VIRENDER K. SHARMA

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EDUCATION:

1989	Rosenstiel School of Marine and Atmospheric Sciences, University of Miami, Florida. Ph.D., Marine and Atmospheric Chemistry.
1984	Indian Institute of Technology, New Delhi, India. M. Tech., Modern Methods of Chemical Analysis and Control.
1982	University of Delhi, Delhi, India. M.Sc., Physical Chemistry.
1980	University of Delhi, Delhi, India. B.Sc (Honors)., Chemistry.

TEACHING EXPERIENCE:

2023-Present	**University Distinguished Professor**, Texas A&M University, College Station, Texas.
2014-Present	**Professor** at School of Public Health, Texas A&M University, College Station, Texas.
2015-Present	**Adjunct Professor**, Department of Civil and environmental Engineering, Texas A&M University, College Station, Texas.
2017-Present	**Adjunct Professor**, Water Management & Hydrological Science, College Station, Texas.
2021-Present	**Adjunct Professor**, Department of Food Science and Technology, Texas A&M University, College Station, Texas.
2017-2019	**Visiting Professor**, Western Sydney University, Australia.
2017-2021	**Distinguished Foreign Professor**, Nanjing University, Nanjing China.
2016-2017	**Distinguished Foreign Professor**, Huaqiao University, Xiamen, China.
2013-2019	**Guest Professor**, Dalian University of Technology, Dalian, China.
2014-2019	**Guest Professor**, Harbin Institute of Technology, Harbin, China.
2014-2019	**Guest Professor**, Northeast Electric Power University, Jilin City, China.
2005-2013	**Professor of Chemistry** at Florida Institute of Technology, Melbourne, Florida.
1999-2005	**Associate Professor of Chemistry** at Florida Institute of Technology, Melbourne, Florida.
1997-1999	**Associate Professor of Chemistry** at Texas A&M University-Corpus Christi, Texas.
1992-1997	**Assistant Professor of Chemistry** at Texas A&M University- Corpus Christi, Texas.
Summer, 1992	**Visiting Faculty:** "*Fundamentals of Chemistry"* at Drury College, Springfield, Missouri.
Summer, 1991	**Visiting Faculty:** "*Fate of pollutants in the Aquatic Environment"* at Institute De Ciences Del Mar Y Limnologia, UNAM, Mexico City, Mexico.
1989-1990	**Lecturer I:** *Undergraduate courses, CHE 101 (General Chemistry) and CHE 123 (Analytical Chemistry)* at Millard Fillmore College, affiliated with S.U.N.Y. at Buffalo, Buffalo, New York.

1986-1989 **Teaching Assistant:** *Graduate and Undergraduate Chemical Oceanographic laboratories (MAC 504 and MSC 216)* at University of Miami, Florida.

TEACHING COURSES:

Undergraduate	Analytical Chemistry; Instrumental Analysis; Environmental Chemistry; Chemical Oceanography; General Chemistry II; Environment & Public Health
Graduate	Green Chemistry; Advanced Analytical Chemistry; Special Topics in Analytical Chemistry; Advanced Environmental Chemistry; Aquatic Chemistry; Environmental Aquatic Kinetics; Environmental Instrumental Analysis; Chemistry of Natural Waters; Reactive Species in Treatment of Water and Wastewater; Water and Environmental and Occupational Health; Environmental Sustainability and Public Health

RESEARCH EXPERIENCE:

Summer, 2019 **Invited Professor**, University of Paris-Est, Paris, France.

2013-2017 **Visiting Scientist**, Regional Center of Advanced Technology and Materials, Palacky University, Olomouc, Czech Republic

2017 **Visiting Scientist**, under Chinese Academy of Sciences President's International Fellowship Initiative (PIFI)

Summer, 2013 **Invited Researcher/Professor**, University of Paris-Est, Paris, France.

2006 **Visiting Research Scholar** at Chemistry Department, Stanford University, Palo Alto, California. Advisor: E. I. Solomon

1990-1992 **Research Associate** at Chemistry Department, Brookhaven National Laboratory, Upton, Long Island, New York. Advisor: B.H.J. Bielski

1989-1990 **Research Associate** at Center of Biosurfaces, State University of New York at Buffalo, Buffalo, New York. Advisor: G.H. Nancollas

1985-1989 **Graduate Research Assistant** while pursuing Ph.D. degree in Marine and Atmospheric Chemistry at RSMAS, University of Miami, Florida. Advisor: F.J. Millero Dissertation Research: The Oxidation of Copper(I) in Natural Waters.

ADMINISTRATIVE:

2016-Present **Director**, Program of the Environment and Sustainability, Department of Environmental and Occupational Health, School of Public Health, Texas A&M University, College Station, Texas.

2015-2016 **Director**, Water Sustainability and Public Health Program, Department of Environmental and Occupational Health, School of Public Health, Texas A&M University, College Station, Texas.

2014-2015 **Interim Head**, Department of Environmental and Occupational Health, School of Public Health, Texas A&M University, College Station, Texas.

2010-2013 **Director**, Center of Ferrate Excellence, Florida Institute of Technology, Melbourne, Florida.

Summer, 1992 **Director of Research for undergraduates** at Chemistry Department, Drury College, Springfield, Missouri.

FELLOWS:

American Association for the Advancement of Science (AAAS) (2022-)
American Chemical Society (ACS) (2021-)
Royal Society of Chemistry (RSC) (2018-)
International Association of Advanced Materials (IAAM) (2020-)
The Center for Health Systems & Design (CHSD-TAMU) (2020-2023)

AWARDS:

ACS ES&T Engineering Excellence in Review Award 2022 – American Chemical Society Publications (2023).

ECL Distinguished Editor – Environmental Chemistry Lettes (The European Association of Chemistry and Environment, ACE), Springer (2023).

2020 ES&T Super Reviewer Award – American Chemical Society Journal, Environmental Science & Technology (2021).

Steven K. Dentel AEESP Award for Global Outreach - Association of Environmental Engineering and Science Professors (2020).

Bush Excellence Award for International Research - George H W Bush Presidential Library Foundation (2019).

Sigma Xi Outstanding Distinguished Scientist Award – Texas A&M University Chapter of Sigma Xi (2019).

Invited Professor – University of Paris-Est, Paris, France (Summer, 2019, 2013).

President Initiative International Fellowship – Chinese Academy of Science (2020, 2019, and 2017).

Excellence in Review Award – *Environmental Science & Technology*, 2012.

Paper Review Award – *Journal of Sulfur Chemistry*, 2010.

Faculty Excellence in Research Award – Florida Institute of Technology (2008).

Faculty of the Year Award – Awarded by Student Affiliation of the American Chemical Society, (2008).

Outstanding Chemist Award – Orlando Section, American Chemical Society (2006).

Indian Institute of Technology Fellowship - Obtained during Master of Technology degree (1982-1984).

National Merit Scholarship - Obtained during High School and University Education given by the Government of India ((1974-1982).

HONORS:

Panel Member – Workshop on Biofouling Membrane, International Water Association, St. Louis, Mossouri (July 23, 2023).

Highly Cited Researcher (Top 1%) – Clarivate Analytics, Web of Science (2022, 2020).

