



ENVR Program Summary

August 13-17, 2023

San Francisco, CA & Online

*Virender K. Sharma, ENVR Fall Program Chair; Mallikarjuna Nadagouda, ENVR Assistant Fall Program Chair
Sherine Obare, Division Chair*

All times are Pacific Daylight Savings Time Zone (USA). Oral sessions will not be recorded, but individual presentations may be available for On-Demand viewing after the meeting, at the discretion of the presenters.

Three types of **ENVR Oral Sessions** are offered Sunday through Thursday:

Hybrid: Presenters and attendees may join the sessions in the **Moscone Center, West Building, Level 3**, or on the [Virtual Meeting Platform](#). Interactive Q&A is available in person and online.

In Person: Presenters and attendees may join sessions in the Moscone Center, West Building. No virtual participation.

Virtual: Sessions may be accessed via the [Virtual Meeting Platform](#). Q&A will use zoom chat.

New Poster Time! ENVR Poster Sessions will be Wednesday, August 16, **12:00-2:00 PM**.

- In Person Poster Sessions will be held in **Hall A, Moscone Center, South Building**.
- Virtual Poster Sessions may be accessed via the [Virtual Meeting Platform](#). Presenters will be located with their posters in separate break-out rooms, and attendees may move between breakout rooms to view and discuss posters.

NON-TECHNICAL EVENTS

WORKSHOP – Discovery and Discussion of Per- and Polyfluoroalkyl Substances (PFAS): Saturday, August 12, 12:00pm - 04:00pm, Nikko I (Hotel Nikko San Francisco). ***Ticket required: \$30, Available with registration.*** This half-day session provides a forum for a deeper dive for PFAS researchers to discuss the status and trends in PFAS mitigation strategies and research. What is working? What is not working? What research/insight is still needed? Rather than a traditional symposium, this afternoon will be spent meeting other PFAS researchers, where the participants will work together towards a current perspective on PFAS. We will start with lunch and move towards discussion. This is a great way to kick off the meeting week, with a full daily line-up of PFAS symposia. All PFAS symposia participants are encouraged to participate, as well as others who are

working in this area. We are planning to do a write a report and follow with interested people to work on a perspective article. Organizer: Narasimhan Loganathan, naresh20@msu.edu

ENVR LONG RANGE PLANNING MEETING: Sunday, August 13, 1:00-2:00 PM, Room 3024 (Moscone Center--West)

ENVR ANNUAL MEMBERS' BUSINESS MEETING: Sunday, August 13, 7:00-7:30 PM, Room 3024 (Moscone Center--West)

ENVR EXECUTIVE COMMITTEE MEETING: Sunday, August 13, 7:30-10:00 PM, Room 3024 (Moscone Center--West)

ENVR PROGRAM PLANNING LUNCH MEETING: Monday, August 14, 12:00-1:30 PM, Room 3024 (Moscone Center--West) Are you an ENVR symposium organizer or interested in organizing future ENVR symposia? You are invited to the *cool kids' lunch table!* Bring your programming ideas and comments to share. [RSVP](#)

ENVR SOCIAL – RECEPTION: Tuesday, August 15, 6:00pm - 8:00pm, at Monarch, 101 6th St., San Francisco. *Ticket required: \$20, Available with registration.* A few tickets may be available at the door—but don't wait!

TECHNICAL SESSIONS

SUNDAY

Hybrid Session - Morning

8:00 AM - 12:00 PM (PDT)

Impact of PFAS on Environment and Health

Cosponsored by COLL, GEOC and TOXI

S. Belcher, N. Loganathan, A. Slitt, A. K. Wilson, *Organizers, Presiding*
Moscone Center, Room 3005, West Bldg.

Methods and Modeling for Evaluating and Mitigating Plastic Pollution in Air, Land, and Water

M. Gallagher, *Organizer*

S. R. Al-Abed, P. Potter, *Organizers, Presiding*
Moscone Center, Room 3003, West Bldg.

In-Person Session - Morning

8:00 AM - 12:00 PM (PDT)

Wildfires: Chemistry and Environmental Impacts on Air, Water, and Soil

Cosponsored by AGFD, AGRO, ANYL, CEI and TOXI

Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community

M. A. Benvenuto, E. Roberts-Kirchhoff, *Organizers, Presiding*

Moscone Center, Room 3006, West Bldg.

Aquatic Science and Technology at Environmental, Disciplinary, and Societal Interfaces: A Symposium Honoring the Career of Janet Hering

Cosponsored by GEOC

K. Campbell, D. Giammar, S. Kraemer, G. Lee, *Organizers, Presiding*

Moscone Center, Room 3001, West Bldg.

Electrochemical Materials and Interfaces for Environmental and Sustainability Challenges

C. Arges, T. Kim, *Organizers*

C. Liu, X. Liu, *Organizers, Presiding*

Moscone Center, Room 3007, West Bldg.

Interfacial PFAS Processes and Mechanisms

C. I. Olivares, J. Ray, *Organizers, Presiding*

Moscone Center, Room 3008, West Bldg.

