2026 MID-ATLANTIC REGIONAL STUDENT CONFERENCE

HOSTED BY **VIRGINIA COMMONWEALTH UNIVERSITY**
RICHMOND, VIRGINIA

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DAY 1 – SATURDAY, MARCH 28

SCHEDULE

Time	Event	Location
8:00AM - 11:00AM	Registration / Check-In	Engineering Research Building - Collaboration Hub
11:00AM - 12:30PM	Welcome: Keynote Address	Harris Hall Room 101
12:30PM - 1:30PM	Lunch	Harris Hall Lawn
2:00PM - 5:00PM	Technical Presentation Competition	West Hall Room 101
2:00PM - 5:00PM	Chem-E-Car Safety Inspection	Engineering Research Building Makerspace
2:00PM - 5:00PM	Chem-E-Car Poster Competition	Engineering Research Building Room 1313

DAY 1 – SATURDAY, MARCH 28

SCHEDULE

Time	Event	Location
2:00PM - 2:50PM	Workshop 1: Every Drop Counts: Industrial Water Use and Stewardship	East Hall 3229
2:55PM - 3:55 PM	Workshop 2: Follow Your Nose: A Chemical Engineer's Journey into the World of Fragrance	
4:00PM - 4:50PM	Workshop 3: Graduate School from Both Sides of the Desk	
2:00PM - 6:30PM	ChemE Jeopardy Competition	West Hall Classrooms (see bracket)
6:30PM - 8:00PM	Banquet Dinner	Engineering Research Building - Collaboration Hub
8:00PM - 9:00PM	Student Networking & Social	

DAY 2 - SUNDAY, MARCH 29

SCHEDULE

Time	Event	Location
8:00AM - 10:00AM	Registration / Check In	Engineering Research Building Lobby
8:00AM - 9:00AM	Breakfast	Harris Hall Lawn
9:00AM - 10:00AM	Day 2 Welcome Awards for ChemE Jeopardy, Technical Presentations and Chem-E-Car Poster	Harris Hall Room 101
10:00AM - 10:50AM	Presidents' Meeting	Harris Hall Room 101
10:15AM - 10:45AM	Chem-E-Car Safety Meeting	Engineering Research Building Collaboration Hub
10:30AM - 12:00PM	Career and Graduate Fair	Engineering Research Building Lobby
10:45AM - 12:45AM	Chem-E-Car Prep	Engineering Research Building Collaboration Hub
11:00AM - 12:00PM	Research Poster Presentation Competition: Session 1	Engineering Research Building Room 1313

DAY 2 - SUNDAY, MARCH 29

SCHEDULE

Time	Event	Location
11:30AM - 1:00PM	Chem-E-Car Lunch	Engineering Research Building Makerspace
12:00PM - 1:00PM	General Lunch	Engineering Research Building Courtyard
12:45PM - 3:30PM	Chem-E-Car Performance Competition	Engineering Research Building Collaboration Hub
1:00PM - 2:00PM	Research Poster Presentation Competition: Session 2	Engineering Research Building Room 1313
1:00PM - 1:50 PM	Workshop 4: Let's Clear the Air: State Careers in Air Pollution Regulation	East Hall Room 3229
2:00PM - 2:50PM	Workshop 5: Discover the Leader in You	
2:00PM - 4:00PM	ChemE-Sports Competition	East Hall Room 4229
3:30PM - 4:00PM	Chem-E-Car Cleanup	Engineering Research Building Collaboration Hub
4:00PM - 4:30PM	Closing Award Ceremony	

MAP: KEY PLACES

- ★ Registration
- E — Engineering Research Building/East Hall
- H — Grace E. Harris Hall
- W — Engineering West Hall
- M — Main Street Parking Deck
- J — Judge Parking Lot/JL Lot
- Harris Hall Lawn
- Suggested path between buildings

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Keynote Speaker: Dr. Frank Gupton

