressure Session Chair: Jean Muhammad Hampton University</p>	<p>Doyee Byun Virginia Tech Quasar Outflows and Active Galactic Nucleus Feedback. Session Chair: Dr. Kunio Sayanagi Hampton University</p>	<p>David Hood William & Mary Imaging the Electronic Quenching Dynamics of Nitric Oxide with Molecular Hydrogen Session Chair: Juan Yakisich Hampton University</p>
<p>9:20 a.m.</p>	<p>Yogesh Aradhey Virginia Tech Investigation of NASA Combustion Scheme Under Thermoacoustic Instability Session Chair: Dr. Megan Duncan Virginia Tech</p>	<p>Lee Kendall William & Mary Integrated Nanotube/Transition Metal Dichalcogenides Nanosheets of Water Splitting Applications: Enabling Loing Terma Activity on Mars Session Chair: Russell Green Virginia Tech</p>	<p>Renato Mazzei University of Virginia The Role of Magnetic Fields in Star Formation from Cloud to Disk Scales Session Chair: Dr. Kunio Sayanagi Hampton University</p>	<p>Mikayla Huffman William & Mary Craters as Passive Probes of Ice Shell Structure and Transport Processes on Ocean Worlds Session Chair: Juan Yakisich Hampton University</p>
<p>9:35 a.m.</p>	<p>Fiona McGroarty Virginia Tech Constructing Crustal and Lithospheric Profiles of Mars Using NASA InSight Data Session Chair: Dr. Megan Duncan Virginia Tech</p>	<p>Josh Moser Virginia Tech Autonomous Task Sequencing and Assignment for In-Space Multi-Robot Assembly Session Chair: Russell Green Virginia Tech</p>	<p>Christopher Krier Virginia Tech Deducing Non-Migrating Diurnal Tides in the Earth's Thermosphere Using Satellite Data from the NASA/GOLD Mission Session Chair: Dr. Kunio Sayanagi Hampton University</p>	<p>Kieran Koch Virginia Tech Stressing Testing Solid Rockets Motors made with Additive Manufacturing Session Chair: Juan Yakisich Hampton University</p>
<p>9:50 a.m.</p>	<p>Mackenzie Ridley University of Virginia Tailoring Thermal Properties and Corrosion Resistance of Environmental Barrier Coatings Session Chair: Dr. Megan Duncan Virginia Tech</p>	<p>Sarah Power Virginia Tech Cryptic Microbes in Antarctica: Determining the Limits of Biotic Detection Via Satellite Imagery Session Chair: Russell Green Virginia Tech</p>	<p>Joseph Cuzzo William & Mary Novel Josephson Junctions for Cryogenic Memory and Fault-Tolerant Quantum Computation Session Chair: Dr. Kunio Sayanagi Hampton University</p>	<p>Sarah Lang University of Virginia Modeling Coastal Water Clarity using Landsat-8 and Sentinel-2 Session Chair: Juan Yakisich Hampton University</p>

10:05 to 10:15	Remarks, Dr. Tim Sands, Virginia Tech President and Chair, VSGC Board of Directors			
10:15 to 10:30	BREAK	BREAK	BREAK	BREAK
10:30 a.m.	<p style="text-align: center;">Mary Angelique Demetillo University of Virginia Assessing Air Pollutant Exposure Inequality Using High-Resolution Nitrous Dioxide Datasets Session Chair: Dr. Megan Duncan Virginia Tech</p>	<p style="text-align: center;">Ryan Zelinsky University of Virginia Investigation of Metal Ion Mobility Under Exposure to Deactivating Agents Session Chair: Dr. Isi Ero-Tolliver Hampton University</p>	<p style="text-align: center;">Benjamin Belfore Old Dominion University Modeling Dynamic Recrystallization of Phase Change Materials for Applications in Adaptive Optics Session Chair: Dr. Jon Kay William & Mary</p>	<p style="text-align: center;">Sean Leonard Old Dominion University Robustness for a Pseudo-Constrained Parallel Data Refinement Method for Advancing Front Local Reconnection Mesh Generation Software Session Chair: Nathanael Kidwell William & Mary</p>
10:45 a.m.	<p style="text-align: center;">Delaney Costante William & Mary Quantifying Threats Affecting Imperiled Species in the United States Session Chair: Dr. Megan Duncan Virginia Tech</p>	<p style="text-align: center;">Nathan Cooper William & Mary Athena: Towards Improving Semantic Code Search with Casual Reasoning and Knowledge Graphs Session Chair: Dr. Isi Ero-Tolliver Hampton University</p>	<p style="text-align: center;">Abygail Waggoner University of Virginia Time Variable Chemistry in Protoplanetary Disks Session Chair: Dr. Jon Kay William & Mary</p>	<p style="text-align: center;">Devin McCulley Virginia Tech Sensing in Collaborative Assembly with Uncertainty Session Chair: Nathanael Kidwell William & Mary</p>
11:00 a.m.	<p style="text-align: center;">Deborah McGlynn Virginia Tech Understanding Reactions of Ozone with Biogenic Volatile Organic Compounds in a Forest Canopy Session Chair: Dr. Gabriel Isaacman-VanWetz Virginia Tech</p>	<p style="text-align: center;">Kelsey Huelsman University of Virginia Assessing the Ability to Detect Invasive Plant Species Using Drone Based Leaf-Scale Visible and Near-Infrared Imaging Spectroscopy Session Chair: Dr. Isi Ero-Tolliver Hampton University</p>	<p style="text-align: center;">Von Clyde Jamora Old Dominion University Understanding the Defect Formation of Thin Ply Composites During Automated Fiber Placement Session Chair: Dr. Jon Kay William & Mary</p>	<p style="text-align: center;">James Mullen Virginia Tech Super Resolution of Satellite Imagery using Machine Learning Session Chair: Nathanael Kidwell William & Mary</p>

