

Detailed Schedule

Monday, Feb 20
Inn at VT and Skelton Conference Center

Posters, Orals and Performances

8:30am ***Registration Open***
Lobby (under stairs)

9am-10am ***Poster Session 1***
Latham Ballroom A

Poster #1: Rachel O Beisser (Literature and Language), *Master of Deceit: The Malicious and Cunning Nature of Mephistophilis in Marlowe's "Doctor Faustus"*

Poster #2: Nicole R Dubois (Psychology), Aaron, J Wills (Cognitive and Behavioral Neuroscience), Samantha, M Cornwell (Biochemistry), Leah, P Cooper (Psychology), *Effects of Stress on Cerebral and Facial Activation*

Poster #3: Carly J Estrada-Palma (Biochemistry), *SKBR3/Her2+ Breast Cancer Cells: Cell-Surface Receptors and Signaling Pathways*

Poster #4: Ricardo P Fernandez (Geology), Caleb Shockley (Geology), *Trace elements in Dan River sediment after the 2014 coal ash spill*

Poster #5: Tara D Helms (Geoscience), *Effect of swine manure on limestone dissolution*

Poster #6: Saman N Khan (Biochemistry), *Inflammatory Cytokine Level Response to wheat gluten modulated in Celiac Disease via negative regulatory NLRs*

Poster #7: Thomas J King (Architecture), Katie Waldner (Architecture), Elyse Smith (Architecture), *FutureHAUS*



- Poster #8: Meredith D Lewis (Animal and Poultry Sciences), *Determination of the Metabolizable Energy of DDGS Extracted Corn Oil in Commercial Broiler Chicks Fed Various Concentrations of Calcium*
- Poster #9: Miya S Oshiro (Computer Science), *Royalty: An Interactive Emotional and Mental Healing Experience*
- Poster #10: Garrett S Rhyne (Wildlife Conservation), *Effects of environmentally relevant mixtures of major ions and coal-contaminated sediment on freshwater mussels*
- Poster #11: Megan Richardson (Biochemistry), *Assessing the Influence of Flavonoids in Attenuating β -strand Fibril Formation of Islet Amyloid Polypeptide by Molecular Dynamics Simulations*
- Poster #12: Salwa G Sadiq-Ali (Psychology), Sasha Sharma (Psychology), Sareena, A Patel (Cognitive and Behavioral Psychology), *The Effect of Boredom on Neuroelectrical Activity*
- Poster #13: A Slough (Human Development), *Attention in Infancy: links to childhood attention and academic achievement*
- Poster #14: Hytham Soueid (Biochemistry), Jonathan Briganti (Neuroscience), Javier Friend (Biochemistry), *Effect of Ligand Presence on Conformational Oscillation of PPAR γ*
- Poster #15: Sieu Tran (Mathematics), *Patterns of Activation and Repression for a Single Transcription Factor with Multiple Binding Sites*
- Poster #16: Caitlin R Van Wicklin (Biology), Emily Wills (Psychology), Alex Eddy (Psychology), Peter Lee (Biology), *Sex Differences in Laterality in Emotion Specific Autonomic Nervous System Activity*
- Poster #17: Adrianna N Wilson (Biochemistry), *The Isolation and Elucidation of Antimicrobial Compounds from Native Southwest Virginia Plants*
- Poster #18: Brittney L Worrell (Biochemistry), *Structural Distinctions Between Isoforms of Human and Mouse Sphingosine Kinases*
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10:00am-11:30am **Oral session 1**

Drillfield

Moderator: Dr. Ashley Reed (English)

10-10:15am - Alec J. Masella (Literature and Language), *First Contact: The Influential Exchange between the American Fireside Poets and the Arab Mahjar Poets*

10:15-10:30am - David S. Snyder (Communication), *Sheppard v. Maxwell: Revisited*

10:30-10:45am - Gabriella C. Scalzo (Psychology), *Cognitive flexibility and communication are linked to employment in young adults with ASD*

10:45-11:00am – Kelly L. Cooper (History), *The Illumination of the York Minster and St. Patrick's Cathedral: Two Preservation Approaches*

Duck Pond

Moderator: Dr. Endang Purwantini (Biochemistry)

10-10:15am - Joycelynn B. Acheampong (Microbiology), *Computer Vision Assisted Water Quality Testing*

10:15-10:30am - Allison Moser (Wildlife Conservation), *Use of camera traps to survey *Sylvilagus spp.* in high-elevation habitats in the southern Appalachians*

10:30-10:45am - Anna C. Buhle (Biochemistry), *Glucosamine Catabolism in *Mycobacterium Smegmatis**