B. Frank Gupton, Ph.D.

Floyd D. Gottwald, Jr. Chair in Pharmaceutical Engineering,
Department of Chemical and Life Science Engineering

Dr. Frank Gupton is a professor at Virginia Commonwealth University with joint appointments in the Departments of Chemistry and Chemical and Life Science Engineering, where he also serves as Department Chair and holds the Floyd D. Gottwald Chair of Pharmaceutical Engineering. With more than 30 years of industry experience, including serving as Executive Director of North American Process Development at Boehringer Ingelheim Pharmaceuticals, he has led the development and commercialization of key pharmaceutical processes, including work on the HIV drug nevirapine. His research focuses on advancing continuous processing technologies and process intensification to improve the efficiency, sustainability, and cost-effectiveness of pharmaceutical manufacturing, particularly for active pharmaceutical ingredients. Dr. Gupton's contributions to green chemistry have earned him several prestigious awards, including national recognition from the American Chemical Society. He has secured major funding from the National Science Foundation and the Bill & Melinda Gates Foundation, leading collaborative initiatives in catalyst development and efforts to strengthen domestic pharmaceutical manufacturing and access to essential medicines in the United States.

WORKSHOP 1

EVERY DROP COUNTS: INDUSTRIAL WATER USE AND STEWARDSHIP

Primary Topic Areas:
Career and Industry Prep, Exploring the world of the water treatment industry

Hosted by:
ChemTreat

Every Drop Counts: Industrial Water Use and Stewardship explores how water supports critical industrial processes—from manufacturing and cooling to cleaning and energy production—while highlighting the importance of responsible water management. The presentation examines current challenges, efficiency strategies, and sustainable practices that help industries reduce waste, protect resources, and ensure long-term water security.

WORKSHOP 2

FOLLOW YOUR NOSE: A CHEMICAL ENGINEER'S JOURNEY INTO THE WORLD OF FRAGRANCE

Primary Topic Areas:
Professional Development, Fragrance 101

Hosted by:
Ana Paula Rodriguez,
The Estee Lauder Companies Global R&D

In this interactive workshop, Ana Paula shares her unconventional journey as a chemical engineer across multiple industries. From food at Sabra Dipping Company to tobacco at Altria Group, and now working in beauty and fragrance at Estée Lauder Companies, she reflects on how a chemical engineering background can open doors to diverse and unexpected career paths, and how curiosity and passion can guide those transitions.

Participants will also take part in a mini fragrance masterclass, exploring six raw materials from different olfactive families through a guided smelling experience, offering a hands-on introduction to the fascinating science and artistry behind fragrance.

WORKSHOP 3

GRADUATE SCHOOL FROM BOTH SIDES OF THE DESK

Primary Topic Areas:
Technical / Academic

Hosted by:
VCU Center for Pharmaceutical Engineering and Sciences

Join faculty and current graduate students from VCU's Pharmaceutical Engineering program for a panel-style discussion on graduate school from both the applicant and advisor perspectives. Topics will include building a strong application, research expectations, work-life balance, and the transition from undergraduate to graduate study. Attendees will have the opportunity to ask questions and gain practical advice to better understand and prepare for graduate school.

WORKSHOP 4

LET'S CLEAR THE AIR: STATE CAREERS IN AIR POLLUTION REGULATION

Primary Topic Areas:
Career and Industry Prep, Specialized Topic

Hosted by :
RJ Peters,
Virginia Department of Environmental Quality

RJ Peters shares their perspective as a VCU ChemE alumni working as an Air Permit Writer in the Office of Air Pollution Prevention at the Virginia Department of Environmental Quality. Learn more about careers with the state government and test your knowledge with air pollution control trivia.

WORKSHOP 5

DISCOVER THE LEADER IN YOU

Primary Topic Areas:
Leadership and Involvement

Hosted by :
Julie Gerek Sefa,
Chemical and Biological Engineering,
Princeton University

A presentation on enhancing leadership qualities and skills that will include interactive small group work, followed by a collaborative sharing of insights with fellow participants. Participants will engage in an individual identity exercise to reflect on how they can apply their unique skills in real-world scenarios. The primary focus will be on cultivating self-awareness and understanding team dynamics.