Materials Development to Address Environmental and Sustainability Challenges Separation Chemistry

Cosponsored by AGFD, AGRO, ANYL

Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community

D. D. Dionysiou, M. Nadagouda, V. K. Sharma, *Organizers*

M. J. Bentel, *Organizer, Presiding*

Moscone Center, Room 3012, West Bldg.

Virtual Session - Morning

10:00 AM - 2:00 PM (PDT)

Remediation of Contaminated Water for Reuse

Cosponsored by ANYL, CEI and CHED

S. Ahuja, K. Sathiyar, *Organizers, Presiding*

Virtual Meeting Platform

General Session: Advances in Environmental Chemistry Life Cycle Assessment /Environmental Risk Analysis

M. Nadagouda, V. K. Sharma, *Organizers, Presiding*

Virtual Meeting Platform

Cosponsored Sessions - Morning

Critical Materials: Perspectives from the Industry, Government, and Research Communities
Strategic vision for critical materials
Sponsored by COMSCI, Cosponsored by ENFL and GEOC

Food Security: The Role of Alternative Protein Sources in Addressing World Hunger
Sponsored by AGFD, Cosponsored by AGRO, ANYL and ENVR

Molecular and Heterogeneous Photocatalysts: Advances in Experiments and Theory
Heterogeneous Photocatalysis: Recent Advances in Experiments and Theory
Sponsored by CATL, Cosponsored by ENFL, ENVR, INOR and PHYS

Electrocatalysis for Sustainable Energy: Fundamental, Applications, & Perspective
Sponsored by CATL, Cosponsored by ENFL, ENVR and PHYS

Environmental Fate, Transport, and Modeling of Agriculturally-related Chemicals
Sponsored by AGRO, Cosponsored by AGFD, ANYL and ENVR

Technological Solutions to Address Food Insecurity, Trade Challenges and Food Waste
Sponsored by AGRO, Cosponsored by AGFD, ANYL, ENVR and ORGN

Hybrid Session - Afternoon

2:00 AM - 6:00 PM (PDT)

Methods and Modeling for Evaluating and Mitigating Plastic Pollution in Air, Land, and Water
P. Potter, *Organizer*
S. R. Al-Abed, M. Gallagher, *Organizers, Presiding*
Moscone Center, Room 3003, West Bldg.

Radiation Chemistry, Aquatic Photochemistry, and Advanced Oxidation Processes in Environmental Chemistry in Honor of William J. Cooper
Advanced Oxidation Processes (AOPs) and Radiation Chemistry
D. D. Dionysiou, K. E. O'Shea, V. K. Sharma, *Organizers, Presiding*
Moscone Center, Room 3005, West Bldg.

In-Person Session - Afternoon

2:00 PM - 6:00 PM (PDT)

Advanced Materials and Technologies for Detection and Treatment of PFAS and Other Emerging Contaminants
Cosponsored by ANYL
N. Aich, S. Andreescu, K. Malekani, *Organizers, Presiding*
Moscone Center, Room 3008, West Bldg.

Aquatic Science and Technology at Environmental, Disciplinary, and Societal Interfaces: A Symposium Honoring the Career of Janet Hering

Cosponsored by GEOC

K. Campbell, D. Giammar, S. Kraemer, G. Lee, *Organizers, Presiding*
Moscone Center, Room 3001, West Bldg.

Aquatic Science and Technology at Environmental, Disciplinary, and Societal Interfaces: A Symposium Honoring the Career of Janet Hering

Cosponsored by GEOC

K. Campbell, D. Giammar, S. Kraemer, G. Lee, *Organizers, Presiding*
Moscone Center, Room 3001, West Bldg.

Impact of PFAS on Environment and Health

Cosponsored by COLL, GEOC and TOXI

S. Belcher, N. Loganathan, A. Slitt, A. K. Wilson, *Organizers, Presiding*
Moscone Center, Room 3006, West Bldg.

Materials Development to Address Environmental and Sustainability Challenges

Separation Chemistry/Agrochemistry

Cosponsored by AGFD, AGRO and ANYL

Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community

D. D. Dionysiou, M. Nadagouda, V. K. Sharma, *Organizers*

M. J. Bentel, *Organizer, Presiding*

Moscone Center, Room 3012, West Bldg.

Virtual Session - Afternoon

3:00 PM - 7:00 PM (PDT)

Remediation of Contaminated Water for Reuse

Cosponsored by ANYL, CEI and CHED

S. Ahuja, K. Sathiyar, *Organizers, Presiding*
Virtual Meeting Platform

Cosponsored Sessions - Afternoon

Critical Materials: Perspectives from the Industry, Government, and Research Communities

Multi-faceted Perspectives of Critical Materials

Sponsored by COMSCI, Cosponsored by ENFL, ENVR and GEOC

Developments and Future Challenges in Environmental Catalysis

Sponsored by CATL, Cosponsored by ENVR

Biorational Technologies for Control of Invasive Pests in a Changing Climate

Sponsored by AGRO, Cosponsored by AGFD, ANYL, ENVR and ORGN

Electrocatalysis for Sustainable Energy: Fundamental, Applications, & Perspective
Sponsored by CATL, Cosponsored by ENFL, ENVR and PHYS