10:45-11:00am – Hannah D. Parker (Animal and Poultry Sciences), *Investigating Leptin as a Mediator of Placental Adhesion, Invasion and Implantation in Ruminants*

11:00am-11:15am- Katelynn M. Petrasic (Biochemistry), *H-FIRE Treatment in 4T1 Mammary Tumors in Mice: A Pilot Study*

Smithfield

Moderator: Ryan Mowrey (Biological Sci & Water: Resources, Policy and Mgmt)

10-10:15am - Parisa F Samareh (Applied Mathematics), *Accelerating Thermoacoustic Tomography*

10:15-10:30am - Alex W Nikrant (Physics), *Determining the energy parameters of core-collapse supernova electron neutrinos*



10:30-10:45am - Brock A Davis (Mechanical Engineering) and Katrina Somers (Biological Sciences), *Leaf-Inspired Biomimetic Design for Aerodynamic Dispersal Structures*

10:45-11:00am – Ben G Spencer (Environmental Science), *Quantifying Microbial Respiration with a Fluorescent Dye*

11am-12pm ***Beyond Boundaries VT-Shaped Experiential Learning Participatory Workshop Solitude***

Faculty and students are invited to share thoughts and ideas about undergraduate research. We want to hear from your experiences: what works well, what are the challenges to participation and how to expand access to undergraduate research for all students at Virginia Tech.

11:45am-12pm ***Performance***
Latham Ballroom B, C

Allison L Harris (Mechanical Engineering), John C Chandler (Music), and Jonathan T Elmore (Music), *National Opera Association Collegiate Opera Scenes Competition*

12:00-1:00pm ***Lunch***
Latham Ballroom B, C

12:25 ***Welcome Remarks***
Dr. Jill Sible, Ass. Provost for Undergraduate Education

12:30 ***Keynote Address***
Dr. Stefan Duma, Interim Director ICTAS



1:15-2:15pm **Poster Session 2**
Latham Ballroom A

- Poster #1: Dung T Han (Biochemistry), *Insight into Cross-amyloid Interactions in Alzheimer's disease and Type II diabetes: Molecular Dynamics Simulations of $A\beta_{(16-22)}$ and IAPP₍₂₀₋₂₉₎ Hexamer Formation*
- Poster #2: Rhiannon J Hasenauer (Human Development), *The Future of Honduras*
- Poster #3: Grace A Herrick (Neuroscience), Riya P. Nag Nag (Psychology), Andrew K. Banick Banick (Neuroscience), Jong W. Lee Lee (Biology), Hannah Hawks-Mayer Hawks-Mayer (Biology), *Hemispheric Asymmetry through Autonomic Nervous System Responses to Visual Stimulation*
- Poster #4: Nicole Kaminski (Biochemistry), *Expression of Nutrient Transporters in Male and Female Chickens*
- Poster #5: Arianna I Krinos (Computer Science), Lea V Sarment (Biological Systems Engineering), *Batrachochytrium-Battling Bacteria Foils Fungus Found on Frogs*
- Poster #6: Suzanne R Laliberte (Biological Sciences), *Probing the cell type specificity of chemical defense in Arabidopsis roots*
- Poster #7: Sanjna Nag (HNFE), *Global Health in Underdeveloped Countries*
- Poster #8: Amy K Plechacek (Geosciences), *Laser Ablation ICP-MS Analysis of Trace Elements in Pyrites of Gas Shales: Implications for Mobility*
- Poster #9: Emily S Richardson (Animal and Poultry Sciences), *Economic analysis of feeding costs for diets including corn silage or sorghum silage as the main forage source*
- Poster #10: Ralph Romero (Physics), *Crumpling of an Elastic Ring under Circular Confinement in Two Dimensions*
- Poster #11: Lea V Sarment (Biological Systems Engineering), Caity M De Angelus (Biological Systems Engineering), *Novel Device for Rapid Acquisition of Heart Rates in Neonatal Patients*



- Poster #12: Kendall M Seeley (Biochemistry), *Investigating the Effect of PPAR γ , Mutation Q286P on 15-deoxy- $\Delta^{12,14}$ -prostaglandin J 2 Binding Activity Using Molecular Dynamics and Docking Simulations*
- Poster #13: James B Simon (Engineering, Science and Mechanics), *Using Binaural Beats to Increase Brain Functional Connectivity*
- Poster #14: Benjamin S Smith (General Engineering), *Effect of Compost on Redox Potential at a Constructed Coastal Plain Wetland*
- Poster #15: Katherine I Vlahcevic (Neuroscience), *Three-year EEG Predicts Passage Comprehension at age Six*
- Poster #16: Lucy L Wagstaff (Animal and Poultry Sciences), *Role of Uric Acid on Feed Intake in Chickens*
- Poster #17: Laura C Wichin (Biological Systems Engineering), *The Effect of Increased Peptide Fragment on Keratose Hydrogel Enzyme Mediated Degradation*
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1:30-3:00pm Oral Session 2