World Expert in Water Pollutants - Expertscape's PubMed-Based Algorithms Place in the Top 0.1% of Scholars Writing about Water Pollutants over the Past 10 Years (2021).

Most-Cited World Scientist - Ranked Top 0.15% Globally among ~ 8 million Researchers Across 22 Fields and #23 Globally among the Scientist under "*Environmental Science*" sub-field, Mendley (2020).

Program Chair – Environmental Chemistry Division, Fall National American Chemical Society Meeting (2021 - Present).

Assistant Program Chair – Environmental Chemistry Division, Fall National Ammerican Chemical Society Meeting (2020 - 2021).

Nomination – Fellow, American Chemical Society, 2019, 2020.

Certificate of Excellence in Reviewing (Chemosphere) – 2017.

Visiting Scientist – under Chinese Academy of Sciences President's International Fellowship Initiative (PIFI) (2017).

Member at Large - Division of Environmental Chemistry, American Chemical Society (2016-2020).

Certificate of Merit - Awarded by American Chemical Society (Division of Environmental Chemistry), for co-authorship of the Oral Paper titled "*Degradation of Naphthylazo Anionic Dye by Fenton and Fenton-like Processes: A Case Study with Fast Sulphon Black-F*" at 251st National Meeting in San Diego, California, 2016.

Certificate of Merit - Awarded by American Chemical Society (Division of Environmental Chemistry), for co-authorship of the Oral Paper titled "*Mechanism of the Formation of Silver Nanoparticles in the Aquatic Environment*" at 247th National Meeting in Dallas, Texas, 2014.

Visiting Scientist – Regional Center of Advanced Technology and Materials, Palacky University, Olomouc, Czech Republic (2013-2017).

Nomination **-** Florida Tech Faculty Excellence Research Award (2006).

Visiting Research Scholar – Chemistry Department, Stanford University, Palo Alto, California (2006).

Secretary - American Chemical Society (Geochemistry Division) (2000-2002).

Symposium Award - The best ACS (Geochemistry Division) symposium in honor of Frank J. Millero (1999).

Certificate of Merit - Awarded by American Chemical Society (Division of Environmental Chemistry), for presentation entitled "*Oxidation of Thiourea by Ferrate(VI)"* at Orlando, Florida (1996).

Member - Risk management plan third party review for port industries of Corpus Christi (1998).

Diploma - Awarded by Universidad Nacional Autonoma De Mexico, Mexico for presentation entitled "*Ferrate(VI) and the Wastewater Treatment*" 1996.

Member - Advisory Committee, EPA Pollution Prevention Project (1996).

Diploma - Awarded by Universidad Nacional Autonoma De Mexico, Mexico for presentation entitled "Speciation of Trace Metals in Natural waters" (1992).

GRANTS:

Mational Science Foundation, Collaborative Research: Catalyst Free Activation of Peroxydisulfate under Visible Light to Degrade Contaminants in Water: Elucidation of Kinetics and Mechanism, (9/1/2023-8/31/2026), $420,000 (PI)

Environmental Protection Agency, Per- and Polyfluoroalkyl Substances (PFASs) Treatment Using Highly Innovative Technologies and Nutrient Recovery from Wastewater, (9/1/2023-3/31/2024), $50,000 (PI)

The U.S. Army Engineer Research and Development Center (ERDC), Degradation of Legacy and Emerging Poly- and Perfluoroalkyl Substances in Water by Ferrate-Based Integrated Processes (4/1/2023-12/31/2025), $300,000 (PI)

United States Department of Agriculture, HBCU-HSI-RIU Consortium: A Novel Synergistic Paradigm for Training the Next Generation Agriculture Workforce for a Sustainable Future (5/1/2-23-4/30/2028), 1,249,750 (Co-PI)

Enhanced Production of Beneficial Secondary Metabolites in Specialty Crops: Elucidating the Role of Agriculturally Relevant Metallic Oxide Nanoparticles (6/1/2023-5/31/2026). $500,000 (Co-PI)

National Science Foundation, Collaborative Research: Synergistic Actions of Peroxy Acids and Metals for Advanced Water Treatment: Delineating Multi-Oxidant Mechanisms (9/1/2021-8/31/2024), $500,000 (PI)

United States Department of Agriculture, Multi-Functional Carbon Nanotube/Hydrogel Nanocomposites for Enhanced Fertilizer Utilization Efficiency and Drought Alleviation (6/1/2022-

5/31/2025). $500,000 (Co-PI)

Environmental Protection Agency, Electrochemical Treatment of Perfluoroalkyl Substances in Metal-Organic Framework (11/01/2022-3/31/2023), $40,000 (PI)

Environmental Protection Agency, E-beam Technology to Destruct Per-and Polyfluoroalkyl Substances (PFAS) in Landfills (09/01/2019 - 08/31/2023), $899,164.00 (Co-PI)

Texas Water Research Institute, Photocatalytic degradation of per- and polyfluoroalkyl substances (PFAS) in water by two novel visible-light responsive photocatalysts. $330,000 (9/1/2021-8/31/2023), $330,000 (Co-I)

Texas A&M University Center for Environmental Research, supported by National Institute of Environmental Health Sciences, Biodistribution and Impact of Orally Exposed Engineered Nanoparticles on the Function and Homeostasis of Intestinal Epithelium Barrier (1/1/2020-10/31/2021), $75,750 (Co-PI)

T3 Program, Texas A&M University, Novel Hydrated Electron Photosensitizer System for Degrading PFAS. 2019, $35,000 (Co-PI)

T3 Program, Texas A&M University, Microbiomics in Judicial System. 2018, $35,000 (Co-PI)

National Science Foundation, Collaborative Research: Ferrates(Fe^{VI}, Fe^{V}, and Fe^{IV}) Oxidation for Mitigation of Pharmaceutical Micropollutants in Source-Separated Urine: Underlying Mechanisms (August, 2018 – July, 2021). $135,000

Division of Research, Texas A&M University, Influence of Contaminant Antibiotics on Antibiotic Resistance in Soils, (May 1, 2017- April 30, 2018). $25,000

School of Public Health, Texas A&M University, Bacterial Kinetics and Antibiotic Resistance in Soils due to Antibiotic Contamination (June 1, 2017-May 31, 2018). $25,000

Division of Research- International Research Programs, Texas A&M University, Spread of contaminant antibiotics and antibiotic resistance in soils due to extreme weather events (August 1, 2017-July 31, 2018). $24,000

National Science Foundation, I-Corps: Ferrate Technology in Healthcare Surfaces Disinfection, (April, 2016 - September, 2016). $50,000

National Institute of Environmental Health Science, Regulatory Science in Environmental Health and Toxicology, (June 1, 2016-May 31, 2021). Co-PI. $255,000/year.