CHEM-E-CAR TEAMS

University	Car Name
New York University	A Train
Columbia University	Alma Motor
Manhattan University	Jasperian Swervinator
Cooper Union	Hook, Line and Zinc Air
Stony Brook University	Duck Car
City College of New York	Buzz Lyte
Penn State	Foam Sweet Foam
University of Pittsburgh	The Lighthouse
University of Pittsburgh - Johnstown	Pressure Bob-omb
Youngstown State University	CinnaRoller
Bucknell	Stoppenheimer

CHEM-E-CAR TEAMS

University	Car Name
University of Maryland	Dona-tudo
University of Maryland Baltimore County	CapyCara
Johns Hopkins University 1	Galvanicar
Johns Hopkins University 2	Hy-Speed Steed
New Jersey Institute of Technology	Hylander Requiem
Rutgers University	EVElocity
Virginia Tech 1	Preston
Virginia Tech 2	Carmeleon
Virginia Commonwealth University	RamSafe
University of Delaware	Blue Hengine
West Virginia University	Shellvis Presley

CHEME JEOPARDY BRACKET

Preliminary Round	
Location	**School**
West Hall Room 103	Princeton 1 Rutgers 1 TBD
West Hall Room 104	UMBC Virginia Tech 2 NJIT
West Hall Room 105	Bucknell 2 CCNY Howard 2
West Hall Room 106	Virginia Tech 1 Howard 1 Princeton 2
West Hall Room 301	Rutgers 2 VCU Johns Hopkins 1
West Hall Room 401	Delaware Johns Hopkins 2 Bucknell 1

TECHNICAL PRESENTATIONS

2:00PM

Fungi in a Salty World: Screening Sargassum and Collection Strains to Valorize Seaweed Biomasseline Networks

Malik Resheidat

Princeton University

2:20PM

Design and Characterization of Novel Imatinib-Loaded Nanoparticles for Localized Immunomodulation

Nathan Kang

Johns Hopkins University

2:40PM

An Experimental Framework for Emerging Radiochemists: Carbon Black as a Scalable Adsorbent for Uranium(IV) and Radionuclide Remediation

Gunner Buzzard

Virginia Commonwealth University

3:00PM

Machine Learning Approaches for Reliability Prediction in Wastewater Pipeline Networks

Brian Guillermo

Rowan University

20 MINUTE BREAK

3:40PM

End-to-End Continuous Pharmaceutical Manufacturing

Connor Richeson

Virginia Commonwealth University

4:00PM

A Versatile IFR-Derived Carbon Composite Enabling Fire Safety and Energy Storage

Grayson Jacey

Virginia Commonwealth University

4:20PM

Viscoelastic and Piezoelectric Hydrogel for use in Anatomically Accurate Traumatic Brain Injury (TBI) Phantoms

Samantha Smith

Virginia Commonwealth University

POSTER PRESENTATIONS
SESSION #1 (11:00)

Evaluation of a nanoparticle-hydrogel composite for controlled drug degradation and release
Sollina Abraham
Virginia Commonwealth University

Analyzing the Effect of ICAM-1 Signaling of Artificial Antigen Presenting Cell Stimulation on CD8+ T Cells
Alicia Bai
Johns Hopkins University

Design of a Continuous IMAC-Based System for GLP-1 Therapeutic Purification
Yaqoub Almousawi
Virginia Commonwealth University

Designing Proteins for Rare Earth Element Purification
Colby Basnett
Virginia Commonwealth University

Study for the Viscosity Blending Rule Validation for Lubricant Oil Mixtures
Saugat Bhandari
Rowan University

Extracellular Vesicles Isolated from Human Cervicovaginal Mucus as Biomarkers for Female Reproductive Tract Diseases
Rose Coats
University of Maryland College Park

