Here, apply your talent in bold ways that matter.

3M.com/careers
Welcome

It is my honor to welcome you all to the 44th Annual NOBCChE Conference and K-12 STEM Week, here in Minneapolis, MN. Each year, the National Conference and STEM week provide an opportunity for the scientific community to celebrate scientific innovations in while connecting colleagues and leaders in the chemical sciences. This year, the conference agenda is comprised of a variety of workshops, technical sessions, and special symposia.

Student Programming and Professional Development are offering a full agenda of workshops throughout the week. Undergraduate students are encouraged to attend the GEM GRAD LAB, to learn more about the graduate school process. Additionally, there are a number of opportunities for students to practice and hone their scientific communication and networking skills. Professionals are encouraged to learn more about critical soft skills such as emotional intelligence, as well as, financial literacy. All are encouraged to attend our Career Fair to network with 65+ exhibitors that span a range of academic, industry and government entities.At the Career Fair, be sure to visit the NOBCChE Booth to share your NOBCChE Story and learn more about opportunities to engage with the organization.

This year we have the pleasure of hosting 200+ technical posters and 150+ technical talks. A highlight of our technical program is the first AICHE/NOBCChE Joint Plenary Session. This Master Scientist session, will feature leaders in the field of Regenerative Engineering. We hope that the session is the first of many collaborations between the two organizations. Students are encouraged to participate in the 2-minute Drill Competition and all attendees are welcomed to attend the Chat-n-Chew.

NOBCChE prides itself in being more than a distinguished scientific organization; we are a community! Ask anyone who has attended a conference in the past; it is a family reunion. The annual conference is a place to not only spark new scientific and business partnerships, but a time to celebrate the accomplishments of scientific leaders in the chemical sciences. Throughout the conference, attendees are encouraged to attend our Distinguished Luncheons, Award Sessions, and Final Award Ceremony to celebrate the 2017 NOBCChE awardees.

The next generation of NOBCChE leaders are participating in the NOBCChE K-12 STEM week. Over 300 students will be in attendance for the Science Festival, College Fair, Science Fair and Science Bowl! Between sessions, take some time to visit their activities.

Finally, I would like to thank all of our sponsors as well as the National Planning Committee, the Conference Planner, and NOBCChE Leadership for their commitment to the NOBCChE Mission and Vision. Without their hard work, the annual conference would not be possible.

Again, Welcome to All! I hope you all enjoy what we have planned for the 44th Annual Conference.

Sincerely

Felicia A. Fullilove, PhD
Marriott Map

FOURTH FLOOR

SIXTH FLOOR

EIGHTH FLOOR
Radisson Map
See Chemistry in a New Light

Learn • Experience • Engage

Discover more at www.pittcon.org

February 26 – March 1, 2018
Orlando, FL USA
Orange County Convention Center
We attract and retain the most talented people by investing in training and development tailored to their needs and building on their strengths. And, through our approach to leadership development, our managers learn how to motivate team members to perform at their best.

Find a career with purpose at gsk.com/careers

GSK is an Equal Opportunity/Affirmative Action Employer.
**Agenda at-a-Glance**

**Sunday, October 29**

1:00 pm - 5:00 pm  
**COACh Workshop 1:** Professional Skills Training for Minority Graduate Students and Post-Docs  
(Pre-Registration Required)  
Radisson | New Sweden Ballroom

4:00 pm - 6:00 pm  
Registration  
Radisson | Denmark Commons

**Monday, October 30**

8:30 am - 12:00 pm  
**COACh Workshop 2:** Negotiation, Communication and Leadership Workshop for Faculty  
(Pre-Registration Required)  
Radisson | New Sweden Ballroom

8:00 am - 4:00 pm  
Registration (closed between 12:00 pm and 1:15 pm)  
Radisson | Denmark Commons

9:00 am - 10:00 am  
**Student Development 1:** Getting the Most Out of the NOBCChE Conference  
Marriott | Excelsior/Lafayette Bay

10:00 am - 11:00 am  
**Student Development 2:** Tips On Giving An Effective Presentation  
Marriott | Excelsior/Lafayette Bay

10:00 am - 11:30 am  
**Professional Development 1:** Demographics of STEM Faculty at Research Universities: The Nelson Diversity Surveys  
Marriott | Deer/Elk Lake

11:00 am - 12:00 pm  
**Student Development 3:** Undergraduate Interactive Resume/Cover Letter Review  
Marriott | Excelsior/Lafayette Bay

12:00 pm - 1:30 pm  
**Winifred Burks-Houck Luncheon**  
Marriott | Ballrooms 1-2  
*Sponsored by GSK*

2:00 pm - 4:00 pm  
**Student Development 3:** Graduate/Post-Doc Interactive Resume/Cover Letter Review  
Radisson | New Sweden 2-3

2:00 pm - 6:00 pm  
**Student Development 4:** GEM Getting Ready for Advanced Degrees (GRAD) Lab  
Marriott | Excelsior/Lafayette Bay

3:00 pm - 4:30 pm  
**Professional Development 1:** Social Media Boot Camp: Improving Your Professional Appearance  
Radisson | New Sweden 1

4:00 pm - 5:00 pm  
**Professional Development 2:** Setting Up Your Career Successfully: Nailing the Interview  
Marriott | Deer/Elk Lake

6:00 pm - 8:30 pm  
**Elevator Sessions @ NOBCChE – Open Mic Networking Reception**  
Radisson – Scandinavian Ballrooms 1-2

**Tuesday, October 31**

7:00 am - 3:00 pm  
Registration  
Radisson – Denmark Commons

8:00 am - 5:00 pm  
Poster Check-In  
Marriott - Ballrooms 1-2

9:00 am - 2:30 pm  
**Career and Academic Expo**  
Marriott | Ballrooms 3-4

2:00 pm - 3:00 pm  
**Professional Development 3:** Communicating Your Science Effectively: Enhancement of Hard & Soft Skills  
Marriott | Excelsior/Lafayette Bay

3:00 pm - 4:00 pm  
**AAAS Science and Technology Fellowships**  
Marriott | Excelsior/Lafayette Bay

3:00 pm - 5:00 pm  
**Collaborative Meeting (By Invitation)**  
Radisson | Finland

4:00 pm - 6:00 pm  
**Convergence in Regenerative Engineering: NOBCChE Master Scientist Lecture Event**  
Radisson | Scandinavian Ballroom 1-2  
*Sponsored by AiChE*

5:00 pm - 8:00 pm  
**STEM Week Registration**  
Marriott | Atrium

5:00 pm - 7:00 pm  
**STEM Week Volunteer Training 1 (Science Fair)**  
Radisson | New Sweden 1

6:00 pm - 7:00 pm  
**STEM Week Science Bowl Coaches' Orientation**  
Radisson | New Sweden 3

6:00 pm - 7:30 pm  
**STEM Week Ice Breaker**  
Radisson | New Sweden 2

6:00 pm - 8:00 pm  
**Poster Session/ConneXions Reception**  
Marriott | Ballrooms 1-2 and Radisson – Scandinavian Ballrooms 3-4  
*Sponsored by Colgate-Palmolive, Biophysical Society and SC Johnson*

**Wednesday, November 1**

8:00 am - 4:00 pm  
Registration (Closed between 12 pm and 1:15 pm)  
Radisson | Denmark Commons

8:00 am - 9:30 am  
**STEM Week Kick-off Breakfast**  
Marriott | Ballrooms 1-2  
*Sponsored by ACS*