Environmental Fate, Transport, and Modeling of Agriculturally-related Chemicals
Sponsored by AGRO, Cosponsored by AGFD, ANYL and ENVR

Epidemiology: A Growing Field in Agrochemistry and Agrochemical Regulation
Sponsored by AGRO, Cosponsored by AGFD, CHAL, ENVR and TOXI

Food Security: The Role of Alternative Protein Sources in Addressing World Hunger
Sponsored by AGFD, Cosponsored by AGRO, ANYL and ENVR

Molecular and Heterogeneous Photocatalysts: Advances in Experiments and Theory
Spectroscopy and Molecular Photocatalysis
Sponsored by CATL, Cosponsored by ENFL, ENVR, INOR and PHYS

Technological Solutions to Address Food Insecurity, Trade Challenges and Food Waste
Sponsored by AGRO, Cosponsored by AGFD, ANYL, ENVR and ORGN

MONDAY

Hybrid Session - Morning

8:00 AM - 12:00 PM (PDT)

Plastic Pollution and E-Waste: Treatment and Valorization

Cosponsored by BIOT, CATL, CELL, ENFL and I&EC

E. Sallam, B. Sang, J. Seo, *Organizers, Presiding*

Moscone Center, Room 3003, West Bldg.

Radiation Chemistry, Aquatic Photochemistry, and Advanced Oxidation Processes in Environmental Chemistry in Honor of William J. Cooper

UV-based Processes and Photocatalysis

D. D. Dionysiou, K. E. O'Shea, V. K. Sharma, *Organizers, Presiding*

Moscone Center, Room 3005, West Bldg.

In-Person Session - Morning

8:00 AM - 12:00 PM (PDT)

Advanced Materials and Technologies for Detection and Treatment of PFAS and Other Emerging Contaminants

Cosponsored by ANYL

N. Aich, S. Andreescu, K. Malekani, *Organizers, Presiding*

Moscone Center, Room 3008, West Bldg.

Environmental Chemistry and Nanotechnology: A Tribute to Joel Pedersen

H. Fairbrother, R. J. Hamers, M. Suffet, *Organizers*

F. L. Rosario, *Organizer, Presiding*

Moscone Center, Room 3007, West Bldg.

Processes and Risks of Micro-& Nano-Plastics in the Environment

F. Dang, V. K. Sharma, C. P. Ward, *Organizers*

B. Xing, J. Zhao, *Organizers, Presiding*

Moscone Center, Room 3006, West Bldg.

Aquatic Science and Technology at Environmental, Disciplinary, and Societal Interfaces: A Symposium Honoring the Career of Janet Hering

Cosponsored by GEOC

K. Campbell, D. Giammar, S. Kraemer, G. Lee, *Organizers, Presiding*

Moscone Center, Room 3001, West Bldg.

Materials Development to Address Environmental and Sustainability Challenges Sustainability & Recovery

Cosponsored by AGFD, AGRO, ANYL

Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community

D. D. Dionysiou, M. Nadagouda, V. K. Sharma, *Organizers*

M. J. Bentel, *Organizer, Presiding*

Moscone Center, Room 3012, West Bldg.

Virtual Session - Morning

10:00 AM - 2:00 PM (PDT)

Remediation of Contaminated Water for Reuse

Cosponsored by ANYL, CEI and CHED

S. Ahuja, K. Sathiyar, *Organizers, Presiding*

Virtual Meeting Platform

General Session: Advances in Environmental Chemistry

Wastewater Treatment / Innovative Analytical Tools for Contaminants Detection and Monitoring

M. Nadagouda, V. K. Sharma, *Organizers, Presiding*

Virtual Meeting Platform

Cosponsored Sessions - Morning

AGRO International Award: Symposium in Honor of Dr. Thomas M. Stevenson for His Contributions to the Discovery of New Fungicides, Herbicides and Insecticides

Sponsored by AGRO, Cosponsored by AGFD, ANYL, ENVR and ORGN

Critical Materials: Perspectives from the Industry, Government, and Research Communities

Recovery of Critical Materials

Sponsored by COMSCI, Cosponsored by ENFL, ENVR and GEOC

Developments and Future Challenges in Environmental Catalysis

Sponsored by CATL, Cosponsored by ENVR

Environmental Monitoring Data Collection, Utility, and Use in Pesticide Risk Assessment and Registration
Sponsored by AGRO, Cosponsored by AGFD, ANYL and ENVR

Understanding and Reducing Anthropogenic Emissions of Methane: Harnessing the Power of Data
Sponsored by I&EC, Cosponsored by CEI, ENFL and ENVR

Biotechnology and Synthetic Biology for Sustainable Foods, Food Ingredients, and Flavor
Sponsored by AGFD, Cosponsored by AGRO, ANYL and ENVR

Portable and Compact Separation Technologies
Sponsored by ANYL, Cosponsored by AGFD, AGRO and ENVR

Zero Waste Strategies: Valorizing Undervalued Agricultural Coproducts and Food Waste
Sponsored by AGRO, Cosponsored by AGFD, ANYL, BMGT, ENFL and ENVR

Forever Chemicals in the Environment, Distribution and Risk
Sponsored by AGFD, Cosponsored by AGRO and ENVR

Hybrid Session - Afternoon

2:00 PM - 6:00 PM (PDT)

Radiation Chemistry, Aquatic Photochemistry, and Advanced Oxidation Processes in Environmental Chemistry in Honor of William J. Cooper

Photochemical Processes in Natural and Engineered Systems

D. D. Dionysiou, K. E. O'Shea, V. K. Sharma, *Organizers, Presiding*
Moscone Center, Room 3005, West Bldg.

Harnessing Data to Improve Oxidation and Disinfection Processes

Cosponsored by BIOT, CEI, PMSE and POLY
K. E. Furst, A. Szczuka, *Organizers, Presiding*
Moscone Center, Room 3003, West Bldg.