Texas A&M School of Public Health Dean's Research Enhancement and Development Initiative, Impact of Nanoparticles on the Formation and Toxicity of Disinfection By-Products during Water Chlorination (June 1, 2016-May 31, 2017). $25,000

National Science Foundation, Collaboration on Oxidative Elimination of Cyanotoxins by Ferrates(VI, V, and IV), (September, 2012 – August, 2016). $400,000

Texas A&M School of Public Health Dean's Research Enhancement and Development Initiative, Impact of Nanoparticles on the Formation and Toxicity of Disinfection By-Products during Water Chlorination (June 1, 2016-May 31, 2017). $25,000

C*enter for Translational Environmental Health Research Pilot Program, NIH*, A Multi-Step Approach to Assessing the Toxicity of Drinking Water Disinfection By-Products, (January, 2015 – December, 2015), $50,789

National Science Foundation, International Collaboration on Oxidative Elimination of Cyanotoxins by Ferrates(VI, V, and IV), (September, 2013 – August, 2015). $16,760

Battelle Memorial Institute - Treatment of Toxic Industrial Chemicals with Ferrate (April 1, 2014 – April 1, 2015) - $91,000

National Science and Engineering, Research Council of Canada, Clean Technologies for Water Refining and Nutrient and Energy Recovery (September, 2012 – August, 2015). (Co-PI). In-Kind Contribution

NATO Science Program, Collaborative Linkage Grant, Decontamination of Chemical Warfare Agents by Environmentally Friendly Oxidant Iron(IV) and Iron(VI). (January, 2008 – June, 2011). $23,000

National Science Foundation, US-Czech Republic Chemistry Research on the Mechanism of the electrochemical synthesis of sodium and potassium ferrate(VI) (Na_2FeO_4 and K_2FeO_4) (July, 2007 – December, 2011). $70,000

National Oceanographic Atmospheric Administration, Laboratory and Pilot-Scale Investigation of the Treatment of Ballast Water Using Ferrate (September, 2004 – March, 2006) in collaborations with University of Central Florida, Orlando. Total $178,200.

Midwest Research Institute, Destruction and Decontamination of Chemical Warfare Agents Using Potassium Ferrate (September 1, 2004 – June 30, 2005). $9,511

National Science Foundation, Testing of Innovative Ferrate Technology for Sludge Management. (January, 2004 – December, 2004), in collaboration with University of Maryland, College Park, Total $195,437.

National Science Foundation, US-Hungary Chemistry Research on the Mechanism of the reaction of iron-EDTA and related complexes with hydrogen peroxide (September, 2003 – December, 2007). $43,706

NATO Science Program, Collaborative Linkage Grant, Environmentally Friendly Oxidant Iron(VI): Synthesis and Applications in Water Quality Security (September, 2003 – August, 2006). $20,000

Florida Solar Energy Program, Photocatalytical Oxidation of Pollutants using Visible Light (August, 2003- July, 2004). $16,000

Florida Solar Energy Program, Effect of Ferrate(VI) on the Photoinduced Oxidation of Fulvic Acids in the Presence of Semiconducting TiO_2 Particles (August, 2001 - July, 2002). $23,000.

The New York Community Trust, *Endowment in Chemistry*, 2000. $150,000 matched by the F.W. Olin Foundation. Total $300,000.

Eco-Safe, LLC, Removal of Cyanides by OXIIRON Ferrate(VI) (May, 2000 - December, 2000). $45,000.

Florida Solar Energy Program, Photocatalytical Degradation of Pollutants: Fe(VI)/TiO_2/UV/Benzene (August , 2000 - July, 2001). $24,000.
Eco-Safe, LLC, Characterization of samples containing Ferrate(VI) (February, 2000 - May, 2000). $13,025.

Florida Solar Energy Program, Determination of pKs of Carbonic Acid in NaCl Medium (November, 1999 - July, 2000). $6,000.

Research Corporation, Ferrate(VI) Oxidation of Thiocyanate and Thioacetamide (January, 1999 - November, 1999). $7,000.

Corpus Christi Army Depot, Ferrate(VI) Oxidation of Contaminants in Wastewater Effluents (September, 1995 - August, 1998). $67,900.

Rachel Foundation, Inventory of Metals in Soil at Galvan Ranch (September, 1996 - December, 1998). $33,900.

TAMU-CC Faculty Research, Role of Environmental Parameters in Texas "brown tide" (September, 1997 - August, 1998). $5,800.

TAMU-Energy Research Program, Removal of Cyanides in Industrial Effluents by Advanced Oxidation Process (June, 1996 - May, 1997). $17,860.

Gulf Coast Foundation, High Performance Liquid Chromatography (HPLC) in Undergraduates (September, 1995 - August, 1997). $15,000.

National Science Foundation, Gas Chromatography/Mass Spectrometry (GC/MS) in Curriculum Improvement of Undergraduates (June 1997 - May 99). $40,906.

TAMU Faculty Enhancement Grant, Ferrate(VI) oxidation of Hydrogen Sulfide and Cyanide (September, 1993 - August, 1995). $25,000.

ASSOCIATE EDITORS – JOURNALS

Environmental Chemistry Letters (2017-Present)

Journal of Advanced Oxidation Technologies (2017-Present)

EDITORIAL BOARD MEMBER - JOURNALS

Environmental Functional Materials – 2022-Present

Chemical Engineering Journal Advances, 2020-Present

Journal of Hazardous Materials, 2019-Present

Chemosphere, 2018-Present

Water-Energy Nexus, 2017-Present

Environmental Nanotechnology, Monitoring and Management (ENMM), 2014-Present

Journal of Environmental Science and Health Part A: Toxic/Hazardous Substances and Environmental Engineering, 2008-Present

SPECIAL ISSUES GUEST EDITORS - JOURNALS

Guest Co-Editor – Focus Issue on "*Mössbauer Spectroscopy from Artificial Nano Architectures to Environmental Applications*" in the *Journal of Materials Research*, Volume 38, February (2023).

Guest Co-Editor – A Special Journal Issue "*Water-Energy-Food-Health Solutions & Innovations for Low-Carbon, Climate-Resilient Drylands*" in the *Frontier of Environmental Science*, 11 (2023).

Guest Co-Editor – A special Journal issue on "Chemical Reactions at Solid-Water Interfaces of Natural and Built Environment" in the *Science of the Total Environment*, 2020

Guest Co-Editor – A special Journal issue on "*Environmental Antibiotics and Antibiotic Resistance: From Problems to Solutions*" in the *Frontier of Environmental Science and Engineering*, 13 (2019).

Guest Co-Editor – A special Journal issue on "*SEGH 2017- Environmental Health and Pollution Control*" in the *Ecotoxicity and Environmental Safety*, 2018

Guest Co-Editor – A special journal issue on "*Metals – Advanced Oxidation Processes in Honor of Professor Jun MA*" in the *Journal of Hazardous Materials*, 2018

Guest Editor – A special journal issue in *the ACS Sustainable Chemistry and Engineering Honoring Rajender S. Varma*, 2016.

Guest Co-Editor – A special journal issue on "*Emerging Electrochemical Water Remediation Technologies in Honor of Professors Eric Brillas and Mehmet Oturan*" in the *Journal of Hazardous Materials*, 2016.

Guest Co-Editor – A special journal issue on "*Environmental Nanotechnology and Sustainability in Water Treatment in Honor of Professor Chin-Pao Huang*" in the *Separation and Purification*

Technology, 2015.