8:00 am - 5:00 pm  
**STEM Week Registration**  
Marriott | Atrium

8:00 am - 10:00 am  
**Technical Session 1:** Lloyd Ferguson Award Session  
Radisson | New Sweden 1

8:00 am - 11:00 am  
**Technical Session 2:** Analytical Chemistry 1  
Radisson | New Sweden 2  
*Sponsored by Merck*

8:00 am - 11:00 am  
**Technical Session 3:** Inorganic Chemistry  
Radisson | New Sweden 3

8:00 am - 11:00 am  
**Technical Session 4:** Biochemistry 1  
Radisson | Finland
Wednesday, November 1

8:00 am - 10:00 am  Technical Session 5: Analytical Chemistry II
Marriott | Excelsior Bay

8:00 am - 10:00 am  Technical Session 6: Catalytic/Synthetic Chemistry & Engineering  
Sponsored by 3M
Marriott | Pine/Cedar/Birch/Maple Lake

9:00 am - 12:00 pm  Professional Development 4: Our NISTory: Conversations with NIST Research Scientists
Marriott | Deer/Elk Lake

10:00 am – 12:00 pm  STEM Week Science Fair
Marriott | Ballrooms 3-4  Sponsored by Medtronic

10:15 am - 12:15 pm  Technical Session 7: Computational Chemistry
Marriott | Pine/Cedar/Birch/Maple Lake  
Sponsored by Science Gateway Institute

11:00 am - 2:00 pm  STEM Festival and College Fair
Marriott | Ballrooms 3-4  Sponsored by ACS and 3M

1:45 pm - 3:45 pm  Percy Julian Luncheon
Marriott | Ballrooms 1-2

1:45 pm - 3:45 pm  Industrial Forum
Marriott | Deer/Elk Lake  
Sponsored by Corning

1:45 pm - 3:45 pm  Technical Session 8: Organic Chemistry
Radisson | New Sweden 1  Sponsored by GSK

1:45 pm - 3:45 pm  Technical Session 9: Nanoscience
Radisson | New Sweden 2

1:45 pm - 3:45 pm  Technical Session 10: Analytical Chemistry III
Radisson | New Sweden 3  
Sponsored by SC Johnson

1:45 pm - 3:45 pm  Technical Session 11: Green and Environmental Chemistry
Marriott | Pine/Cedar/Birch/Maple Lake

2:00 pm - 3:15 pm  Professional Development 5: Financial Literacy: Know your Coins!
Marriott | Excelsior Bay

3:00 pm - 5:00 pm  STEM Week Science Bowl Volunteer Training
Radisson | Finland

4:00 pm - 6:00 pm  Technical Session 12: Biochemistry II
Marriott | Pine/Cedar/Birch/Maple Lake

4:00 pm - 6:00 pm  Technical Session 13: Analytical Chemistry IV
Radisson - New Sweden 1

4:00 pm - 6:00 pm  Technical Session 14: STEM Education
Radisson | New Sweden 2  
Sponsored by 3M

4:00 pm - 6:00 pm  Technical Session 15: Analytical Chemistry V
Radisson | New Sweden 3  
Sponsored by SC Johnson

6:00 pm - 8:00 pm  NOBCChE Chat and Chew Session: Featuring The 2-Minute Drill
Marriott | Ballrooms 1-2

Thursday, November 2

8:00 am - 5:00 pm  STEM Week Registration
Marriott | 8th Floor Hallway

8:00 am - 12:00 pm  Registration
Radisson | Denmark Commons

8:00 am - 10:00 am  Professional Technical Session 1: University Scientists & Their Advancements in Research and Development
Radisson | New Sweden 1

8:00 am - 10:00 am  Technical Session 16: Medicinal Chemistry
Radisson | New Sweden 2

10:00 am - 11:00 am  STEM Week College Scholarship Panel
Radisson | Norway 1

10:00 am - 11:40 am  Award Session: Henry McBry Outstanding Educator Award – STEM Education
Radisson | Norway 2-3

10:00 am - 12:00 pm  Professional Development 6: Forensics Workshop
Radisson | Scandinavian Ballroom 4

10:15 am - 12:15 pm  Professional Technical Session 2: Recent Advancements in Government Research
Radisson | New Sweden 1

10:15 am - 12:15 pm  Technical Session 17: Catalytic/Synthetic Chemistry & Engineering II
Radisson –New Sweden 2

1:30 pm - 3:30 pm  Technical Session 18: Regenerative Engineering
Radisson | New Sweden 2  
Sponsored by AIChE

2:00 pm - 3:00 pm  STEM Week College Student Panel
Radisson | Norway 1

2:30 pm - 3:30 pm  NSF Centers for Chemical Innovation Science Communication Skills Workshop
Radisson | Norway 2-3

3:00 pm - 4:00 pm  Professional Development 7: Careers in Academia
Radisson | Norway 1

5:00 pm - 8:00 pm  Science Bowl  
Marriott | Spring Park Bay, Lafayette Bay, Gray’s/Wayzata Bay, Lake Calhoun, Lake Nokomis, Excelsior Bay  
Sponsored by ACS

6:30 pm - 9:00 pm  Celebrating STEM Success: NOBCChE Awards Ceremony & Reception
Radisson | Scandinavian Ballroom  
Sponsored by 3M

Friday, November 3

8:00 am - 12:00 pm  STEM Week Registration
Marriott | 8th Floor Hallway

10:00 am - 4:00 pm  Science Bowl  
Marriott | Spring Park Bay, Lafayette Bay, Gray’s/Wayzata Bays, Lake Calhoun, Lake Nokomis, Excelsior Bay  
Sponsored by ACS

6:00 pm – 9:00 pm  STEM Week Awards Dinner
Radisson | Scandinavian Ballroom  
Sponsored by ACS
Student Development

Monday, October 30

9:00 am - 10:00 am
Student Development 1:
Getting the Most Out of the NOBCChE Conference  
Marriott Excelsior/Lafayette Bays

This session will cater towards understanding some key tips that you can use to maximize your success during this year’s conference. Whether it is networking, talking to companies about potential job opportunities, or just furthering your scientific knowledge, we want to provide you with tips and suggestions that can be utilized. Topics will include how to effectively use the NOBCChE app, Do’s and Do Not’s of the conference addressing attire, professionalism, etc.

Facilitator
Pamela Brady
NOBCChE Student Development Co-Chair

Dr. Emanuel Waddell
NOBCChE President

11:00 am - 12:00 pm
Student Development 3:
Undergraduate Interactive Resume/Cover Letter Review  
Marriott | Excelsior/Lafayette Bay

2:00 pm - 4:00 pm
Graduate/Post-Doc Interactive Resume/Cover Letter Review  
Radisson | New Sweden 2-3

Participants will have the opportunity to meet one-on-one with individuals from academia, government, or industry to have their resume/CV and/or cover letter reviewed before attending the Career Fair. Pre-registration for specific time slots is available, but students may also stop to have their materials reviewed on a first-come, first-served basis.

Facilitators
LaRico Treadwell
Regina Akhimie

10:00 am - 11:00 am
Student Development 2:
Tips On Giving An Effective Presentation  
Marriott Excelsior/Lafayette Bays

This descriptive presentation will show you how to effectively give a presentation, communicate ideas, and address questions professionally. It will also cover body posture, voice projection, and other important elements.

