



Student Research Conference Agenda

April 18, 2024



8:00-8:30	Registration in Lobby		
8:30-8:45	Welcome in Ballroom A: Chris Carter, VSGC Director		
	Newport Room	Ballroom D	Amphitheater
Session Chair	Xixi Wang (ODU) Professor and Graduate Director	Isi Ero-Johnson (HU) Dean	Michael Druitt (HU) Asst. Professor
8:50	Zhe-Yu Daniel Lin (UVA) <u>Dust Settling and Polarization of Protoplanetary Disks</u>	Pádraigín Stack (UVA) <u>Efficacy of Xenotime-based Rare Earth Phosphates as Environmental Barrier Coatings</u>	Carter Boyd (VT) <u>Quantifying the Size Distribution of Rivers Across Spatial Scales</u>
9:05	Caroline McCormick (UVA) <u>Red Giant Branch Nucleosynthesis and Mixing in the Magellanic Clouds</u>	Andie Daniels (UVA) <u>Creating a Detailed Model for Boron Nitride Deposition Mechanics</u>	Khari Crommarty (ODU) <u>Mapping the Risk of High Chlorophyll & HAB Events in the Chesapeake Bay</u>
9:20	Chandler Slater (ODU) <u>Maximizing Detection Range in Lidar Systems Through the Use of Gated Photomultiplier Tubes</u>	Victor Kontopanos (UVA) <u>Leveraging a Combination of Electrochemical Kinetics and Finite Element Method Modelling to Address Atmospheric Corrosion Issues</u>	Prescott Vayda (VT) <u>Exploring Temperatures during the Cambrian Explosion using Oxygen Isotopes of Phosphatic Small Shelly Fossils</u>
9:35	Nicholas DeStefano (WM) <u>Profiling Charged Particle Beams with Coherent Atomic Magnetometry</u>	Elizabeth Zengel (ODU) <u>Analysis of High Energy Density Materials Using Density Functional Theory</u>	Randy Shoemaker (WM) <u>Surface Computations with Decoupled Intrinsic Geometry</u>
9:50	Deryl Long (UVA) <u>Mapping Ionization in Protoplanetary Disks</u>	Elizabeth Urig (UVA) <u>Application of Path-Dependent Constitutive Law for Cyclic Forming Process</u>	Heather Switzer (WM) <u>Exploring the Benefits of Sketched Krylov Methods in PRIMME</u>
10:05-10:30	Undergraduate Poster Presentation in Foyer		
Session Chair	Trandon Bender (ODU) Asst. Professor	Matt Grau (ODU) Asst. Professor	Michel Audette (ODU) Assoc. Professor
10:30	Jarrold Banks (VT) <u>Turbulence Ingestion Noise in Open Rotor Systems</u>	Jessica Besnier (UVA) <u>Monitoring & Predicting Hydrological Extremes through Remote Sensing & Machine Learning</u>	Ramsey Ritter (ODU) <u>Energy Transfer Catalysis for the Synthesis of Novel Polymers</u>
10:45	Zaria Booth (ODU) <u>The Effects of Uncharacteristic Magnetic Field Exposure on Plant Growth</u>	Julia DeFeo (VT) <u>Effects of Prescribed Fire on Leaf Function, Non-structural Carbohydrate Formation, & Nutrient Allocation in Pinus Echinata Stands</u>	William Miyahira (WM) <u>Microwave Atom Chip for Spin-Specific Atom Interferometry</u>
11:00	Giovanna Camacho (UVA) <u>Evaluating Technology to Improve Tactile Navigation & Communication</u>	Will Jeffries (ODU) <u>Lutetium as a Trapped Ion Qubit</u>	Lee Gill (VT) <u>Overview of Semiconductor Device Testing and Evaluation Analysis</u>
11:15	Jordan Shroyer (UVA) <u>Probing Cosmic Inflation: Testing Novel High-sensitivity Detectors for Next-generation Surveys</u>	Amanda Mitchell (WM) <u>Photo- & Electrocatalytic Activity of an Fe(III) Complex containing a Chelating Antipyrine Ligand for the Hydrogen Evolution Reaction</u>	Brielle Shope (UVA) <u>Modeling the Origins of Complex Organic Molecules during Solar-type Star Formation</u>

	Newport Room	Ballroom D	Amphitheater
Session Chair	Trandon Bender (ODU) Asst. Professor	Matt Grau (ODU) Asst. Professor	Michel Audette (ODU) Assoc. Professor
11:30	Joseph Cunningham (VT) <u>Effect of UV Exposure on Structural Health Monitoring Capabilities of Epoxy-MWCNT Composites</u>	Alison Ritz (VT) <u>Applying a Convolutional Neural Network to Loblolly Pine Plantations for Individual Tree Crown Segmentation</u>	Rahim Zaman (UVA) <u>Design of Ultra-High Temperature Ceramics for Oxidation Resistance</u>
11:45	Break		
12:00-2:00	Lunch to Honor the 2023-2024 Research Scholars and Fellows Sponsored by William & Mary Keynote Presentation: William & Mary Provost Peggy Agouris, Ph.D. By Invitation Only		
2:00-2:25	Undergraduate Poster Presentation in Foyer		
2:30-2:45	Closing Ceremony in Ballroom A		

Undergraduate Posters

Elizabeth Arthur (WM): Resting Spore Formation and Revival for the Diatom, *Thalassiosira pseudonana*

Jennifer Burdette (ODU): Assessing the Utility of Bobbitt's Salt to Study Environmental Oxidation Processes

Emily Chang (UVA): A Methodology for Controlling Smart HVAC Systems in Planetary Environments

Samuel Crowe (UVA): Unveiling Massive Star Formation: Near-Infrared Observations of Protostellar Outflows in AFGL 5180

Dawn Ford (UVA): FeS₂/MoS₂/MoO₃/Fe₂O₃ Nanowire Heterostructure as a Bifunctional Water-Splitting Catalyst

William Kobos (WM): Characterization of Diatom Frustules as a Renewable Nanostructured Material for High-Temperature Ceramic Heat Shields

Ryan Mann (VT): Melt-Blended Ternary Polymer-Clay Composites for Additive Manufacturing

Jacinda Pastoriza (ODU): Trigger Bonds Analysis of Energetic Materials

Ramisa Rahman (WM): Faraday Rotation Results Associated with the Photoionized Gas of IC 1396

Christopher Schappi (ODU): A Novel Modular CubeSat Design Implementing Additively Manufactured Components

Amelia Seabury (WM): Rapid Machine Learning Classification of Single-Molecule Organic Fluorophores for Blinking-Based Multiplexing

Morgan Small (UVA): Characterization of Complex Oxides (CrTaTi)O₂ and CrTaO₄

Zachary Stroud (VT): The Impact of Lean Direct Injection Geometric Parameters on Lean Blowout

Lucy Waite (VT): High Temperature Testing of Additively Manufactured Materials

William Wilkinson (WM): Investigating Interfacial Photochemical Behavior of Nitrophenols

Lili Zebluim (VT): Biosynthetic Yeast Utilized for Higher Yields of Agriculture