In-Person Session - Afternoon

2:00 PM - 6:00 PM (PDT)

Advanced Materials and Technologies for Detection and Treatment of PFAS and Other Emerging Contaminants

Cosponsored by ANYL
S. Andreescu, K. Malekani, *Organizers*
N. Aich, *Organizer, Presiding*
Moscone Center, Room 3008, West Bldg.

Environmental Chemistry and Nanotechnology: A Tribute to Joel Pedersen

H. Fairbrother, R. J. Hamers, F. L. Rosario, *Organizers*
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Aquatic Science and Technology at Environmental, Disciplinary, and Societal Interfaces: A Symposium Honoring the Career of Janet Hering

Cosponsored by GEOC

K. Campbell, D. Giammar, S. Kraemer, G. Lee, *Organizers, Presiding*

Moscone Center, Room 3001, West Bldg.

**Materials Development to Address Environmental and Sustainability Challenges
Sustainability & Recovery/Photo- & Electrochemistry**

Cosponsored by AGFD, AGRO, ANYL

Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community

D. D. Dionysiou, M. Nadagouda, V. K. Sharma, *Organizers*

M. J. Bentel, *Organizer, Presiding*

Moscone Center, Room 3012, West Bldg.

Processes and Risks of Micro- & Nano-Plastics in the Environment

C. P. Ward, B. Xing, J. Zhao, *Organizers*

F. Dang, V. K. Sharma, *Organizers, Presiding*

Moscone Center, Room 3006, West Bldg.

Virtual Session - Afternoon

3:00 PM - 7:00 PM (PDT)

Remediation of Contaminated Water for Reuse

Cosponsored by ANYL, CEI and CHED

S. Ahuja, K. Sathiyar, *Organizers, Presiding*

Virtual Meeting Platform

Cosponsored Sessions - Afternoon

AGRO International Award: Symposium in Honor of Dr. Thomas M. Stevenson for His Contributions to the Discovery of New Fungicides, Herbicides and Insecticides

Sponsored by AGRO, Cosponsored by AGFD, AGRO, ANYL, ENVR and ORGN

Artificial Intelligence (AI) Applications for Food and Agriculture

Sponsored by AGFD, Cosponsored by AGRO, ANYL and ENVR

Critical Materials: Perspectives from the Industry, Government, and Research Communities

Recovery of Critical Materials

Sponsored by COMSCI, Cosponsored by ENFL, ENVR and GEOC

Biotechnology and Synthetic Biology for Sustainable Foods, Food Ingredients, and Flavor

Sponsored by AGFD, Cosponsored by AGRO, ANYL and ENVR

Pesticide Runoff Mitigation: Characterization, Quantification, and Implementation

Sponsored by AGRO, Cosponsored by AGFD and ENVR

Portable and Compact Separation Technologies

Sponsored by ANYL, Cosponsored by AGFD, AGRO and ENVR

Transitioning from the Laboratory to the Landscape: Challenges and Opportunities

Sponsored by AGRO, Cosponsored by AGFD, ANYL, ENVR and TOXI

Adapting Agricultural Chemistry and Practices to a Changing Climate

Sponsored by AGRO, Cosponsored by AGFD, ANYL, CELL, ENFL, ENVR and TOXI

Molecular and Heterogeneous Photocatalysts: Advances in Experiments and Theory

Recent Advances

Sponsored by CATL, Cosponsored by ENFL, ENVR, INOR and PHYS

Zero Waste Strategies: Valorizing Undervalued Agricultural Coproducts and Food Waste

Sponsored by AGRO, Cosponsored by AGFD, ANYL, BMGT, ENFL and ENVR

Food Security: The Role of Alternative Protein Sources in Addressing World Hunger

Sponsored by AGFD, Cosponsored by AGRO, ANYL and ENVR

Virtual Session - Evening

5:30 PM - 10:00 PM (PDT)

Virtual Graduate Students Symposium in Asia-Pacific Region on Current Environmental Issues

Y. Liu, C. Zhao, C. Zheng, *Organizers, Presiding*

Virtual Meeting Platform

Sci-Mix Posters - Evening

8:00 PM - 10:00 PM (PDT)

All ENVR Sci-Mix Posters

Moscone Center, Hall F, South Building

Fentanyl and the Devastating Effects on Students and Young Adults: Dangers, Statistics and Current Status

Sponsored by CHAS, Cosponsored by CATL, CCS, COMSCI, ENVR, MEDI, PROF, SCC, TOXI, WCC and YCC

Moscone Center, Hall F, South Building

TUESDAY

Hybrid Session - Morning

8:00 AM - 12:00 PM (PDT)

Processes and Risks of Micro-& Nano-Plastics in the Environment

F. Dang, V. K. Sharma, B. Xing, *Organizers*

C. P. Ward, J. Zhao, *Organizers, Presiding*

Moscone Center, Room 3003, West Bldg.