Drillfield

Moderator: Dr. Anthony Cate (Psychology)

1:30-1:45pm – Philip E. Stauffer (Biochemistry), *Relevance of natural occurring mutations in circadian components for cellular signaling*

1:45-2:00pm – Cassidy A. Thomas (Biological Sciences), *The Canonical NLR Inflammasome Senses Clostridium difficile*

2:00-2:15pm – Haley A. Meade (Biochemistry), *Effects of Quaternary Ammonium Compound Exposure on Growth and Differentiation of Neural Stem/Progenitor Cells*

2:15-2:30pm – Rishi K. Devulapalli (Neuroscience) and Leah Cooper (Psychology), *Visual Aspects of Numeracy Neuroimaging: Cortical Surface-Based Meta-Analysis*



Duck Pond

Moderator: Dr. Scott Verbridge (Biomedical Engineering and Sciences)

1:30-1:45pm – Joseph F. Krause (Nanoscience), *Tunable Visible and Near Infrared Light Transmittance and Absorption in Layer by Layer Polymer-plasmonic Nanoparticle Nanocomposites*

1:45-2:00pm – Ahmed M. Elnahas (Mechanical Engineering), *Experimental Investigation of Acoustic Energy Transfer Systems*

2:00-2:15pm – Andrea S. Kuliasha (Biological Systems Engineering), *In Vitro Brain Tissue Model for Understanding Tumor Angiogenesis*

2:15-2:30pm – Austin J. Wozniak (Biological Systems Engineering), *Water scavenging in Appalachia*

Smithfield

Moderator: Dr. Ralph Hall (Public and International Affairs)

1:30-1:45pm – Carolyn R. Carrithers (Biological Systems Engineering), *Oyster Spat*

1:45-2:00pm – Edgar Correa (Crop and Soil Sciences), *Molecular Markers for Low Trypsin Inhibitor Soybean Breeding Selection*

2:00-2:15pm – Emma K. Buchanan (Applied Economic Management), *Quantifying Natural Disasters' Impact on Neighborhood Transition*

2:15-2:30pm – Maria E. Vollmer (Environmental Policy and Planning), *Hygiene and Sanitation Assessment of Public Sites in Mzuzu, Malawi*

2:30-2:45pm – Chelsea N. Cereghino (Microbiology), *Nodulation of Pea Plants by Two Rhizobium leguminosarum Biovars*

2:30-3:30pm

Poster Session 3

Latham Ballroom A

Poster #1: Tariq Ayubi (Biochemistry), *The Protective Role of Nlr1 During Invasive Pulmonary Aspergillosis*



2017 Dennis Dean Undergraduate Research & Creative Scholarship Conference

- Poster #2: Savanna N. Baxley (Residential Environments & Design), *Custom Kitchen Design for Client with Down Syndrome*
- Poster #3: Garrett Coffey (AT), Hunter Critzer (AT), *Establishing a forage system for cows and weaned calves at the Giles County Ag Land Lab*
- Poster #4: Lauren R. Delbridge (Landscape Architecture), *Coal Ash Wastescape: Designed Remediation of Chesterfield Power Station's Coal Ash Ponds*
- Poster #5: Christian J. Gilbertson (Engineering Science and Mechanics), *A study of the gamma-ray burst fundamental plane*
- Poster #6: Brogan E. Holcombe (Animal & Poultry Sciences), *Does HotSpotter reduce time spent identifying individual ocelots?*
- Poster #7: Stacey Karetnyi (Biological Sciences), *Mycoplasma gallisepticum is recognized by the canonical NLRP3 inflammasome in macrophages*
- Poster #8: Alexandra B. Krebs (Biology), *Does Parent-Child Communication Influence Improved Treatment Outcome for Children with Oppositional Defiant Disorder and Comorbid Anxiety Disorder*
- Poster #9: Melissa R. Land (ESM), *Multibody Dynamics*
- Poster #10: Thomas C. Maulbeck (Materials Science and Engineering), William A. Blankenship (General Engineering), *Processing of titanium-carbon alloys by the mechanical alloying of titanium and dry cornhusk*
- Poster #11: Bonnie L. Woodward (Psychology), *Treatment Differences in Parent-Child Synchrony, Realistic Problem-Solving, and Child Symptom Reduction for Children with Oppositional Defiant Disorder*

3:30pm

Closing remarks

Keri Swaby, University Undergraduate Research Coordinator



ALL DAY Booths
Main lobby and Latham Ballroom A, B & C

We invite you to visit and talk with representatives from several graduate programs, professional and enrichment programs, and research journals.