LaRico Treadwell
NOBCChE Student Development Co-Chair

Regina Akhimie
NOBCChE Student Development Co-Chair

2:00 pm - 6:00 pm
GEM Getting Ready for Advanced Degrees (GRAD) Lab  
Marriott Excelsior/Lafayette Bays

This will be a four-part event that details why one might wish to go to graduate school, how to prepare for it, getting the GEM Fellowship and others, as well as experiences

5:30 pm - 7:30 pm
Elevator Sessions @ NOBCChE Open Mic Networking Reception  
Radisson Scandinavian Ballrooms 1&2

This session is an opportunity for students to practice their “elevator pitch” skills. Each speaker is given a total of 3 min. to test their skills of selling their research in a quick, clear and concise manner that is suitable for a broad audience. Students participating will be given feedback of their pitch from the audience, and will be given a video copy of the pitch after the conference for their own review. There will be opportunities for networking, so business cards are recommended.

Katarena Ford
Auburn University
Wednesday, November 1

Technical Session 1: Lloyd Ferguson Award Session | Radisson, New Sweden 1
9:00 am - 9:20 am
Luisa Whittaker-Brooks, Lloyd Ferguson Award Winner

9:20 am - 9:40 am
Prof. William Jackson

9:40 am - 10:00 am
Tamalia Julien

Technical Session 2: Analytical Chemistry | Radisson, New Sweden 2
8:00 am - 8:20 am
Cyanogenic Glycosides Analysis in American Elderberry: Picrate Paper and LC MS/MS Method Development and Validation | Michael Appenteng

8:20 am - 8:40 am
High Throughput Screening for Protein Binding Partners Using Differential Scanning Fluorescence and Nuclear Magnetic Resonance Spectroscopies | Pamela Brady

8:40 am - 9:00 am
Modelling Ion Transport Dynamics in Single Asymmetric Nanopores for Optimization of Separation and Energy Harvesting in Different Salinity Gradients | Warren Brown

9:00 am - 9:20 am
Size-dependent characterization of particulate matter in waterpipe tobacco smoke | Dr. Dibyendu Dutta

9:20 am - 9:40 am
Quantitative measurement of proteins at attomole levels via active microfluidic sampling and homogeneous proximity assays | Mr. Jean Negou Negou

9:40 am - 10:00 am
Fast electron transfer, resistance to aging and intercalation-deintercalation properties of the basal planes of heated pyrolytic graphite in air | Mr. Okechukwu Nwamba

10:00 am - 10:20 am
Visualization of Cancer-associated Enzyme Using a Near-infrared (NIR) Fluorescent Probe in vitro and in vivo | Zhenhua Shen

10:20 am - 10:40 am
Green and Biocompatible Nanoparticle Composites from Cellulose, Chitosan, Wool, Hair and Chicken Feather for Purifying Drinking Water and Healing Infected Wounds | Chieu Tran

Technical Session 3: Inorganic Chemistry | Radisson, New Sweden 3
8:20 am - 8:40 am
Electron Transport Mechanism of nanocrystalline Li-doped SmO2 and its applications in CO2 Electrochemical Reduction | Allen Chaparadza

8:40 am - 9:00 am
Synthesis and characterization of AlxSc2-xMo3O12 using non-hydrolytic sol-gel methods | LaWese Lovings

9:00 am - 9:20 am
Optical and Photo-thermal properties of cation deficient Cu(1) Sulfide and CuMS system | Aderemi Oki

9:20 am - 9:40 am
Comparative Study of Magnetization Dynamics in Dinuclear Dysprosium Complexes | Branford Wilkins

9:40 am - 10:00 am
Spring exchange coupled iron carbide/hexaferrite rare-earth free alternative permanent magnets | Brent Williams

10:00 am - 10:20 am
Casting a Wider Net: Rational Design of Low-Dimensional Intermetallics | Katherine Benavides

10:20 am - 10:40 am
Lewis Acids as Helpers to Carbon - Carbon Bonds Activation | Lloyd Murugan

Technical Session 4: Biochemistry | Radisson, Finland
8:00 am - 8:20 am
MRI contrast agents for the assessment and staging of renal fibrosis | Eman Akam

8:20 am - 8:40 am
Vinculin And Its Fundamental Role In Actin Bundling Formation | Ernesto Alva Sevilla

8:40 am - 9:00 am
Redox-responsive Artificial Molecular Muscles: Reversible Radical-based Self-assembly for Actuating 3D Soft Materials | Angelique Greene

9:00 am - 9:20 am
SARS-unique fold in the Bat Coronavirus HKU9 | Robert Hammond

9:20 am - 9:40 am
Fluorescence and Absorbance Based Assays for a Neisseria meningitidis Capsule Polymerase | Pumtiwitt McCarthy

9:40 am - 10:00 am
Studying the Cellular Mechanisms of Epilepsy: Characterization of Cerebral Organoids with PCDH19 Mutation | Yanitza Rodriguez

10:00 am - 10:20 am
Adenosine Deaminating/ Hydrolyzing Enzymes from Alaska pea seeds (Pisum sativum) | Lendsey Thicklin

Technical Session 5: Analytical Chemistry II | Marriott, Excelsior Bay
8:00 am - 8:20 am
Efficient mimicry of photosynthetic antenna-reaction center in supramolecular assemblies featuring BODIPY-Al(TTP) axially coordinated to pyridyl appended fulleropyrrolidine | Habtom Gobeze

8:20 am - 8:40 am
Human NAD(P)H: quinoneoxidoreductase isozyme 1 and Phenotypic Biomarkers as Potential Indicators of Ovarian Cancer Metastasis | Milcah Jackson

8:40 am - 9:00 am
In-situ ATR Infrared Spectroscopy of Polarized Diamond Electrodes | Zachary Jones

9:00 am - 9:20 am
Peak Width Quantitation and Impurity Detection | Akinde Kadjo

9:20 am - 9:40 am
Capillary Electrophoresis-based Enzyme Assay of Human Acetyl-CoA Carboxylase 2 | Thu Nguyen

Technical Session 6: Catalytic/Synthetic Chemistry & Engineering | Marriott, Pine/Cedar/Birch/Maple Sponsored by 3M
8:00 am - 8:20 am
Electrochemical activity of non-noble metal alloy as catalyst towards oxidation of glycerol in acidic media: A case for the Conceptual Glycerol/Ferric Redox Flow Battery | James Akrasi

8:20 am - 8:40 am
Axially Coordinating Thioether Ligands for Dirhodium Paddlewheel Complexes | Ampofo Darko
Technical Session 7
Computational Chemistry
Marriott, Pine/Cedar/Birch/Maple Lake
Sponsored by Science Gateway Institute
10:35 am - 10:55 am
Quantum Monte Carlo for Molecular Systems: Electronic Structure | William Lester
10:55 am - 11:15 am
Interaction of Selected Species With Carbon Nanoparticles | Quntarius Moore
11:15 am - 11:35 am
An in Silico Study of Methane C−H Activation by Earth-Abundant Metal-Amide/Aminyl Complexes | Bruce Prince
11:35 am - 11:55 am
Angle-dependent strong-field molecular ionization rates with tuned range-separated time-dependent density functional theory | Adonay Sissay