Guest Co-Editor – A special journal issue "Photocatalytic Processes for Environmental Remediation in Honor of Professor Jincai Zhao" in the *Catalysis Today*, 224, 2013.

Guest Editor – A special journal issue "Advanced Oxidation Processes – Fundamentals and Applications Professor Xiang-Zhong Li" in the *Separation and Purification Technology*, 91(3), 2012.

Guest Editor – A Special journal issue "Speciation and Kinetics in Natural Waters in Honor of Professor Frank J. Millero" in the "*Aquatic Geochemistry*", 16(3), 2010.

Guest Editor – A special journal issue "Thermodynamics and Kinetics in Natural Waters in Honor of Frank J. Millero", *Marine Chemistry*, 70(1-3), 2000.

PROFESSIONAL SOCIETY MEMBERSHIPS:

American Chemical Society
Royal Society of Chemistry
American Association for the Advancement of Science
Association of Environmental Engineers and Science Professors
Society of Environmental Toxicology and Chemistry
American Geophysical Union
International Water Association
Sigma Xi
Material Research Society

PUBLICATIONS: (Total Citations: >38,000; H-Index 93; Source: Google Scholar)

Patents (National/International):	5 (Issued); 3 (Under Examination)
Journals (Peer-Reviewed):	443
Book (Author):	1
Books (Edited):	7
Book Chapters:	60
Proceedings/Preprints:	37
Abstracts	221
Presentations (Invited/Keynote)	227

PATENTS:

Apparatus and Method for Producing Liquid Ferrate - US Patent No. 8,961,921 B2;
WO Application No. 2012044358; India Patent No. 313290**;** South Korea Patent No. 10-1879598

Method and Apparatus for Desulfurization of Heavy Oil using Ferrate(VI) - US Patent No. 9,200,212 B2.

Ferrate Composition for Surface Disinfection - US Patent No. 11,523,613

Compositions and Method of Preparing and Using Activated Ferrate Solution to Accelerate and

Enhance Oxidation Capacity for Disinfecting and Purifying Water Activated Ferrate Compositions– US and Europe Filled- US201862644274P

Activated Ferrate Solution as Disinfectant, Pesticide, Oxidant, Coagulant and to Prolong Shelf Life of Produce, Meats, Poultry, Seafood and other Edible items. 2021/63/224550

Visible Light Enabled Catalyst Free Oxidation of Environmental Pollutants and Disinfection of Pathogenic Microorganisms by Peroxydisulfate-US Patent Office - Provisional Filled

Biochar supported atomically dispersed metal catalysts for efficient removal of per- and polyfluoroalkyl substances (PFAS)- Disclosure

PEER-REVIEWED JOURNAL PUBLICATIONS:

2023

1. "Overlooked Formation of Carbonate Radical Anions in the Oxidation of Iron(II) by Oxygen in the Presence of Bicarbonate"
   A. Vijay, **V.K. Sharma**, and D. Meyerstein,
   Angew. Chemie. Int. Ed., In Press, 10.1002/anie.202309472 (2023).

2. "Picolinic Acid-Mediated Catalysis of Mn(II) for Peracetic Acid Oxidation Processes: Formation of High Valent Mn Species"
   J. Kim, J. Wang, D.C. Ashley, **V.K. Sharma**, and C-H. Huang,
   Environ. Sci. Technol., In Press, 10.1021/acs.est.3c00765 (2023).

3. "Enhanced Oxidation of Antibiotics by Ferrate Mediated with Natural Organic Matter: Role of Phenolic Moieties"
   B. Guo, J. Wang, X. Ma, Xingmao; E. Lichtfouse, C-H, Huang, and **V.K. Sharma**,
   Environ. Sci. Technol., In Press, 10.1021/acs.est.3c03165 (2023).

4. "Reaction of Fe^{II}_{aq} with Peroxymonosulfate and Peroxydisulfate in Presence of Bicarbonate: Formation of Fe^{IV}_{aq} and Carbonate Radical Anions"
   A.K. Vijay, V. Marks, A. Mizrahi, Y. Wen, X. Ma, **V.K. Sharma**, and D. Meyerstein,
   Environ. Sci. Technol., 57(16), 6743–6753 (2023).

5. "Comparative Study on the Oxidation Mechanisms of Substituted Phenolic Pollutants by Ferrate(VI) through Experiments and Density Functional Theory Calculations"
   N. Wu, M. Liu, B. Tiana, Z. Wang, **V.K. Sharma**, and R. Qu,
   Environ. Sci. Technol., 57(29), 10629-10639 (2023).

6. "Oxidation of Pharmaceuticals by Ferrate(VI)-Amino Acids System: Enhancement by Proline"
   V.K. Sharma, J. Wang, M. Feng, and C-H. Huang,
   J. Phys. Chem., 127(10), 2314–2321 (2023).

7. "Enhanced Pollutants Removal by Phenolic Moiety-mediated Fenton-like Reaction: Formation of Fe(III) Hydroperoxide Complex and Two-step Self-catalytic Mechanism"

C. Chen, Y. Wang, D. Xia, J. Hua, W Qu, Y. Huang, C. He, **V.K. Sharma**, D. Shu, *Appl. Catal. B: Chem.,* 321, Article 122062 (2023).

8. "Ferrate(VI) Mediated Degradation of the Potent Cyanotoxin, Cylindrospermopsin: Kinetics, Products, and Toxicity"
C. Zhao, L.E. Arroyo-Mora, A.P. DeCaprio, D.D. Dionysiou, K.E. O'Shea, and **V.K. Sharma**,
Water Res., 223, Article 119773 (2023).

9. "Efficient Micropollutants Degradation by Ferrate(VI)-Ti/Zn LDH Composite Under Visible Light: Activation of Ferrate(VI) and Self-Formation of Fe(III)-LDH Heterojunction"
J. Shu, K. Wang, **V.K. Sharma**, X. Xu, N. Nesnas, H. Wang,
Chem. Eng. J., 456, Article 141127 (2023).

10. "Bioavailability, Phytotoxicity and Plant Uptake of Per-and Polyfluoroalkyl Substances (PFAS): A Review"
O. Adu, X. Ma, and **V.K. Sharma**,
J. Hazard. Mater., 447, Article 130805 (2023).

11. "Visible Light Activation of Ferrate(VI) by Oxygen Doped $ZnIn_2S_4$/Black Phosphorus Nanolayered S-Scheme Heterostructure: Accelerated Oxidation of Trimethoprim"
B, Pan, M. Liao, Y. Zhao, Y. Lv, J. Qin, **V.K. Sharma**, and C. Wang,
J. Hazard. Mater., 460, Article 132413 (2023).

12. "Toxicity of Binary Mixtures of Copper, Lead and Glyphosate on Neuronal Cells"
C. Collom, S. Pradhan, J. Liu, **V.K. Sharma**, and C, Sayes,
J. Hazard. Mater. Adv., 11, Article 100355 (2023).

13. "Abiotic Transformation of Polycyclic Aromatic hydrocarbons via Interaction with Soil Components: A Systematic Review"
J. Liu, C. Zhang, H. Jia, E. Lichtfouse, and **V.K. Sharma**,
Crit. Rev. Environ. Sci. Technol., 53:5, 676-699 (2023).