Graduate Programs

Biological Systems Engineering at VT
Biomedical and Veterinary Sciences
College of Engineering Graduate Programs
College of Liberal Arts and Human Sciences Graduate Programs
Engineering Education at VT
Macromolecules Innovation Institute (MII)
Masters in Fine Arts (MFA) at VT
Online Master of Agricultural and Life Sciences
Plant Pathology and Weed Sciences
Translational Biology and Medicine, and Health (TBMH)

Enrichment Programs

Euroscholars
IMSD: Initiative for Maximizing Student Development
iScholars

Journals

JUMR: Journal of Undergraduate Materials Research
Philologia Undergraduate Research Journal

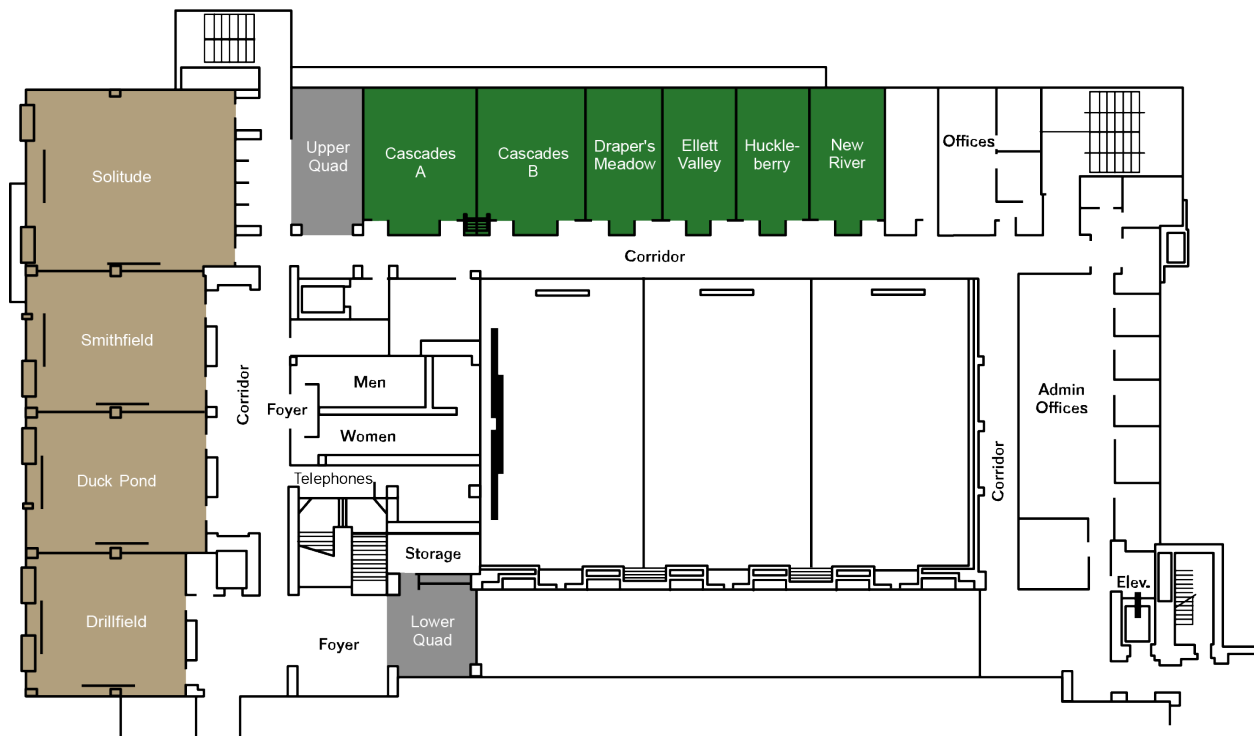
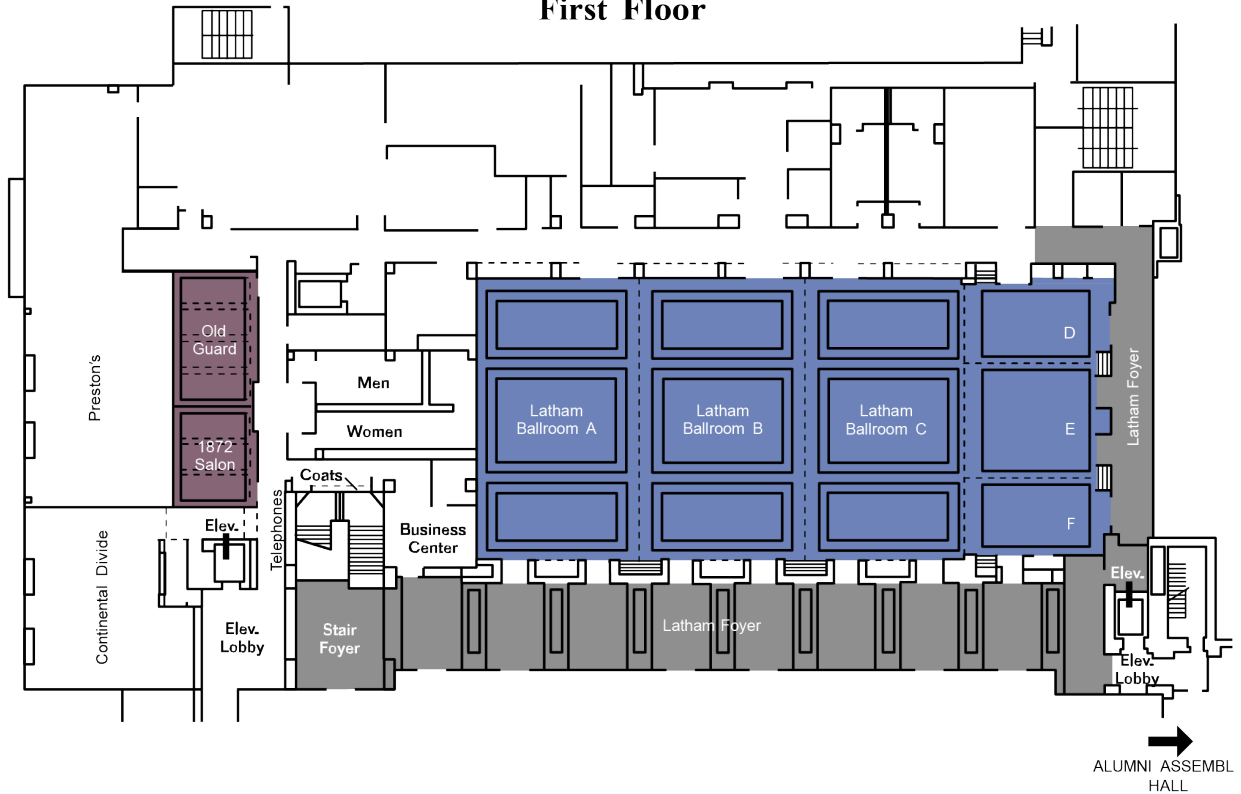
A special thank you to our sponsors: the **Fralin Life Science Institute**, the **VT Office of the VP for Research and Innovation**, and the **Multicultural Academic Opportunities Program**.