Technical Session 8
Organic Chemistry | Radisson, New Sweden 1
Sponsored by GSK
1:45 pm - 2:05 pm
Cation Clock Reactions for the Determination of Relative Reaction Kinetics in Glycosylation Reactions: Applications to Gluco- and Mannopyranosyl Sulfoxide and Trichloroacetimidate Type Donors | Philip Adoro
2:05 pm - 2:20 pm
Chaperone-Promoted Hydroamination of Allylic Alcohols | Stacy Fosu
2:20 pm - 2:35 pm
Radical-Mediated, One-Pot Synthesis of Oxazoles from Alcohols and Nitriles | Darshedd Mustafa
2:35 pm - 2:55 pm
Strategically Thionated Pyrileny Diimides as Promising Electron Acceptors in Organic Electronics | Ajara Rahman
2:55 pm - 3:15 pm
Reactive Unsymmetrical 2-Aminoallyl Cations as the Intermediates for Enantioselective Nucleophilic Addition | Mirza Saputra

Technical Session 9
Nanoscience | Radisson, New Sweden 2
1:45 pm - 2:05 pm
Probing Energy-Transfer Dynamics in Large Plasmonic Aluminum Nanostructures | Ebuka Arinze
2:05 pm - 2:25 pm
Superhydrophobic, Infrared Transmissive Moth Eye-like Substrates For Use In Wet Conditions | Darryl Boyd
2:25 pm - 2:45 pm
How Nanotechnology Can Help Cell Research for Major Diseases | Marlon Breaux
2:45 pm - 3:05 pm
Size Controlled Synthesis of Aqueous Silver Nanoparticles via Microwave Irradiation | Maurice Roots
3:05 pm - 3:25 pm
Investigation and Measurement of Zinc Phthalocyanine Nanostructures Using Silane Linker Chemistry | Ashley Taylor

Technical Session 10
Analytical Chemistry III | Radisson, New Sweden 3
Sponsored by SC Johnson
1:45 pm - 2:05 pm
Multi-omics Profiling of LKB1 Mutant NSCLCs Cells to Characterize Deregulated Pathways Contributing to Tumorigenesis | Bernice Agano
2:05 pm - 2:25 pm
Near Miss Investigation: Reactive Waste Stream | Frank Dixon
2:25 pm - 2:45 pm
The development of automated microfluidic droplet system for dynamic cellular signaling research with high temporal resolution | Juan Hu

Technical Session 11
Green and Environmental Chemistry
Marriott, Pine/Cedar/Birch/Maple Lake
Polymer Composites | Rocio Perez
2:45 pm - 3:05 pm
Aqueous Thin Film Deposition on a Self-Assembled Monolayer | Milana Thomas
1:45 pm - 2:05 pm
Protonic Liquid assisted Solution Blending for Fabrication of Polymer Composites | Aadnymo Sissay
2:05 pm - 2:25 pm
Lignin-based Surfactants for Emulsifying and Agricultural Applications | Kedar Perkins
2:25 pm - 2:45 pm
Direct Analysis in Real Time- Time-of-Flight-Mass Spectrometry (DART-TOFMS) Versus Gas Chromatography-Mass Spectrometry (GC-MS) in the Discrimination of Sexual Lubricants and Personal Hygiene Products (PHPs) | Yasmine Moustafo
1:45 pm - 2:05 pm
DNA nanostructure formation on electrode for electrochemical quantification of biomolecules by diffusional change Subramaniam Somasundaram
2:05 pm - 2:25 pm
A non-humidified, all-inorganic fuel cell electrolytic membrane with high conductivity exceeding Nafion at 131°C and above | Telpriore Tucker
2:25 pm - 2:45 pm
Determining the Minimal Inhibitory Concentration of Arsenic for Dehalococcoides ethenogenes strain 195 | Coty Weathersby

Technical Session 12
Biochemistry II | Marriott, Pine/Cedar/Birch/Maple Lake
Enhancing the Cell Permeability and Metabolic Stability of Peptidyl Drug by Reversible Bicyclization | George Appiah Kubi
4:00 pm - 4:20 pm
An approach towards rapid inhibitor screening and mechanistic evaluation of tuberculosis shikimate kinase: intrinsic and extrinsic fluorescence | Rene Fuanta
4:20 pm - 4:40 pm
Wide-band capturing, multi-modular bis(donor styryl) BODIPY-fullerene systems: Mimicry of Photosynthetic Antenna- Reaction Center Events | Christopher Otara Obondi
4:40 pm - 5:00 pm
Investigation and Measurement of Zinc Phthalocyanine Nanostructures Using Silane Linker Chemistry | Ashley Taylor

Technical Session 13
Analytical Chemistry II | Marriott, Pine/Cedar/Birch/Maple Lake
Detecting and Identifying Pesticides in Beverages by Targeted Mass Spectrometry | Yves Poirier
4:00 pm - 4:20 pm
Sponsors by SC Johnson
2:45 pm - 3:05 pm
Direct Analysis in Real Time- Time-of-Flight-Mass Spectrometry (DART-TOFMS) Versus Gas Chromatography-Mass Spectrometry (GC-MS) in the Discrimination of Sexual Lubricants and Personal Hygiene Products (PHPs) | Yasmine Mou斯塔fo
2:25 pm - 2:45 pm
DNA nanostructure formation on electrode for electrochemical quantification of biomolecules by diffusional change Subramaniam Somasundaram
2:05 pm - 2:25 pm
The development of automated microfluidic droplet system for dynamic cellular signaling research with high temporal resolution | Juan Hu
1:45 pm - 2:05 pm
Aqueous Thin Film Deposition on a Self-Assembled Monolayer | Milana Thomas
2:05 pm - 2:25 pm
Lignin-based Surfactants for Emulsifying and Agricultural Applications | Kedar Perkins
2:25 pm - 2:45 pm
Determining the Minimal Inhibitory Concentration of Arsenic for Dehalococcoides ethenogenes strain 195 | Coty Weathersby
2:45 pm - 3:05 pm
A non-humidified, all-inorganic fuel cell electrolytic membrane with high conductivity exceeding Nafion at 131°C and above | Telpriore Tucker
3:05 pm - 3:25 pm
Determining the Minimal Inhibitory Concentration of Arsenic for Dehalococcoides ethenogenes strain 195 | Coty Weathersby
3:25 pm - 3:45 pm
The development of automated microfluidic droplet system for dynamic cellular signaling research with high temporal resolution | Juan Hu
3:45 pm - 4:05 pm
Aqueous Thin Film Deposition on a Self-Assembled Monolayer | Milana Thomas
4:05 pm - 4:25 pm
Lignin-based Surfactants for Emulsifying and Agricultural Applications | Kedar Perkins
4:25 pm - 4:45 pm
Determining the Minimal Inhibitory Concentration of Arsenic for Dehalococcoides ethenogenes strain 195 | Coty Weathersby
4:45 pm - 5:05 pm
The development of automated microfluidic droplet system for dynamic cellular signaling research with high temporal resolution | Juan Hu
5:05 pm - 5:25 pm
Aqueous Thin Film Deposition on a Self-Assembled Monolayer | Milana Thomas
5:25 pm - 5:45 pm
Lignin-based Surfactants for Emulsifying and Agricultural Applications | Kedar Perkins
5:45 pm - 6:05 pm
Determining the Minimal Inhibitory Concentration of Arsenic for Dehalococcoides ethenogenes strain 195 | Coty Weathersby
Wednesday, November 1

Technical Session 13
Analytical Chemistry IV | Radisson, New Sweden 1

4:00 pm - 4:20 pm  Investigation of Highly Fluorescent Environmentally Persistent Free Radical Surrogates Through Biological Evaluation | Ansonia Badgett

4:20 pm - 4:40 pm  Paper-based Dried Blood Spheroids for Stabilization of Labile Organic Compounds Stored in Ambient Air | Deidre Damon