Radiation Chemistry, Aquatic Photochemistry, and Advanced Oxidation Processes in Environmental Chemistry in Honor of William J. Cooper

Peroxide-based Processes and Reactions and Radical Chemistry

D. D. Dionysiou, K. E. O'Shea, V. K. Sharma, *Organizers, Presiding*

Moscone Center, Room 3005, West Bldg.

In-Person Session - Morning

8:00 AM - 12:00 PM (PDT)

Environmental Chemistry and Nanotechnology: A Tribute to Joel Pedersen

R. J. Hamers, F. L. Rosario, M. Suffet, *Organizers*

H. Fairbrother, *Organizer, Presiding*

Moscone Center, Room 3007, West Bldg.

Advances in Isolation, Removal, Sensing, Detection, Degradation, and Replacement of PFAS and Future Outlook

N. Kelley-Loughnane, *Organizer*

M. K. Kolel-Veetil, M. Nadagouda, M. K. Shukla, *Organizers, Presiding*

Moscone Center, Room 3006, West Bldg.

Electrified Water Treatment Processes

Cosponsored by AGFD and CATL

W. Chen, W. Tarpeh, L. Winter, X. Xie, *Organizers, Presiding*

Moscone Center, Room 3001, West Bldg.

Materials Development to Address Environmental and Sustainability Challenges

Detection & Remediation

Cosponsored by AGFD, AGRO, ANYL

Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community

D. D. Dionysiou, M. Nadagouda, V. K. Sharma, *Organizers*

M. J. Bentel, *Organizer, Presiding*

Moscone Center, Room 3012, West Bldg.

Women in Science and Engineering (WISE)
Nanomaterials, Surfaces, Interfaces, Membranes and their Applications

Cosponsored by CEI

D. D. Dionysiou, C. Huang, V. K. Sharma, *Organizers, Presiding*
Moscone Center, Room 3008, West Bldg.

Virtual Session - Morning

10:00 AM - 2:00 PM (PDT)

Innovative Materials for Environmental Sustainability
Sustainability

Cosponsored by AGFD, AGRO, ANYL

Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community

A. Orlov, *Organizer, Presiding*

Virtual Meeting Platform

Cosponsored Sessions - Morning

Fentanyl and the Devastating Effects on Students and Young Adults: Dangers, Statistics and Current Status
Television, Congress, and Science: Communities Unite Against Illicit Fentanyl
Sponsored by CHAS, Cosponsored by CATL, CCS, COMSCI, ENVR, MEDI, PROF, SCC, TOXI, WCC and YCC

Natural Polymers - A Back to the Future Approach to Deal with the Plastics Issues
Current Applications and Mass Productions
Sponsored by POLY, Cosponsored by CARB, CELL, ENVR and SCHB

AGRO International Award: Symposium in Honor of Dr. Thomas M. Stevenson for His Contributions to the
Discovery of New Fungicides, Herbicides and Insecticides
Sponsored by AGRO, Cosponsored by AGFD, ANYL, ENVR and ORGN

Electrocatalysis for Sustainable Energy: Fundamental, Applications, & Perspective
Sponsored by CATL, Cosponsored by ENFL, ENVR and PHYS

Pesticides and Other Organics in Urban Environments
Sponsored by AGRO, Cosponsored by ANYL and ENVR

Role of Chemistry in Addressing Hunger and Food Security
Sponsored by AGRO, Cosponsored by AGFD, ANYL, CEI, COMSCI and ENVR

Uses of HPLC-Mass Spectrometry in Support of Agricultural Research and Development - Trends and Best Practices
Sponsored by AGRO, Cosponsored by AGFD, ANYL and ENVR

Zero Waste Strategies: Valorizing Undervalued Agricultural Coproducts and Food Waste
Sponsored by AGRO, Cosponsored by AGFD, ANYL, BMGT, ENFL and ENVR

Hybrid Session - Afternoon

2:00 PM - 6:00 PM (PDT)

Advanced Materials and Technologies for Detection and Treatment of PFAS and Other Emerging Contaminants

Cosponsored by ANYL

S. Andreescu, K. Malekani, *Organizers*

N. Aich, *Organizer, Presiding*

Moscone Center, Room 3003, West Bldg.

Improving Water Quality by Understanding Environmental Chemical Processes: A Symposium in Honor of Richard G. Luthy

C. P. Higgins, J. Mihelcic, C. A. Peters, J. Wolfand, *Organizers*

U. Ghosh, *Presiding*

Moscone Center, Room 3005, West Bldg.

In-Person Session - Afternoon

2:00 PM - 6:00 PM (PDT)

C. Ellen Gonter Graduate Student Award Symposium

Cosponsored by CHED

K. E. O'Shea, *Organizer, Presiding*

Moscone Center, Room 3012, West Bldg.