14. "Microplastics and Nanoplastics in the Soil Plant Nexus: Sources, Uptake, and Toxicity"
N. Singh, M. Abdulaha, X. Ma, and **V.K. Sharma**,
Crit. Rev. Environ. Sci. Technol., 53(18), 1613-1642 (2023).

15. "Particle-Size Distributions of Environmentally Persistent Free Radicals and Oxidative Potential of Soils from a Former Gasworks Site"
Z. Ni, N. Gao, N. Chen, C. Zhang, Z. Liu, K. Zhu, **V.K. Sharma**, and H. Jia,
Sci. Total Enviorn., 869, Article 161747 (2023).

16. "Fate and Distribution of Orally-Ingested CeO_2-Nanoparticles Based on a Mouse Model: Implication for Human Health"
X. Ma, X. Wang, L. Xu, H. Shi, H. Yang, K.K. Landrock, **V.K. Sharma**, and R.S. Chapkin,
Soil Environ. Health., 1(2), Article 100017 (2023).

17. "Metal ion-Induced Enhanced Oxidation of Organic Contaminants by Ferrate(VI):

A review"
C.V. Marbaniang, K. Sathiyan, T.J. McDonald, E. Lichtfouse, P. Mukherejee, and **V.K. Sharma**,
Environ. Chem. Lett., 21, 1729-1743 (2023).

18. "Ruthenium-Driven Environmental Catalysis for Sustainable Water Decontamination: A State-of-the-Art Mini-Review"
S. Zhang, K. Zhang, Y. Xie, Y-Yin. Lou, E. Lichtfouse, M. Feng, and **V.K. Sharma**,
Environ. Chem. Lett., In Press, 10.1007/s10311-023-01642-x (2023).

19. "Nanoplastics are Potentially More Dangerous than Microplastics"
V.K. Sharma, X. Ma, E. Lichtfouse, and D. Robert,
Environ. Chem. Lett., 21, 1933–1936 (2023).

20. "Overlooked Involvement of Phospahte Radical in the Degradation of Atrazine by Sulfate Radical in presence of Phosphate ion"
Y. Wen, E. Lichtfouse, **V.K. Sharma**, and X. Ma,
Enviorn. Chem. Lett., 21, 15–20 (2023).

21. "Electrochemical Degradation of Per- and Poly-Fluoroalkyl Substances in the Presence of Natural Organic Matter"
P. Mukerjee, K. Sathiyan, T. Zidki, M.N. Nadagouda, and **V.K. Sharma**,
Sep. Purif. Technol., 325, Article 124639 (2023).

22. "Phosphorous- and Boron-Doped Graphene-Based Nanomaterials for Energy-Related Applications"
M.K. Ubhi, M. Kaur, K.K. Grewal, and **V.K. Sharma**,
Materials, 16(3), 1155 (2023).

23. "^{57}Fe Mössbauer Spectrometry to Explore Natural and Artificial Nanostructures"
V.K. Sharma, Z. Homonnay, T. Nishida, and J-M. Greneche,
J. Mater. Res., 38(4), 925-936.

24. "Water-Energy-Food-Health Solutions and Innovations for Low-Carbon, Climate-Resilient Drylands"
R. Mohtar, M. Aoun, B. Daher, C.S. Laspidou, H. Kim, and **V.K. SHarma**,
Front. Environ. Sci., 11(March 11), (2023).

25. "Development of a Novel LC-MS/MS Multi-Method for the Determination of Regulated and Emerging Food Contaminants Including Tenuazonic Acid, a Chromatographically Challenging *Alternaria* Toxin"
Á. Tölgyesi, A. Csch, A. Simon, and **V.K. Sharma**,
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V.K. Sharma and C.R. Burnett,
Abstract, *Fifth International Conference on Chemical Kinetics*, Gaithersburg, MD (2001).

174. "Radiation Chemistry of Higher Oxidation States of Iron (Fe(VI), Fe(V), and Fe(IV))"
V.K. Sharma,
Abstract, *International Symposium on Utilization of Accelerators*, São Paulo, Brazil (2001).

175. "Ferrate(V) oxidation of Sulfur-Containing Compounds: Pulse Radiolysis Study"
V.K. Sharma and D.B. O'Connor,
Abstract, *International Chemical Congress of Pacific Basin Societies*, Honolulu, Hawaii (2000).

176. "Ferrate(VI) and Ferrate(V) Oxidation of Thiocyanate"
V.K. Sharma, C.R. Burnett, and D.B. O'Connor,
Abstract, *220th ACS National Meeting*, Washington, D.C. (2000).

177. "Variability of the Texas "Brown Tide" in Relation to Environmental Parameters and Metals"
V.K. Sharma,
Abstract, *XIII National Oceanography Meeting Mexico*, Huatulco, Oaxaca (2000).

178. "Potassium Ferrate(VI): Properties and Applications"
V.K. Sharma,
Abstract, *219th ACS National Meeting*, San Francisco, California (2000).

179. "Oxidation of Sulfur-Containing Compounds by Ferrate(VI) in the Aquatic Environment"
V.K. Sharma, R.A. Rendon and F.J. Millero,
Abstract, *217th ACS National Meeting*, Anaheim, California (1999).

180. "Reactivity of Ferrate(VI) with Thiocyanate in Alkaline Medium"
V.K. Sharma and W. Rivera,
Abstract, *Fifth Chemical Congress of North America*, Cancun, Mexico (1997).

181. "Reactivity of Ferrate(VI) and Ferrate(V) with Cyanide in Alkaline Medium"
V.K. Sharma, W. Rivera and D. O'Connor,
Abstract, *Fourth International Conference on Chemical Kinetics,* Gaithersburg, Maryland (1997).

182. "Removal of Cyanide in Rinse Water by Ferrate(VI)"
V.K. Sharma, B. O'Brien and J.O. Smith,
Abstract, *213th ACS National Meeting*, San Francisco, California (1997).

183. "Removal of Sulfur Containing Pollutants from Wastewater Effluents by Fe(VI)"

V.K. Sharma,
Abstract, *5th Annual South Texas Environmental Conference*, Corpus Christi, Texas (1997).

184. "Diurnal Role of Environmental Parameters in Texas "Brown Tide"
K.B. Rhudy, S. Hatch, W. Rivera and V.K. Sharma,
Abstract, *5th Annual South Texas Environmental Conference*, Corpus Christi, Texas (1997).

185. "Spectrophotometric Determination of pH in Hypersaline Environment"
W. Rivera, K.B. Rhudy and V.K. Sharma,
Abstract, *5th Annual South Texas Environmental Conference*, Corpus Christi, Texas (1997).

186. "Ferrate(VI) Oxidations of Inorganic Contaminants in Aqueous Solution"
V.K. Sharma,
Abstract, *Fifth Eurasia Conference on Chemical Sciences*, Guangzhou, China (1996).

187. "Trace Metal Species in Aquatic Samples of Tabasco Lagoons, Mexico"
G.F. Vazquez and V.K. Sharma,
Abstract, *Fifth Eurasia Conference on Chemical Sciences*, Guangzhou, China (1996).