4:40 pm - 5:00 pm  Interactions of platinum(II) small molecules with RNA and implications of platination on RNA depurination and cell cytotoxicity | Bett Kimutai

5:00 pm - 5:20 pm  Surface modification of gold thin film via electrografting for the coupling of surface plasmon resonance and electrokinetic method | Ornella Sathoud

5:20 pm - 5:40 pm  Zinc Oxide Nanoparticle Composites from Keratin, Cellulose and Chitosan: Synthesis and Antimicrobial Properties | Sierra Sterling

5:40 pm - 6:00 pm  Hydrophobic Thread Spray Mass Spectrometry for Direct Analysis of Illicit Drugs in Complex Mixtures | Devin Swiner

Technical Session 14
STEM Education | Radisson, New Sweden 2

4:00 pm - 4:20 pm  Creating a STEM Pathway: An Evaluative Analysis of The NOBCChE-Eagle Village Science Academy at Westlake Middle School | Alexis Patterson

4:20 pm - 4:40 pm  A Multiyear Analysis of the Flipped Classroom for General Chemistry I Students at Virginia State University and a Reflective Discussion since the last Published Data | Colleen Taylor

4:40 pm - 5:00 pm  How National Labs And Other Institutions Can Leverage Large Postdoctoral Populations for Mentoring Aspiring African American High School Researchers | Jo-Quel West

Technical Session 15
Analytical V | Radisson New Sweden 3

4:00 pm - 4:20 pm  A Potential Photoprotective Ingredient for Commercial Sunscreens: Photostability and Kinetic Dynamics of the Novel B-Ketoester Ethyl Benzoylacetate (EBA) | DeVonna Gatlin

4:20 pm - 4:40 pm  Directed electroless deposition of Nickel nanostructures on patterned self-assembled monolayers and magnetic response detection using Magnetic Sample Modulation | Neepa Kuruppu arachchige

5:00 pm - 5:20 pm  Voltammetric Application of Microelectrode Array for the Detection of DNA Methylation in GSTP-1 | Kenton Meranord

5:20 pm - 5:40 pm  The effect of CO2 treatment on the gas separation performance of polydimethylsiloxane for production of oxygen and nitrogen enriched air | Emmanuell Ogbole

5:40 pm - 6:00 pm  Quartz Crystal Microbalance Based Multisensor Array for Detection of VOCs Using Phthalocyanine GUMBOS | Stephanie Vaughan

Thursday, November 2

Professional Technical Session 1
University Scientists and Their Advancements in Research and Development | Radisson, New Sweden 1

8:00 am - 8:20 am  Sex differences in effects of aryl hydrocarbon deficiency to mitigate harmful effects of polychlorinated biphenyls on glucose homeostasis during weight loss in obese mice | Erin Jackson

8:20 am - 8:40 am  Forensic Analysis of Automotive Paint Evidence using Direct Analysis in Real Time Mass Spectrometry | Mark Maric

8:40 am - 9:00 am  Solvent Dependence of Rose Bengal Photooxidation Monitored by Dynamic Multivariate Fluorescence | Sharon L Neal

9:00 am - 9:20 am  Synthesis of Non-halogenated Phosphorus Flame Retardants for Engineering Resins | Dr. Dwight Patterson

Technical Session 16
Medicinal Chemistry | Radisson New Sweden 2

8:00 am - 8:20 am  Discovery of Aryl Isonitriles as Antibacterial and Antifungal Agents | Kwaku Kyei-Baffour

8:20 am - 8:40 am  Synthesis, DNA binding study and anticancer activity of organonitrogen sulfonato complexes on hormone-dependent MCF-7 and hormone-independent triple-negative MDA-MB-231 breast cancer cells | Tijesunimi Odebode

8:40 am - 9:00 am  Discovery and Structure-Activity Relationships of New Natural Products-Based Antitrypanosomal Agents | Ifedayo Victor Ogungbe

Henry McBay Award Session
| Radisson, Norway 2-3

10:00 am - 10:40 am  Next Generation Carbon Nanomaterials for Water Purification | Reginald Rogers, Henry McBay Award Winner

10:40 am - 11:00 am  Navigating Funding Opportunities in Chemistry at the National Science Foundation | C. Michelle Jenkins

11:00 am - 11:20 am  GAP (Gender and Persistence) Analysis: Revealing the Issues, Realizing the Potential and Reaping the Benefits | Stacie LeSure

11:20 am - 11:40 am  Nanoscience Research for High School Students at Hampton University | Peter Njoki

11:40 am - 12:00 pm  Observation of a green photocatalytic method to prepare silver-cellulose nanocomposites gels and films | Tracy Brown
Professional Technical Session 2
Recent Advancements in Government Research
Radisson, New Sweden 1

10:00 am - 10:20 am  Energy and Fuels from Tailored Nanomaterials and
Electrochemical Interfaces | Eric Coleman

10:20 am - 10:40 am  Solar fuel production using inexpensive 2-dimensional
transition metal nitrides | Abdoulaye Djire

10:40 am - 11:00 am  Viscosity models for hydrocarbons at extreme conditions: A review and comparative study | Dr. Isaac Gamwo

11:00 am - 11:20 am  Effect of Pre-Reaction Ball Milling of LaPO4*H2O + Na2CO3 on Kinetic Parameters of the LaPO4 Roasting Reaction | Murphy Keller

11:20 am - 11:40 am  Fabrication of Photosensitive Nanoparticle Delivery Systems for Controlled Release of Redox-regulating Drug Therapies | Treniece Terry

11:40 am - 12:00 pm  Microwave Utilization in Nuclear Materials for Wasteforms and Fuel Processing | Aaron Washington

Technical Session 17
Catalytic/Synthetic Chemistry & Engineering II
Radisson New Sweden 2

10:15 am - 10:35 am  Design of Novel Platinum Based Ultra-Thin Electrocatalysts for Fuel Cells | Crystal Bell

10:35 am - 10:55 am  Low-pressure performance evaluation of CO2, H2O and CH4 on Li-LSX for air purification | Franklin Epiepang

10:55 am - 11:15 am  Synthesis and characterization of Co2-xRuxP and Co2-xRhxP nanoparticles: Novel catalysts for water splitting and hydrodesulphurization | Samuel Mutinda

11:15 am - 11:35 am  The Redox Auxiliary Promoted Isomerization of Stilbenes | Chinenyeze Nwankwoala


11:55 am - 12:15 pm  Electroless deposition of Sn-Cu alloy on carbon black (CB) particles and graphite materials for lithium-ion battery composite anodes | Venroy Watson

Technical Session 18
Regenerative Engineering | Radisson New Sweden 2
Sponsored by AIChE

1:30 pm - 1:50 pm  Vascularized 3D BBB Models for Pathobiology of VEEV | Andre Adams

1:50 pm – 2:10 pm  Limb Regenerative Engineering: Nailing It From the Start | Aundrya Montgomery

Why Choose DUKE MATERIALS SCIENCE & ENGINEERING?