Advances in Isolation, Removal, Sensing, Detection, Degradation, and Replacement of PFAS and Future Outlook

M. Nadagouda, *Organizer*

N. Kelley-Loughnane, M. K. Kolel-Veetil, M. K. Shukla, *Organizers, Presiding*

Moscone Center, Room 3006, West Bldg.

Environmental Chemistry and Nanotechnology: A Tribute to Joel Pedersen

R. J. Hamers, F. L. Rosario, M. Suffet, *Organizers*

H. Fairbrother, *Organizer, Presiding*

Moscone Center, Room 3007, West Bldg.

Electrified Water Treatment Processes

Cosponsored by AGFD and CATL

W. Chen, W. Tarpeh, L. Winter, X. Xie, *Organizers, Presiding*

Moscone Center, Room 3001, West Bldg.

Women in Science and Engineering (WISE)

Biological and Chemical Processes and Interactions for Water Treatment

Cosponsored by CEI

D. D. Dionysiou, C. Huang, V. K. Sharma, *Organizers, Presiding*

Moscone Center, Room 3008, West Bldg.

Virtual Session - Afternoon

3:00 PM - 7:00 PM (PDT)

Materials Development to Address Environmental and Sustainability Challenges

Cosponsored by AGFD, AGRO, ANYL

Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community

D. D. Dionysiou, M. Nadagouda, V. K. Sharma, *Organizers*

M. J. Bentel, *Organizer, Presiding*

Virtual Meeting Platform

Virtual Session - Evening

5:30 PM - 10:00 PM (PDT)

Virtual Graduate Students Symposium in Asia-Pacific Region on Current Environmental Issues

C. Zhao, C. Zheng, Y. Zhou, *Organizers, Presiding*

Virtual Meeting Platform

Cosponsored Sessions - Afternoon

Early Career Symposium: Harnessing Chemical Ecology to Achieve Food Security

Sponsored by AGRO, Cosponsored by AGFD, ANYL, BIOT and ENVR

Fentanyl and the Devastating Effects on Students and Young Adults: Dangers, Statistics and Current Status

Engineering, Science, Medicine, and Society: The Challenge Spans All Disciplines

Sponsored by CHAS, Cosponsored by CATL, CCS, COMSCI, ENVR, MEDI, PROF, SCC, TOXI, WCC and YCC

Linking Toxicology and Human Health Through the Exposome

Sponsored by TOXI, Cosponsored by BIOL and ENVR

Natural Polymers - A Back to the Future Approach to Deal with the Plastics Issues

New and Emerging Technologies and Products

Sponsored by POLY, Cosponsored by CARB, CELL, ENVR and SCHB

Sustainable Agriceuticals

Sponsored by AGFD, Cosponsored by AGRO, ANYL and ENVR

Electrocatalysis for Sustainable Energy: Fundamental, Applications, & Perspective

Sponsored by CATL, Cosponsored by ENFL, ENVR and PHYS

New Strategies in Process Research and Development in Crop Protection

Sponsored by AGRO, Cosponsored by AGFD, ANYL and ENVR

Pesticides and Other Organics in Urban Environments

Sponsored by AGRO, Cosponsored by ANYL and ENVR

Zero Waste Strategies: Valorizing Undervalued Agricultural Coproducts and Food Waste

Sponsored by AGRO, Cosponsored by AGFD, ANYL, BMGT, ENFL and ENVR

Adapting Agricultural Chemistry and Practices to a Changing Climate

Sponsored by AGRO, Cosponsored by AGFD, AGRO, ANYL, CELL, ENFL, ENVR and TOXI

AGRO International Award: Symposium in Honor of Dr. Thomas M. Stevenson for His Contributions to the Discovery of New Fungicides, Herbicides and Insecticides

Sponsored by AGRO, Cosponsored by AGFD, AGRO, ANYL and ENVR

Biorational Technologies for Control of Invasive Pests in a Changing Climate

Sponsored by AGRO, Cosponsored by AGFD, AGRO, ANYL, ENVR and ORGN

Effect of EPA's Endangered Species Enforcement on the Future of Agrochemicals

Sponsored by AGRO, Cosponsored by ANYL and ENVR

Environmental Fate, Transport, and Modeling of Agriculturally-related Chemicals

Sponsored by AGRO, Cosponsored by AGFD, ANYL and ENVR

Environmental Monitoring Data Collection, Utility, and Use in Pesticide Risk Assessment and Registration

Sponsored by AGRO, Cosponsored by AGFD, ANYL and ENVR

Pesticide Runoff Mitigation: Characterization, Quantification, and Implementation

Sponsored by AGRO, Cosponsored by AGFD and ENVR

Technological Solutions to Address Food Insecurity, Trade Challenges and Food Waste

Sponsored by AGRO, Cosponsored by AGFD, ANYL, ENVR and ORGN

Role of Chemistry in Addressing Hunger and Food Security

Sponsored by AGRO, Cosponsored by AGFD, AGRO, ANYL, CEI, COMSCI and ENVR

Unmanned Aerial Systems (aka Drones): Pesticide Spraying and Other Agricultural Applications