188. "Oxidation of Thiourea by Ferrate(VI)"
V.K. Sharma and W. Rivera,
Abstract, *212th ACS National Meeting*, Orlando, Florida (1996).

189. "Ferrate(VI) Oxidations of Inorganic Substrates"
V.K. Sharma, W. Rivera and A.T. Baggett,
Abstract, *6th Annual Meeting, Council of Undergraduate Research*, Durham, North Carolina (1996).

190. "Trace Metals in Baffin Bay, Texas water"
K. Rhudy and V.K. Sharma,
Abstract, *4th South Texas Environmental Conference*, Corpus Christi, Texas (1996).

191. "Preliminary Investigation of Petroleum Hydrocarbon Degradation in a Coastal Stream"
S. Hicks, W. Rivera and V.K. Sharma,
Abstract, *4th South Texas Environmental Conference*, Corpus Christi, Texas (1996).

192. "Photocatalysis Treatment of Water Contaminated with Organic Chemicals"
W. Rivera, S. Peters and V.K. Sharma,
Abstract, *4th South Texas Environmental Conference*, Corpus Christi, Texas (1996).

193. "The Alkalinity and pH before the Oppal Hurricane in the South of Gulf of Mexico"
G.F. Vazquez, V.K. Sharma, C.A. Frausto, R.J. Marmolejo, O.R. Magallenez, V. Olan,
Abstract, *4th South Texas Environmental Conference*, Corpus Christi, Texas (1996).

194. "Contamination in Nueces Estuary Sediments"
V.K. Sharma, S.S. Hicks, A.T. Baggett and S. Hollyfield,

Abstract, *4th South Texas Environmental Conference*, Corpus Christi, Texas (1996).

195. "Removal of Inorganic Contaminants in Wastewater Effluents by Advanced Oxidation Process"
V.K. Sharma,
Abstract, *4th South Texas Environmental Conference*, Corpus Christi, Texas (1996).

196. "Characterization and Preliminary Quantification of Effluent Load from Three Coastal Aquaculture facilities in South Texas"
M.A. Lopez-Ivich, T.M. Samocha, A.L. Lawrence, E.R. Jones, D.A. McKee, V.K. Sharma
Abstract, *4th South Texas Environmental Conference*, Corpus Christi, Texas (1996).

197. "Petroleum Hydrocarbons in Sediments of Upper Laguna Madre, Texas"
V.K. Sharma, K. Rhudy, R. Brooks, S. Hollyfield and F.G. Vazquez,
Abstract, *Texas Academy of Science 99th Annual Meeting*, Galveston, Texas (1996).

198. "Characterization and Preliminary Quantification of Effluent Load from Three Coastal Aquiculture facilities in South Texas"
M.A. Lopez-Ivich, T.M. Samocha, A.L. Lawrence, D.A. McKee, V.K. Sharma,
Abstract, *Aquiculture Conference '96*, Arlington, Texas (1996).

199. "Hydrocarbon Contamination in Gum Hallow Creek Sediments"
S. Hicks and V.K. Sharma,
Presentation, *7th Annual South Texas Bays and Estuarine Meeting*, Port Arnsas, Texas (1995).

200. "Metals in Oso Bay Sediments"
V. K. Sharma, S. Hollyfield and A.T. Baggett,
Abstract, *ERF'S 13th Biennial International Conference,* Corpus Christi, Texas (1995).

201. "Removal of Cyanide by Ferrate(VI) ion"
V.K. Sharma and J.O. Smith,
Abstract, *Sur/Fin'95 Annual Meeting*, Baltimore, Maryland (1995).

202. "Ferrate(VI) Oxidation of Aniline and Substituted Anilines"
V.K. Sharma and S. Hollyfield,
Abstract, *210th ACS National Meeting*, Chicago, Illinois (1995).

203. "Ferrate(VI) Oxidations of Inorganic Contaminants. 1. Hydrogen Sulfide"
V.K. Sharma, J.O. Smith and F.J. Millero,
Abstract, *International Chemical Congress of Pacific Basin Societies***,** Honolulu, Hawaii (1995).

204. "Ferrate(VI) Oxidations of Inorganic Contaminants. 2. Cyanide"
V.K. Sharma and J.O. Smith,
Abstract, *International Chemical Congress of Pacific Basin Societies***,** Honolulu, Hawaii (1995).

205. "Ferrate(VI) Oxidations of Inorganic Contaminants. 3. Ammonia"
V.K. Sharma and J.T. Bloom,
Abstract, *Emerging Technologies in Hazardous Waste Management VIII***,** Atlanta, Georgia (1995).

206. "Organochlorine Pesticides in Sediments of the Nueces Bay Estuary"
V.K. Sharma and S. Hicks,
Abstract, *3rd Gulf of Mexico Symposium*, Corpus Christi, Texas (1995).

207. "Contamination in Playon de Mexiquillo, Mexico Turtles"
F.G. Vazquez, M.C.H. Reyes and V.K. Sharma,
Abstract, *ERF'S 13th Biennial International Conference*, Corpus Christi, TX (1995).

208. "Contamination in Cayo del Oso Bay, Texas Sediments"
V.K. Sharma,
Presentation, *6th Annual South Texas Bays and Estuarine Meeting*, Port Arnsas, Texas (1994).

209. "Ferrate(VI) Oxidation of Hydrogen Sulfide"
V.K. Sharma and J.O. Smith,
Abstract, *ACS 49th Southwest Regional Meeting*, Austin, Texas (1993).

210. "Hydrocarbons in Cayo Del Oso Bay, Texas Sediments"
S. Hollyfield and V.K. Sharma,
Abstract, *ACS 49th Southwest Regional Meeting*, Austin, Texas (1993).

211. "Heavy Metals in Mexican Lagoons"
V.K. Sharma,
Presentation, *5th Annual South Texas Bays and Estuarine Meeting*, Port Arnsas, Texas (1993).

212. "Fe(VI) and Fe(V) Oxidations of Pollutants in the Aquatic Environment"
V.K. Sharma,
Presentation, *Environmental Sciences-Water Gordon Research Conference*, New Hampton,
New Hampshire (1992).

213. "Reactivity of Ferrate(VI) and Ferrate(V) with Carboxylic Acids"
V.K. Sharma, G. Czapski and B.H.J. Bielski,
Abstract, *203rd ACS National Meeting*, San Francisco, California (1992).

214. "Phosphocitrate and Citrate Influence on Calcium Phosphate Crystal Growth"
M. Johnsson, C.F. Richardson, V.K. Sharma, J.D. Sallis and G.H. Nancollas,
Abstract, *IADR/AADR General Session*, Cincinnati, Ohio (1990).

215. "The Rate of reduction of Cu(II) with H_2O_2 in seawater"
F.J. Millero, V.K. Sharma and B. Karn,
Abstract, *ACS Symposium on Rates of Geochemical Processes in the Oceans*, Miami,

Florida (1989).

216. "The Effect of Ionic Interaction on the Rate of Oxidation of Cu(I) in Natural waters"
V.K. Sharma,
Abstract, *Dissertation symposium on Chemical Oceanography*, Honolulu (1988).