A thriving, multi-disciplinary research environment offering unique opportunities to participate in the latest research. Our program brings together Duke experts in biomaterials, computational materials discovery, electronic & photonic materials, energy materials, metamaterials and soft materials

A welcoming, inclusive and close-knit community of peers & mentors—students progress together in cohorts, while each student receives personal attention from faculty

A highly entrepreneurial culture, with the Engineering Innovation & Entrepreneurship program and a strong record of student, faculty and alumni startup successes

A terrific location in one of America’s award-winning cities—plus a lower cost of living compared to the Northeast and West Coast

matsci.duke.edu
Monday, October 30

Professional Development 1:
Social Media Boot Camp: Improving Your Professional Appearance

3:00 pm - 4:30 pm | New Sweden 1

Looking to appear like the ideal candidate to potential employers? Learn how to enhance your professional appearance on social media with key tips from one of the field’s most profound experts. This interactive workshop will provide helpful pointers on ways to effectively promote your brand and skill-sets using platforms (e.g. LinkedIn, Facebook, etc) to land your dream career.

Eric Anderson

Professional Development 2:
Setting Up Your Career Successfully: Nailing The Interview

4:00 pm - 5:00 pm | Marriott Deer/Elk Lake

Be like the earlybird and prepare ahead of time for the interview. Advice disseminated by a panel composed of professionals from various industry entities (SC Johnson, Procter and Gamble, Zymo Research) during this workshop will prove resourceful in interviewing. Become familiar with the challenges and red zones encountered during the interview process and learn how to successfully avoid and overcome these areas.

Dr. Dhalia Haynes
SC Johnson

Dr. Chyree Batton
SC Johnson

Dr. Atiya Jordan-Brown
Procter & Gamble

Dr. Kevin Frazier
Zymo Research

Tuesday, October 31

Professional Development 3:
Communicating Your Science Effectively: Enhancement of Hard & Soft Skills

2:00 pm - 3:00 pm | Marriott Excelsior/Lafayette Bay

Elevate communication of your science and professionalism to another level. Communicating the attributes an individual has to offer to an organization are just as critical for advancement in academia and industry as effectual distribution of one’s research and interests to various audiences. With potential high risks at stake in both scenarios, learn to advocate for yourself in varied settings (e.g. interview, networking event, presentation) while avoiding these challenges by applying techniques and strategies gained during this workshop.

Dr. Arthur Martin
Application Technology Manager
Daikin America, Inc., R & D Technical Center

Wednesday, November 1

Professional Development 4:
NIST Symposium: Our NISTory: Conversations with NIST Research Scientists

9:00 am - 12:00 pm | Marriott Deer/Elk Lake

Be like the earlybird and prepare ahead of time for the interview. Advice disseminated by a panel composed of professionals from various industry entities (SC Johnson, Procter and Gamble, Zymo Research) during this workshop will prove resourceful in interviewing. Become familiar with the challenges and red zones encountered during the interview process and learn how to successfully avoid and overcome these areas.

Dr. Jeanita S. Pritchett
National Institute of Standards and Technology

Dr. Regine Easley
National Institute of Standards and Technology

Dr. Dr. Regina Easley
National Institute of Standards and Technology
Wednesday, November 1

Professional Development 5: Financial Literacy: Know Your Coins!
2:00 pm - 3:15 pm | Marriott Excelsior Bay

You just recently graduated and or transitioned into a new career. Now what? During this informative workshop become more knowledgable on concepts relevant to saving, loan repayment, and investment opportunities from local financial advisor, Kiley Demery. Topics including retirement and 401K options will also be discussed.

Kiley Demery
Wells Fargo

Thursday, November 2

Professional Development 6: Forensics Workshop
10:00 am - 12:00 pm | Radisson Scandinavian Ballroom 4

In this workshop we will introduce forensic pattern evidence and discuss the role that statistics plays in the collection and interpretation of evidence. Attendees will get a first-hand experience at being a forensic examiner by conducting a visual analysis of forged signatures and ink fingerprints. We will also give a brief introduction to machine learning and demonstrate an application in forensic science.

Nick Berry
Center for Statistics and Applications in Forensic Evidence (CSAFE)
PhD Candidate, Iowa State University

Alicia Carriquiry
President’s Chair and Distinguished Professor of Statistics
Director, Center for Statistics and Applications in Forensic Evidence (CSAFE)
Iowa State University

Amy Crawford
Center for Statistics and Applications in Forensic Evidence (CSAFE)
PhD Student, Iowa State University

Chemical Engineering at Michigan

NOBCChE Career Expo
Tuesday, October 31, 2017
Booth 316

Why Michigan?
- World-Class University with Top-Ranked Programs
- 27 ChE Core Faculty
- Fellows: 14 NSF; 3 NDSEG; 1 NIH
- 4 University of Michigan Training Grants
- Fall 2017 Enrollment: 162; 110 Male, 52 Female

Dr. Lola Eniola-Adefeso, Associate Chair for Graduate Education, Dr. Robert Ziff, Graduate Student Recruiting Chair, and graduate students will be at our booth, to answer your questions. Or, email us at che-gradquestions@umich.edu.

www.engin.umich.edu/che

Professional Development 7: Careers in Academia
3:00 pm - 4:00 pm | Radisson Norway 1

Are you passionate about education and considering pursuing a career as an educator? Are you aware of your options? What about the criteria in order to do so and the requirements at any academic levels? Participate in an interactive workshop with panelists from diverse academic capacities including community college/2yr institutions and 4yr institutions on discussions about their career paths into education. Be informed on the pros and cons of working at each type of institution and essentially how to excel in academia.

Dr. Isiah Warner
LSU

Dr. Danielle Kohen
Carelton College
With nearly 157,000 members in over 140 countries worldwide, the American Chemical Society (ACS) empowers and energizes the chemists of today and nurtures the ones of tomorrow. Be the very best you can be and take your place today as a member of the ACS. Please visit Booth 305 to apply.

Attendees who join ACS during the 44th NOBCChE® Conference receive a generous discount towards their first year of membership. Join for multiple years and save even more!

As a family company, we work hard to create innovative, quality products for other families. We also strive to be responsible corporate citizens, helping protect the planet’s resources, giving back to local communities and being a great place to work. Maybe that’s why families have trusted our products for five generations.
With nearly 157,000 members in over 140 countries worldwide, the American Chemical Society (ACS) empowers and energizes the chemists of today and nurtures the ones of tomorrow.

Be the very best you can be and take your place today as a member of the ACS.

Please visit Booth 305 to apply.

Attendees who join ACS during the 44th NOBCChE® Conference receive a generous discount towards their first year of membership. Join for multiple years and save even more!
**Special Session Agenda**

**Monday, October 30**

**Demographics of STEM Faculty at Research Universities: The Nelson Diversity Surveys**
10:00 am - 11:30 am | Marriott Deer/Elk Lake

The Nelson Diversity Surveys provide national data on demographics of tenured and tenure-track faculty in the top 100 departments in each of 15 STEM disciplines, as ranked by NSF according to research funding expenditures. The surveys are whole populations, which are disaggregated by discipline, by race, by rank, and by gender. They provide a national benchmark for each discipline, so that a STEM department or group can compare their own data versus those in the Nelson Diversity Surveys, in order to determine if their diversification efforts are doing better or worse than the national averages in their own discipline. Because the surveys were carried out using a single methodology, disciplines can be compared, so the data are pertinent to most STEM disciplines. The data set is unique in its range and rigor, and nothing is comparable to it for faculty data.

**Dr. Donna J. Nelson**
Professor, Department of Chemistry and Biochemistry, University of Oklahoma, 2016 American Chemical Society President

**Tuesday, October 31**

**Convergence in Regenerative Engineering: NOBCChE Master Scientist Lecture Event**
4:00 pm - 6:00 pm | Radisson Scandinavian Ballroom 1-2

Regenerative Engineering has been defined as the Convergence of Advanced Materials Science, Stem Cell Science, Physics, Developmental Biology and Clinical Translation. In this combined Plenary Session three individuals who are NOBCChE Master Scientists, members of the Regenerative Engineering Society, and Fellows of AIChE will present their work focusing on aspects of Convergence in Regenerative Engineering.