Without your generous contributions this conference would not be possible. ***Thank you!***



The Inn at Virginia Tech & Skelton Conference Center

First Floor



Music Convocation

Tuesday, February 21
Squires Recital Salon

2pm-3pm *Squires Recital Salon*

**Featuring performances by Virginia Tech music majors,
including the world premiere of**

DJ Malinowski's

Alchemy

for amplified percussion quartet

DJ Malinowski
Steven W. Arnold
JD Grizzle
Jesse W. Hughes
Laura E. Moniuszko



Installations

Monday - Thursday, February 20-23
Wallace Hall Gallery

9am-5pm Wallace Hall Gallery

Jackie D. Bertone (Physics) & Benjamin A. Beheydt (Chemical Engineering), *A.R.T.A. - Asteroid Redirect: Telescoping Arm*

Michael J. Stelfox (Landscape Architecture), *A Question of Technology - Electrical Production in the Year 2070*

Jazmine M. Copeland, Laura Wonilowicz (Animal & Poultry Sciences) & Lanie Eppers (Biological Sciences), *Peer to Peer Problem Solving Studio Projects*

Francisco Ramos Mora (Physics), Andrew Farley (Mechanical Engineering), Wade Foster (Aerospace Engineering), Caitlyn Stone (Aerospace Engineering), Genevieve Gural (Aerospace Engineering), Andrew Touzinsky (Aerospace Engineering), Ziomara Madero-Vargas (Aerospace Engineering) & Aaron Morris (Aerospace Engineering), *inVenTs High-Power Rocketry Team*

Feb 23

4pm-6pm **Scholars Reception**
Wallace Hall Gallery and Atrium