217. "The Oxidation Kinetics of Cu(I) in Natural waters"
F.J. Millero and V.K. Sharma,
Abstract, *193rd ACS National Meeting*, Denver, Colorado (1987).

218. "Temperature Dependence of Heat Capacities and Volume of Micellization of Sodium Dodecyl Sulfate in water"
V.K. Sharma, R. Bhat and J.C. Ahluwalia,
Abstract, *5th International Conference on Surface and Colloid Science*, Potsdam, New York, June, 1985.

219. "Calorimetric Studies on the Interaction of Salts and Ureas with the Triton-X-100 in Aqueous solutions"
V.K. Sharma and R. Bhat,
Abstract, *6th International Symposium on the Surfactants in solution*, New Delhi, India (1986).

220. "The Role of Physicochemical Properties in Energy Conservation of an Industry"
V.K. Sharma and R. Bhat,
Presentation, *International Conference on Chemical Education*, Tokyo, Japan (1985).

221. "Calorimetric Studies on the Interaction of some Sugars and Polyols with the Non-Ionic Detergent Triton-X-100"
V.K. Sharma and R. Bhat,
Presentation, *30th IUPAC Congress*, Manchester, United Kingdom (1985).

PRESENTATIONS (INVITED/KEY NOTE):

1. "Elucidating Ferrate as Advanced Material in Water Sustainable Goals"
V.K. Sharma,
Invited Talk, Sponsored by Energy and Fuels Division, the American Chemical Society and Co-Sponsored by The Chinese American Chemical Society and ACS South Texas Local Chapter (April 28, 2023).

2. "Ferrate in Population Health and Sustainability under Changing Environment: Enhanced Disinfection and Water Purification"
V.K. Sharma,
Invited Seminar, VinFuture Prize Foundation, Hanoi, Vietnam (March 13, 2023).

3. "Treatment of Pharmaceuticals in Water by Oxyiron(VI, V, and IV) (Ferrates): Kinetics and Mechanisms"
V.K. Sharma,

Invited Seminar, Chemistry Department, Chulalongkorn University, Bangkok, Thailand (March 14, 2023).

4. "Ferrate Technology under Climate Change-Food Safety Challenges"
V.K. Sharma,
Invited Presentation, Food Safety Workshop, Food Technology Research Institute, Cairo, Egypt (April 28, 2023).

5. "Reactive Species in Reactions of Environmental Interests: Kinetics and Mechanisms"
V.K. Sharma,
Invited Seminar, Leipzig Institute for Tropospheric Research (TROPOS), Leipzig, Germany (May 5, 2023).

6. "Ferrate in Population Health and Sustainability: Enhanced Disinfection and Water Purification"
Invited Presentation, The 2nd International Conference on Water Technologies **(**ICWT2022), Indian Institute of Technollogy, Bombay, India (December 1, 2022).

7. "Ferreting in Population Health and Sustainability: Enhanced Disinfection and Water Purification"
Invited Seminar, University of Arizona, Tucson, Arizona (October 11, 2022).

8. "High-Valent Iron Intermediates in Enhanced Oxidation of Pollutants by Ferrate"
V.K. Sharma,
Invited Presentation, European assembly of Advanced Materials Congress (AMC), Stockholm, Sweden (28 - 31 August 2022).

9. **"**Fate of Microplastics Under Environmental Relevant Conditions"
V.K. Sharma,
Keynote Speaker, International Webinar on Microplastics in Environment, Bangkok, Thailand (August 3, 2022).

10. "Ferrate-Based Enhanced Oxidation of Micropollutants in Water: Delineating the Multi-Oxidants Mechanisms"
Invited Seminar, Ariel University, Ariel (May 25, 2022).

11. "Activated Ferrate(VI): Rapid Degradation of Micropollutants in Water"
Invited Webinar, Nanjing University, Nanjing, China (May 30, 2022).

12. "High-Valent Iron Intermediates in Enhanced Oxidation of Pollutants by Ferrate"
Invited Webinar, Le Mans University, Le Mans, France (March 15, 2022).

13. "Enhancing Water Sustainability by Activated Ferrate(VI): Role of High-Valent Iron Intermediates"
V.K. Sharma,
Invited Speaker, ACS-MENA Meeting, Doha, Qatar (March 10. 2022).

14. "Ferrate in Population Health Care: Enhanced Hospital Disinfection and Water Purification"
Invited Seminar, Department of Chemical and Environmental Engineering, University of Cincinnatti, Ohio (August 28, 2020).

15. "Ferrates: Advanced Materials in Enhanced Hospital Disinfection and Water Purification"
Invited Seminar, International Association of Advaned Materials, Sweden (June 8, 2020).

16. "Ferrate Technology in Popultion Health: Enhanced Hospital Disinfection and Water Purification"
Invited Seminar, Department of Material Science and Engineering, University of Texas, Arlington, Texas (February 21, 2020).

17. "Ferrate Technology in Popultion Health: Enhanced Hospital Disinfection and Water Purification"
Sigma Xi Outstanding Distinguished Scientist Lecture, Texas A&M University, College Station, Texas (February 10, 2020).

18. "High-Valent Iron Species (Ferrates): Multimodal Action in Water Treatment"
Invited Seminar, Department of Environmental Science and Engineering, Georgia Institute of Technology, Atlanta, Georgia (January 24, 2020).

19. "Current Status of Ferrate Treatment in Water and Wastewater"
Inviting Seminar, Department of Environmental Science, Peking University, Beijing, China (November 29, 2019).

20. "High-Valent Species (Ferrates) in Oxidation of Micropollutants in Water and Hydrolysed Urine"
Inviting Seminar, Shaanxi University of Science and Technology, Xian, China (November 28, 2019).

21. "High-Valent Species (Ferrates) in Oxidation of Micropollutants in Water and Hydrolysed Urine"
Inviting Seminar, Institute of Earth Environment, Chinese Academy of Science, Xian, China (November 28, 2019).

22. "Natural Nanoparticles: Mechanism of Formation, Stability, and Toxicity in Aquatic Environment"
Inviting Seminar, Faculty of Environmental Science and Engineering, Kunming University fo Science and Technology, Kunming, China (November 27, 2019).

23. "Ferrate Technology: Current Status to Oxidize Pollutants in Water"
Inviting Seminar, Department of Environmental Engineering, Chulalongkorn University, Bangkok, Thailand (October 2, 2019).

24. "High-Valent Iron Species (Ferrates) in Environmental Remediation"

Inviting Seminar, Department of Biological and Environmental Chemistry, Faculty of Humanity-oriented Science and EngineeringKindai University, Fukuoka, Japan (September 30, 2019).

25. "Advances in Ferrate Technology: Elucidating Role of Activated Ferrate to Remove Organic Pollutants Rapidly"
Inviting Seminar, College of Environmental Science, Zhejiang University of Technology, Hangzhou, China (September 27, 2019).

26. "Advances in Ferrate Technology: Elucidating Role of Activated Ferrate to Remove Organic Pollutants Rapidly"
Pleanary Presentation, 2019 International Sympsoium of Environmental Science and Technology, Hangzhou, China (September 26, 2019).