- **Cato Laurencin**, M.D., Ph.D.
University of Connecticut, Professor, Connecticut Institute for Clinical and Translational Science, CEO, Institute for Regenerative Engineering, Director

- **Guillermo Ameer**, ScD
Northwestern University, Professor, McCormick School of Engineering/Vascular Surgery, ProSorp Bio Tech, CEO

- **Paula Hammond**, Ph.D.
Massachusetts Institute of Technology, Professor, Head of Department of Chemical engineering, David H. Koch Professor of Engineering, Chair

**Wednesday, November 1**

**Industrial Forum**
1:45 pm - 3:45 pm | Marriott Deer/Elk Lake

**Part I: Science and Technology in Industry**
1:45 pm - 2:45 pm | Marriott Deer/Elk Lake

Make the connection between science and end product by understanding how science and technology are leveraged throughout the product research & development life cycle. Join us as industry leaders, Corning Incorporated, Colgate-Palmolive, 3M and Daikin America provide an overview of their unique company profiles. Learn more about the product mix, technologies and businesses serviced by each of company. Learn about each company’s product mix as well as the context in which science is applied during the research & development life cycle.
**Thursday, November 2**

**NSF Centers for Chemical Innovation Science Communication Skills Workshop**
3:00 pm - 4:00 pm | Radisson Norway 2-3

Effective science communication, whether verbal, written, or graphic, is a necessary skill for leaders in STEM, but explicit practice of these skills in research degree programs is often lacking. The goal of this session is to provide actual experience with communication skills that enhance scientific communication in order to foster collaboration, innovation, productivity, and leadership as well as public dissemination of information. The NSF Centers for Chemical Innovation (CCIs) tackle grand chemical research challenges while exploring new ways to share Center science with the scientific community and general public. This session will briefly introduce strategies for effective science communication for various environments and audiences, both formal and informal. Participants will then engage in a hands-on activity to outline a blog post or public-friendly talk about their own research.

Dr. Danielle Watt

Dr. Miriam Krause

---

**Wednesday, November 1** Sponsored by Corning

**Part II: From University to Industry: Essential Skills for Industry Success (Panel Discussion)**
2:45 pm - 3:45 pm | Marriott Deer/Elk Lake

The successful implementation of strategies and the application of various skills is critical to academic success. While many of these skills and strategies overlap, there are unique challenges posed in industry that are not encountered in the university environment. This panel discussion aims to address the essential skills needed to succeed in industry and highlight key differences in strategy and skillset needed to succeed in academia and successfully practice science and engineering in the corporate environment.

Deon Hines, PhD
Research Scientist
Colgate-Palmolive Co.

Gregory E. Williams, Ph.D.
Corning Incorporated
Science & Technology Division Performance Excellence Champion

Dr. Arthur Martin
Application Technology Manager
Daikin America, Inc., R&D Technical Center

Dr. Bridgette R. Shannon
3M Company Product Development Specialist

Deon Hines, PhD Research Scientist Colgate-Palmolive Co.

Gregory E. Williams, Ph.D. Corning Incorporated Science & Technology Division Performance Excellence Champion

Dr. Arthur Martin Application Technology Manager Daikin America, Inc., R&D Technical Center

Dr. Bridgette R. Shannon 3M Company Product Development Specialist

**For more than a century, we’ve worked in service of humanity. As inventors. As leaders. As pioneers. At Merck, we work relentlessly to find solutions to many of the world’s most devastating diseases. To develop the medicines and vaccines that contribute to widespread medical advancement.**

Every day we see driven people like you help to fuel leading-edge medical innovations that affect the world, and we want you to be one of them. Through a culture of applied inquiry and a drive to invent, we’re transforming lives in new and promising ways. Join us on a quest to cure.

**merck.com/careers**

Merck is proud to embrace diversity in all its manifestations | EOE M/F/D/V
Exhibitors & Sponsors

4, 5, 6, 7
315 AAAS Science & Technology Policy Fellowships
117 Air Force Technical Applications Center
305 American Chemical Society
112 Ames Laboratory, U.S. DOE
16 Argonne National Laboratory
214 ASEE
307 Auburn University
12 Cargill
22 Center for Materials Research, Norfolk State University
309 Center for Talent Development
110 Clemson University, Chemical & Biomolecular Engineering
21 Colgate-Palmolive
306 Cornell University
18 Corning Incorporated
203 Duke University
1 Ecolab
15 ExxonMobil
322 Emory University
102 FAMU-FSU College of Engineering
107 Florida A&M
310 Georgia Southern University
111 Georgia Tech - School of Chemistry & Biochemistry
19 GlaxoSmithKline
13 Indiana University Bloomington
14 Johns Hopkins University
24 Lawrence Livermore National Laboratory
319 Louisiana State University
120 Marquette University
17 Merck
308 Michigan State University
206 National Institute of Standards and Technology
311 New York University Department of Chemistry
1.2 NOBCChE
312 North Carolina State University
209 Northwestern University
11 NSF Centers for Chemical Innovation
207 ORAU
108 ORISE
9 P&G
25 Purdue University
314 Rensselaer Polytechnic Institute
123 Sandia National Laboratory
113 Savannah River National Laboratory
20 SC Johnson
3 Surmodics, Inc.
119 SUNY College of Oneonta
216 Texas A&M University
213 Texas Southern University
114 The National GEM Consortium
23 The Ohio State University Department of Chemistry and Biochemistry
219 The University of Iowa
316 The University of Michigan Department of Chemical Engineering
210 University of Alabama in Huntsville
10 University of California, Berkeley
215 University of California, Davis
212 University of Delaware
217 University of Illinois Department of Chemistry
220 University of Kansas
318 University of Louisville
208 University of Maryland
211 University of Minnesota
218 University of Mississippi
118 University of Missouri - College of Engineering
116 University of North Carolina Greensboro
113 University of Pennsylvania
317 University of Pittsburgh
320 University of Rochester School of Medicine and Dentistry
205 University of Wisconsin Madison Chemistry Department
106 Vanderbilt University

NOBCChE Would Like To Thank Our Conference Sponsors

Platinum

Gold

Bronze

Silver

General

Biophysical Society
COACh
National Science Foundation
Science Gateway Institute

Exhibitors & Sponsors
Corning Science & Technology

a proud sponsor of the 2017 NOBCChE® annual conference

Corning is one of the world’s leading innovators in materials science, with a 166-year track record of life-changing inventions. Corning applies its unparalleled expertise in glass science, ceramics science, and optical physics along with its deep manufacturing and engineering capabilities to develop category-defining products that transform industries and enhance people’s lives. Corning succeeds through sustained investment in RD&E, a unique combination of material and process innovation, and deep, trust-based relationships with customers who are global leaders in their industries.

Learn more at corning.com

© 2017 Corning Incorporated. All Rights Reserved.
Award Winners

Percy Julian

Dr. Olester Benson, Jr.

Dr. Luisa Whittaker-Brooks

Henry McBay

Dr. Reginald Rogers, Jr.