<p>11:15 a.m.</p>	<p>Alicia Milam Old Dominion University The Influence of Negative Affect Regulation on Neurophysiological Markers of Cognitive Control and Distress Tolerance Session Chair: Dr. Gabriel Isaacman-VanWetz Virginia Tech</p>	<p>Kaleigh Yost Virginia Tech Characterizing Complicated Near-Surface Geologic Profiles Using Novel In-situ Processing Techniques Session Chair: Dr. Isi Ero-Tolliver Hampton University</p>	<p>Emma Marie Hepworth William & Mary Elucidating the Molecular Mechanism of MK-STYX in Stress Response Pathways Session Chair: Dr. Jon Kay William & Mary</p>	<p>Leah Patek William & Mary Effect of Microgravity on Neuromuscular Systems During Periods of Critical Development Session Chair: Nathanael Kidwell William & Mary</p>
<p>11:30 a.m.</p>	<p>John Elliot Virginia Tech Porous Carbon Fibers for Radioisotope Thermoelectric Power Generation Session Chair: Dr. Gabriel Isaacman-VanWetz Virginia Tech</p>	<p>Hannah Mast University of Virginia Solar Induced Chlorophyll Fluorescence: A Novel Approach to Quantify Photosynthesis in Wetland Ecosystems Session Chair: Dr. Isi Ero-Tolliver Hampton University</p>	<p>Matthew Kane William & Mary Using Spatial Data to Protect Nonbreeding Frog and Toad Habitat Session Chair: Dr. Jon Kay William & Mary</p>	<p>Dominic Pinnisi Old Dominion University Materials Processing Challenges for Ultra -High Temperature Hypersonic Components Session Chair: Nathanael Kidwell William & Mary</p>
<p>Noon - 12:50</p>	<p>Lunch Break</p>			
<p>1:00 - 2:00</p>	<p>2020-2021 Scholars and Fellows Recognition Ceremony Keynote Speaker: Dr. Yolanda L. Shea, Project Scientist – CLARREO Pathfinder Presentation: “Unraveling Climate Change Mysteries from Space: The Testimony of Earth-reflected Sunlight” NASA Langley Research Center</p>			

<p>2:15 p.m.</p>	<p>Eric Stone University of Virginia Effects of Phase Mixtures on Long Term Stability of Ytterbium Silicate Environmental Barrier Coatings Session Chair: Dr. Gabriel Isaacman- VanWetz Virginia Tech</p>	<p>Robin Thady William & Mary Evaluating the Use of Acoustic Warning Signals to Reduce Avian Collision Risk Session Chair: Pat Artis Virginia Tech</p>	<p>Lauren Sommers Old Dominion University Quantifying Shoreline Change Using Satellite Imagery Session Chair: Dr. Jon Kay William & Mary</p>	<p>Naomi Carter Hampton University An Exploratory Literature Review of Microgravity- Induced Peripheral Nerve Damage and Potential Neuroprotectants Using Conceptual Research Session Chair: Kent Yogi University of Virginia</p>
<p>2:30 p.m.</p>	<p>Brian Collister Old Dominion University Remote Sensing of Marine Particle Properties Using Shipboard Oceanographic Lidar Session Chair: Dr. Gabriel Isaacman- VanWetz Virginia Tech</p>	<p>Jessica Turner William & Mary A High-Resolution Spatiotemporal Investigation of Chesapeake Bay Water Clarity with Implications for Sediment Transport and Primary Production Session Chair: Pat Artis Virginia Tech</p>	<p>Sara Benham Old Dominion University Mapping the Spread of the Pathogen <i>Rickettsia Parkeri</i> Through Landscape Genetic Analysis of the Primary Vector the Gulf Coast Tick <i>Amblyomma</i> <i>MacLatum</i> Session Chair: Dr. Jon Kay William & Mary</p>	<p>Josef Zimmerman University of Virginia Bounds on Nuclear Matter Equation of State Using Gravitational Wave and X-Ray Observations Session Chair: Kent Yogi University of Virginia</p>
<p>2:45 to 3:00</p>	<p>Closing Ceremony - Chris Carter, VSGC Deputy Director – Main Room</p>			