Sustainable Battery Energy
James Cole
Rowan University

Quantitative Assessment of Roasted Coffee Freshness Over Time Using Multi-Parameter Analysis
Maya Fetzer
Bucknell University

POSTER PRESENTATIONS
SESSION #1 (11:00)

Developing Methods of Multitask Bayesian Optimization
Rajan Frattare
Virginia Commonwealth University

Design and Characterization of Novel Imatinib-Loaded Nanoparticles for Localized Immunomodulation
Nathan Kang
Johns Hopkins University

Clean in Place (CIP) for Multi-API Manufacturing Systems
Devon Keith
Virginia Commonwealth University

Screening Design of Experiments for the Amination Step in Albuterol Synthesis
Mithil Kulkarni
Virginia Commonwealth University

Spt5 C-terminal repeats regulate stable association of Paf1C during RNA polymerase II transcription elongation
Derrick Liu
Johns Hopkins University

Enhancing Wastewater Treatment Plant Reliability Through Vision Language Models
Deanna Mariano
Rowan University

Quantitative Analysis of Chemical Impurities During Pharmaceutical Manufacturing
Connor McKenzie
Virginia Commonwealth University

Engineering synthetic velocity receptors to enhance CAR T cell infiltration in advanced prostate cancer
Oliver Nizet
Johns Hopkins University

Solvent Screening For Zinc and Manganese Recovery from Spent Alkaline Batteries
Diego Nuñez-Castañeda
Bucknell University

POSTER PRESENTATIONS
SESSION #1 (11:00)

Fungi in a Salty World: Screening Sargassum and Collection Strains to Valorize Seaweed Biomass.
Malik Resheidat
Princeton University

Ion Exchange Chromatography
Lucy Rudolph
Virginia Commonwealth University

Quantifying the Freshness of Roasted Coffee Beans By Acid Value Analysis
Jacob Shaffer
Bucknell University

Identifying Types of Glycans on Antibodies Using Dynamic Light Scattering
Jediah Thomas
Howard University

Optimizing Lube Oil Changeovers in Petroleum Pipelines: Using Reynolds Number to Reliably Predict Flush Volumes
Corbin Tinker
Rowan University

Integration of On-Line 1H NMR for Advanced Pharmaceutical Manufacturing
Kenny Vo
Virginia Commonwealth University

Characterization of the Benenodin Figure-of-Eight Thermal Switch Cascade
Jessica Wang
Princeton University

Rheo-Impedance Mapping: a new technique to characterize Ionically Conductive Hydrogels
Andrew Wierzchon
Villanova University

A Computational Study of Tunable Properties of the Two-Dimensional Material Sb2Te3 through Controlled Cr Doping: Insights for Next-Generation Thermoelectrics Design
Victor Wu
Johns Hopkins University

POSTER PRESENTATIONS
SESSION #2 (1:00)

Microfluidic Production of PLGA Nanoparticles for Drug Delivery Applications
Konstantina Alamani
New Jersey Institute of Technology

Investigation into Conductive Properties of Eutectic Gels
Edward Collet
Rowan University

Investigating the Fabrication of a 2D/3D Perovskite Interface and Its Application in Perovskite Solar Cells
Ava Curry
Princeton University

Testing transition metal and transition metal oxides as catalysts for the ignition and combustion of boron in low temperatures
Chitra Gayathri
New Jersey Institute of Technology

Mechanical and Thermal Properties of Blended Semicrystalline and Amorphous P(3HB-co-4HB)
Drew Gregory
Bucknell University

Mechanochromic Polyurethane/Liquid Crystal Composites
Brandon Hall
Virginia Commonwealth University

Lignin Based Membranes: Circular Process for Separating Lignin Monomers from Lignin Oil for Sustainable Aviation Fuel
Nathaniel Holl
Rowan University

POSTER PRESENTATIONS
SESSION #2 (1:00)

A Versatile IFR-Derived Carbon Composite Enabling Fire Safety and Energy Storage
Grayson Jacey
Virginia Commonwealth University