Joseph Cannon

Dr. Isaac Gamwo

G. Dale Wesson

Lloyd Ferguson

Winifred Burks-Houck Graduate Awardee

Treva Brown

Winifred Burks-Houck Undergraduate Awardee

Patience Mukashyaka

Winifred Burks-Houck Professional Award

Dr. Maria Curry-Nkasah

HBCU Pioneer Award

Carroll A. Thomas, M.B.A.
Director of the Hollings Manufacturing Extension Partnership (MEP) at the National Institute of Standards and Technology (NIST)

NOBCChE Lifetime Achievement Award

Alvin Kennedy, Ph.D.

NOBCChE Presidential Award

Talitha Hampton, M.S.E.

Albert Thompson, Jr., Ph.D.

Roderquita K. Moore, PhD.

Mentor on the Map

Dr. Claudia Turro

3M celebrates the accomplishments of people who work to improve lives everyday.

3M congratulates Dr. Olester Benson, 3M Corporate Scientist and NOBCChE’s 2017 Percy L. Julian Award recipient.

© 3M 2017. All rights reserved. 3M is a trademark of 3M.
3M celebrates the accomplishments of people who work to improve lives everyday.

3M congratulates Dr. Olester Benson, 3M Corporate Scientist and NOBCChE’s 2017 Percy L. Julian Award recipient.
# NOBCChE 2017 Conference National Planning Committee

Our heartfelt thanks goes out to the members of the National Planning Committee who gave so generously of their time, talent and treasure to ensure the success of this year’s conference.

## Business Development
Murrell Godfrey, Ph.D.
Rena Robinson, Ph.D.
Simon Shannon, Ph.D.

## Awards and Special Sessions
Chandra Harrington, Ph.D
Ashley Wallace, Ph.D.

## Communications
Brittany Allison Ph.D.
Irving Cashwell M.S.
Ashley Taylor, M.S.
Donovan Thomas, M.S.

## Professional Development
Jessica Simpson

## STEM Week
Steven Thomas, M.S.
Racquel Jemison, Ph.D.

## Student Development
Regina Akhimie
LaRico Treadwell

## Technical Sessions
Darryl Boyd, Ph.D.
Roderquita Moore Ph.D.

---

## STEM Week Agenda

### Tuesday, October 31

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:00 pm - 8:00 pm</td>
<td>Marriott – Atrium</td>
<td>STEM Week Registration</td>
</tr>
<tr>
<td>5:00 pm - 7:00 pm</td>
<td>Radisson – New Sweden 1</td>
<td>STEM Week Volunteer Training 1 (Science Fair)</td>
</tr>
<tr>
<td>6:00 pm - 7:00 pm</td>
<td>Radisson – New Sweden 3</td>
<td>Science Bowl Coaches’ Orientation</td>
</tr>
<tr>
<td>6:00 pm - 7:30 pm</td>
<td>Radisson – New Sweden 2</td>
<td>STEM Week Ice Breaker</td>
</tr>
</tbody>
</table>

### Wednesday, November 1

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 am - 9:30 am</td>
<td>Marriott – Ballrooms 1-2</td>
<td>Kick-off Breakfast</td>
</tr>
<tr>
<td>8:00 am - 5:00 pm</td>
<td>Marriott – Atrium</td>
<td>STEM Week Registration</td>
</tr>
<tr>
<td>10:00 am - 12:00 pm</td>
<td>Marriott – Ballrooms 3-4</td>
<td>STEM Week Science Fair</td>
</tr>
<tr>
<td>11:00 am - 2:00 pm</td>
<td>Marriott – Ballrooms 3-4</td>
<td>STEM Festival and College Fair</td>
</tr>
<tr>
<td>3:00 pm - 5:00 pm</td>
<td>Radisson – Finland</td>
<td>Science Bowl Volunteer Training</td>
</tr>
</tbody>
</table>

### Thursday, November 2

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 am - 5:00 pm</td>
<td>Marriott – 8th Floor Hallway</td>
<td>STEM Week Registration</td>
</tr>
<tr>
<td>10:00 am - 11:00 am</td>
<td>Radisson – Norway 1</td>
<td>College Scholarship Panel</td>
</tr>
<tr>
<td>2:00 pm - 3:00 pm</td>
<td>Radisson – Norway 1</td>
<td>College Student Panel</td>
</tr>
<tr>
<td>5:00 pm - 8:00 pm</td>
<td>Marriott – Spring Park Bay, Lafayette Bay, Gray’s/Wayzata Bay, Lake Calhoun, Lake Nokomis, Excelsior Bay</td>
<td>Science Bowl</td>
</tr>
</tbody>
</table>

### Friday, November 3

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 am - 12:00 pm</td>
<td>Marriott – 8th Floor Hallway</td>
<td>STEM Weekend Registration</td>
</tr>
<tr>
<td>10:00 am - 4:00 pm</td>
<td>Marriott – Spring Park Bay, Lafayette Bay, Gray’s/Wayzata Bays, Lake Calhoun, Lake Nokomis, Excelsior Bay</td>
<td>Science Bowl</td>
</tr>
<tr>
<td>6:00 pm - 9:00 pm</td>
<td>Radisson – Scandinavian Ballroom</td>
<td>STEM Weekend Awards Dinner</td>
</tr>
</tbody>
</table>
Changing the Face of STEM...One Student At Time

The Alfred P. Sloan Foundation University Center of Exemplary Mentoring (UCEM) is enabling USF to become a national leader in developing the next generation of diverse scientists, engineers, faculty, and research innovators. Our scholars and alumni have won national awards (NSF, NASA, Ford, Fulbright, NRC, Whitaker, etc.) and obtained positions within academia, industry, and government. USF is inspiring Student Success!

Benefits include the following:

- Cutting-edge research training*
- 5-year funding and augmented financial support
- Mentoring /Advocacy
- Professional/Career development activities

*According to the National Academy of Inventors, USF was ranked 9th nationally among public universities worldwide for U.S. patents granted in 2015.
Join us Wednesday, November 1, 2017, 10:15 am - Noon for Technical Session 7: Computational Chemistry Session 1

The Science Gateway Institute is proud to sponsor computational chemistry research presentations during the 2017 NOBBCChE Conference in Minneapolis, Minnesota

Dr. William Lester, Jr
Quantum Monte Carlo for Molecular Systems: Electronic Structure

Quentarius Moore, Texas A&M/Jackson State University
Interaction of Selected Species with Carbon Nanoparticles

Dr. Bruce M. Prince, University of North Texas
An in Silico Study of Methane C—H Activation by Earth-Abundant Metal-Amide/Aminyl Complexes

Adonay Sissay, Louisiana State University
Angle-dependent strong-field molecular ionization rates with tuned range-separated time-dependent density functional theory

Uche Anene, Long Island University
Modeling of Reactive Oxygen Species Using Ab Initio Methods

Community, Leadership, and Partnerships

A Science Gateway is a community-developed set of tools, applications, and data that are integrated via a portal or a suite of applications, usually in a graphical user interface, that is further customized to meet the needs of a specific community. Gateways allow Chemistry educators and researchers to use national resources through a common interface that is configured for optimal use. Gateways also foster collaborations and the exchange of ideas.

This project is funded by a grant from the National Science Foundation.
NSF Grant Number 1216668
We attract and retain the most talented people by investing in training and development tailored to their needs and building on their strengths. And, through our approach to leadership development, our managers learn how to motivate team members to perform at their best.

Find a career with purpose at gsk.com/careers

Pheliswa
Laboratory Analyst,
Qc Cell Leader 2

GSK is an Equal Opportunity/Affirmative Action Employer.