Sponsored by AGRO, Cosponsored by ANYL and ENVR

Uses of HPLC-Mass Spectrometry in Support of Agricultural Research and Development - Trends and Best Practices

Sponsored by AGRO, Cosponsored by AGFD, ANYL and ENVR

Cosponsored Posters - Evening

Natural Polymers - A Back to the Future Approach to Deal with the Plastics Issues

Sponsored by POLY, Cosponsored by CARB, CELL, ENVR and SCHB

WEDNESDAY

Hybrid Session - Morning

8:00 AM - 12:00 PM (PDT)

Sensors for Water Quality Monitoring in Resource Limited Environments

Cosponsored by ANYL

T. Alexander, *Organizer*

E. Brack, *Organizer, Presiding*

S. J. Pilkenton, *Presiding*

Moscone Center, Room 3003, West Bldg.

Improving Water Quality by Understanding Environmental Chemical Processes: A Symposium in Honor of Richard G. Luthy

C. P. Higgins, J. Mihelcic, C. A. Peters, *Organizers*

J. Wolfand, *Organizer, Presiding*

Moscone Center, Room 3005, West Bldg.

In-Person Session - Morning

8:00 AM - 12:00 PM (PDT)

Advances in Isolation, Removal, Sensing, Detection, Degradation, and Replacement of PFAS and Future Outlook

M. K. Shukla, *Organizer*

N. Kelley-Loughnane, M. K. Kolel-Veetil, M. Nadagouda, *Organizers, Presiding*

Moscone Center, Room 3012, West Bldg.

Electrified Water Treatment Processes

Cosponsored by AGFD and CATL

W. Chen, W. Tarpeh, L. Winter, X. Xie, *Organizers, Presiding*

Moscone Center, Room 3001, West Bldg.

Exposome Meets Chemistry - Assessing Exposures to Complex Chemical Mixtures and their Impacts

Cosponsored by ANYL, MEDI and TOXI

C. Sayes, *Organizer*

M. N. Newmeyer, C. Prasse, *Organizers, Presiding*

Moscone Center, Room 3007, West Bldg.

Innovative Materials for Environmental Sustainability

Cosponsored by AGFD, AGRO, ANYL

Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community

A. Orlov, *Organizer, Presiding*

N. Yip, *Presiding*

Moscone Center, Room 3006, West Bldg.

Women in Science and Engineering (WISE)

Air Quality, Aerosols, Climate Change Geochemical Processes

Cosponsored by CEI

D. D. Dionysiou, C. Huang, V. K. Sharma, *Organizers, Presiding*

Moscone Center, Room 3008, West Bldg

Virtual Session - Morning

10:00 AM - 2:00 PM (PDT)

General Session: Advances in Environmental Chemistry

Air Pollution Control and Mitigation / Membrane Monitoring and Fouling Control

V. K. Sharma, *Organizer*

M. Nadagouda, *Organizer, Presiding*

M. Kaur, *Presiding*

Virtual Meeting Platform

Cosponsored Sessions - Morning

Chemical Intervention Technology to Improve Microbial Stability of Food

Sponsored by AGFD, Cosponsored by AGRO, ANYL and ENVR

Fentanyl and the Devastating Effects on Students and Young Adults: Dangers, Statistics and Current Status

Controlling Fentanyl with Science: Vaccines, CBD, and Advanced Detection Techniques

Sponsored by CHAS, Cosponsored by CATL, CCS, COMSCI, ENVR, MEDI, PROF, SCC, TOXI, WCC and YCC

Natural Polymers - A Back to the Future Approach to Deal with the Plastics Issues

Future - Fundamental and End-of-life

Sponsored by POLY, Cosponsored by CARB, CELL, ENVR and SCHB

Sustainable Agriceuticals

Sponsored by AGFD, Cosponsored by AGRO, ANYL and ENVR

Early Career Symposium: Harnessing Chemical Ecology to Achieve Food Security

Sponsored by AGRO, Cosponsored by AGFD, ANYL, BIOT and ENVR

Electrocatalysis for Sustainable Energy: Fundamental, Applications, & Perspective

Sponsored by CATL, Cosponsored by ENFL, ENVR and PHYS

Unmanned Aerial Systems (aka Drones): Pesticide Spraying and Other Agricultural Applications

Sponsored by AGRO, Cosponsored by ANYL and ENVR

Trace Analysis of Substances of Concern (SoC) for Safer Materials

Sponsored by ANYL, Cosponsored by AGFD, AGRO and ENVR

Posters – Midday New Time!

12:00 PM - 2:00 PM (PDT)

All ENVR In-Person Poster Sessions

Moscone Center, Hall A, South Bldg.

All ENVR Virtual Poster Sessions

Virtual Meeting Platform

Hybrid Session - Afternoon

2:00 PM - 6:00 PM (PDT)

Improving Water Quality by Understanding Environmental Chemical Processes: A Symposium in Honor of Richard G. Luthy

J. Mihelcic, C. A. Peters, J. Wolfand, *Organizers*

C. P. Higgins, *Organizer, Presiding*

Moscone Center

Room 3005, West Bldg.