Biodegradable Microrobotic Grippers for Precision Medicine
Ezra Ju
Johns Hopkins University

Selective nickel extraction over cobalt via selenium-mediated solid–solid redox
Yeonwoo Kim
Johns Hopkins University

Continuous Distillation Development for Impurity Control in an End-to-End Manufacturing Albuterol Process
Samantha Kohn
Virginia Commonwealth University

Magnesium Chloride Effectiveness as a Paralytic Agent for Large Polyp Corals
Anuksha Kolluru
Virginia Commonwealth University

Capturing Ionic Chemotherapy Drugs Using Biosponge Block Copolymers to Help People Fight Cancer
Akshay Krishnan
Pennsylvania State University

POSS Nanocomposites
Lynn Le
Rowan University

Ab Initio Molecular Dynamics of ALD Growth on TiO_2 Step Edge
Mia (Jinfei) Liu
Johns Hopkins University

POSTER PRESENTATIONS
SESSION #2 (1:00)

Testing Viability of Solid Amine-Based Adsorption Methods for Carbon Scrubbing on Space Habitats
Diego Luque
VIrginia Tech

Vapor–Liquid Equilibrium Study for TBA Removal via Distillation
Mayssoun Merhi
Virginia Commonwealth University

Improved Methods for Volatile Organic Compound Filtration Using a Liquid Absorbent
Angelica Miller
Virginia Commonwealth University

Liquid Crystal Polymers
Anali Reyna
Virginia Commonwealth University

Surface Energy as a Design Tool for Thin-Film Organic Semiconductors
Anthony Shen
Princeton University

The behaviors of various monolithic carbides and composite architectures as UHTCs for fusion
Chelsea Walz
Stony Brook University

Optimizing a Shelf-Stable Poly(beta-amino ester) Nanoparticle Platform for Skin Gene Therapy
Kevin Zhang
Johns Hopkins University

Combustion of composite boron-PVDF particles prepared by emulsion-assisted milling
Kamila Zuba
New Jersey Institute of Technology

CONFERENCE PLANNING TEAM

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Ashley Kang
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Sarah White
Conference Coordinator

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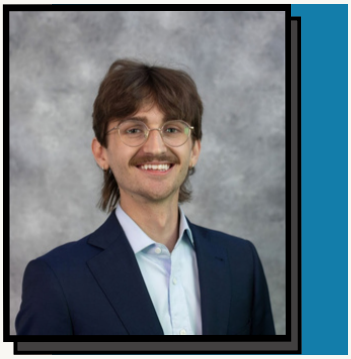
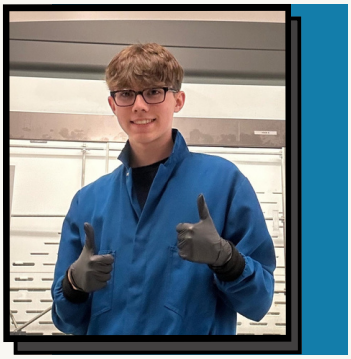


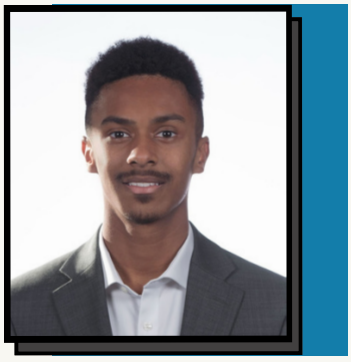
Gavin Standish
Technical Presentation Coordinator

Katie Phomsopha
Research Poster Presentation Coordinator



Connor Richeson
Research Poster Presentation Coordinator

Zachary Harbert
Chem-E-Car Coordinator



Cab Boykin
Chem-E-Car Coordinator

Aidan Baker
Chem-E-Car Coordinator

THANK YOU

Thank you for attending the 2026 Mid-Atlantic Regional Student Conference!

Special thanks to our sponsors and VCU for their incredible support. We hope this weekend has sparked new ideas and lasting friendships.