United Nations Sustainable Development Goal #6-Clean Water and Sanitation: Current Progress, Challenges, and Future Outlook

Cosponsored by CEI

D. D. Dionysiou, G. Matta, K. Weitzel, *Organizers, Presiding*

M. Abdullah, Y. Charabi, *Presiding*

Moscone Center

Room 3003, West Bldg.

In-Person Session - Afternoon

2:00 PM - 6:00 PM (PDT)

Innovative Materials for Environmental Sustainability

Cosponsored by AGFD, AGRO, ANYL

Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community

A. Orlov, *Organizer, Presiding*

N. Yip, *Presiding*

Moscone Center, Room 3006, West Bldg.

Role of Chemistry in Developing Sustainable Infrastructures

Cosponsored by BIOT, ENFL and I&EC

C. Fan, I. Lee, S. Pan, B. Sang, *Organizers*

H. Kim, *Organizer, Presiding*

Moscone Center, Room 3008, West Bldg.

Separation, Destruction, and Monitoring of Per- and Polyfluoroalkyl Substances (PFASs) and Fluorinated Alternatives

Cosponsored by ANYL and CATL

J. Liu, Y. Wang, *Organizers*

J. Choe, Y. Choi, *Organizers, Presiding*

Moscone Center, Room 3018, West Bldg.

Sensors for Water Quality Monitoring in Resource Limited Environments

Cosponsored by ANYL

T. Alexander, *Organizer*

E. Brack, *Organizer, Presiding*

S. J. Pilkenton, *Presiding*

Moscone Center, Room 3012, West Bldg.

Electrified Water Treatment Processes

Cosponsored by AGFD and CATL

W. Chen, W. Tarpeh, L. Winter, X. Xie, *Organizers, Presiding*

Moscone Center, Room 3001, West Bldg

Electrocatalysts and Electrochemical Processes for Water Reuse

Cosponsored by AGFD, AGRO, ANYL

Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community

J. Kim, *Organizer*

K. Cho, S. Hong, J. Lee, *Organizers, Presiding*

Moscone Center, Room 3007, West Bldg.

Virtual Session - Afternoon

3:00 PM - 7:00 PM (PDT)

General Session: Advances in Environmental Chemistry

Occurrence, Detection, and Removal of Organic Pollutants in the Environment

V. K. Sharma, *Organizer*

M. Kaur, M. Nadagouda, *Organizers, Presiding*

Virtual Meeting Platform

Cosponsored Sessions - Afternoon

Effect of EPA's Endangered Species Enforcement on the Future of Agrochemicals

Sponsored by AGRO, Cosponsored by ANYL and ENVR

Chemical Intervention Technology to Improve Microbial Stability of Food

Sponsored by AGFD, Cosponsored by AGRO, ANYL and ENVR

Food Toxicants: Occurrence, Detection, Formation Mechanism and Mitigation

Sponsored by AGFD, Cosponsored by AGRO, ANYL and ENVR

Trace Analysis of Substances of Concern (SoC) for Safer Materials

Sponsored by ANYL, Cosponsored by AGFD, AGRO and ENVR

Electrocatalysis for Sustainable Energy: Fundamental, Applications, & Perspective
Sponsored by CATL, Cosponsored by ENFL, ENVR and PHYS

THURSDAY

Hybrid Session - Morning

8:00 AM - 12:00 PM (PDT)

Improving Water Quality by Understanding Environmental Chemical Processes: A Symposium in Honor of Richard G. Luthy

C. P. Higgins, J. Mihelcic, J. Wolfand, *Organizers*

C. A. Peters, *Organizer, Presiding*

Moscone Center, Room 3003, West Bldg.

In-Person Session - Morning

8:00 AM - 12:00 PM (PDT)

Innovative Materials for Environmental Sustainability

Cosponsored by AGFD, AGRO, ANYL

Financially supported by Food Security: Tackling Hunger Convergent Chemistry Community

A. Orlov, *Organizer, Presiding*

N. Yip, *Presiding*

Moscone Center, Room 3007, West Bldg.

Separation, Destruction, and Monitoring of Per- and Polyfluoroalkyl Substances (PFASs) and Fluorinated Alternatives

Cosponsored by ANYL and CATL

J. Liu, Y. Wang, *Organizers*

J. Choe, Y. Choi, *Organizers, Presiding*

Moscone Center, Room 3008, West Bldg.

Electrified Water Treatment Processes

Cosponsored by AGFD and CATL

W. Chen, W. Tarpeh, L. Winter, X. Xie, *Organizers, Presiding*

Moscone Center, Room 3001, West Bldg.

Cosponsored Sessions - Morning

Food Toxicants: Occurrence, Detection, Formation Mechanism and Mitigation
Sponsored by AGFD, Cosponsored by AGRO, ANYL and ENVR

Smart Food Safety
Sponsored by AGFD, Cosponsored by AGRO, ANYL and ENVR

Sustainable Agriceuticals
Sponsored by AGFD, Cosponsored by AGRO, ANYL and ENVR

Electrocatalysis for Sustainable Energy: Fundamental, Applications, & Perspective
Sponsored by CATL, Cosponsored by ENFL, ENVR and PHYS