27. "Ferrate Technology: Current Status to Oxidize Pollutants in Water"
Inviting Seminar, College of Environmental Science, Jiaxiang University, Jiaxiang University, China (September 25, 2019).

28. "Advances in Ferrate Technology: Elucidating Role of Activated Ferrate to Remove Organic Pollutants Rapidly"
Inviting Seminar, College of Environmental Science, Shanghai University of Technology, Shanghai, China (September 24, 2019).

29. "Advances in Ferrate Technology: Elucidating Role of Activated Ferrate to Remove Organic Pollutants Rapidly"
Inviting Seminar, College of Environmental Science, Xiamen University, Xiamen, China (September 23, 2019).

30. "Current Status of Ferrate Technology in Oxidizing Micropollutants and Natural Nanoparticles in Environment"
Inviting Seminar, Dalian University of Technology, Dalian, China (September 4, 2019).

31. "Conducting Scientific Research and Publishing Research"
Inviting Seminar, North Elecric Power University, Jilin City, China (July 26, 2019).

32. "Activated Ferrate to Rapidly Oxidize organic pollutants in water"
Inviting Seminar, North Elecric Power University, Jilin City, China (July 26, 2019).

33. "High-Valent Iron Species (Ferrates): Energy and Environmental Applications"
Inviting Seminar, Chemistry Department, Inner Mongolia University, Hohhot, China (July 23, 2019).

34. "Advances in Ferrate Technology: Elucidating Role of Activated Ferrate to Remove Organic Pollutants Rapidly"
Inviting Seminar, College of Environmental Science and Sustainable Resources, Nanjing Agricultural Univeristy, Nanjing, China (July 19, 2019).

35. "Advances in Ferrate Technology: Elucidating Role of Activated Ferrate to Remove Organic Pollutants Rapidly"
Inviting Seminar, Department of Environmental Engineering, Nankai University, Tianjin, China (July 18, 2019).

36. "Advances in Ferrate Technology: Elucidating Role of Activated Ferrate to Remove Organic Pollutants Rapidly"
Inviting Seminar, Department of Environmental Engineering, Sichuan University, Chengdu, China (July 12, 2019).

37. "Advances in Ferrate Technology: Elucidating Role of Activated Ferrate to Remove Organic Pollutants Rapidly"
Inviting Seminar, Department of Environmental Engineering, Polytechnic University, of Technology, Hong Kong, China (July 11, 2019).

38. "Advances in Ferrate Technology: Elucidating Role of Activated Ferrate to Remove Organic Pollutants Rapidly"
Inviting Seminar, Department of Environmental Engineering, Southern University of Science and Technology, Shenzhen, China (July 9, 2019).

39. "Natural Noble Metal Nanoparticles: Formation, Stabilization, and Toxicity in Aquatic Environment"
Inviting Seminar, Insitite of Geochemistry, Chinese Academy of Science, Guiyang, China (July 4, 2019).

40. "Role of Natural Organic Matter in Formation o Disinfection Byproducts and Natural Nanoparticles"
Plenary Speaker, NOM and Environment, Kunming, China (June 29, 2019).

41. "Advances in Ferrate Technology: Elucidating Role of Activated Ferrate to Remove Organic Pollutants Rapidly"
Invited Seminar, Université Paris-Est Marne la Vallée, Institut Francilien des Sciences Appliquées, Paris, France (May 22, 2019)

42. "High-Valent Iron Species in Super Iron, Organic Synthesis, and Purification of Water"
Invited Seminar, National Center of Scientific Research, Athens, Greece (May 10, 2019).

43. "Ferrates in Purification of Water and Wastewater"
Invited Seminar, College of Urban and Environmental Sciences, Peking University, Beijing, China (April 29, 2019).

44. "Activated Ferrate: Accelerated Oxidation of Organic Pollutants in Water"
Plenary Talk, International Symposium of Nanoscience and Nanotechnology, Xian, China (April 27, 2019).

45. "Ferrate Treatment Technology: Oxidation and Coagulation of Pollutants and Inactivation of Microorganisms"
Invited Seminar, Chemistry Department, Kunming University fo Science and Technology, Kunming, China (April 26, 2019).

46. "Activated Ferrate to Rapidly Oxidize Organic Pollutants in water"
Invited Seminar, Dalian University of Science and Technology, Dalian, China (April 24, 2019).

47. "Natural Nanoparticles: Mechanism of Formation and Toxicity in Aquatic Environment"
Invited Seminar, Guangdong Institute of Soil Science, Guangzhou, China (March 16, 2019).

48. "Activated Ferrate: Accelerated Oxidation of Organic Pollutants in Water"
Invited Seminar, Guangdong University of Technology, Guangzhou, China (March 15, 2019).

49. "Activated Ferrate(VI): Involvement of Fe^{V} and Fe^{IV} in Rapid Oxidation of Organic Pollutants in Water"
Invited Seminar, Sun-Yat Sun University, Guangzhou, China (March 15, 2019).

50. "Natural Noble Metal Nanoparticles: Formation, Stabilization, and Toxicity in Aquatic Environment"
Invited Seminar, Guangdong Institute of Soil Science, Guangzhou, China (March 14, 2019).

51. "Ferrates in Purification of Water and Wastewater"
Invited Seminar, Fuzhou Normal University, Fuzhou, China (March 13, 2019).

52. "High-Valent Iron Species in Super Iron, Organic Synthesis, and Purification of Water"
Invited Seminar, Fuzhou University, Fuzhou, China (March 13, 2019).

53. "Ferrates: Green Materials in Energy Storage, Organic Synthesis, and Purification of Water"
Invited Seminar, Urban Environmental Institute, Chinese Academy of Science, Xiamen, China (March 12, 2019).

54. "Ferrate Treatment Technology: Oxidation and Coagulation of Pollutants and Inactivation of Microorganisms"
Invited Seminar, Department of Chemistry, Texas A&M University-Corpus Christi, Corpus Christi, Texas (March 4, 2019).

55. "Ferrates: Green Materials in Energy Storage, Organic Synthesis, and Purification of Water"
Invited Seminar, Department of Chemistry, Texas A&M University-Kingsville, Kingsvillle (March 4, 2019).

56. "High-Valent Iron Species in Supper Iron, Organic Synthesis, and Purification of Water"
Invited Seminar, Department of Chemistry, University of Texas-Rio Grande Valley, Texas (March 5, 2019).

57. "Ferrate Technology: Current Status in Treatment of Water and Wastewater"
Invited Seminar, Department of Chemical and Biochemical Engineering, Western University, London, Canada (2018)

58. "Natural Noble Metals Nanoparticles: Formation, Stabilization, and Toxicity in the Environment"
Keynote Speaker, The 2018 International Conference on Nanogeosciences", Guiyang, China (2018).

59. **"**Natural Noble Metals Nanoparticles: Formation, Stabilization, and Toxicity in the Environment"
Invited Seminar, Faculty of Agricultural and Food Sciences, American University of Beirut, Beirut, Lebanon (2018).

60. **"**Ferrates: Emerging Advanced Materials in Biomedical, Environmental, Energy, and Industrial Applications"
Invited Seminar, School of Public Health, American University of Beirut, Beirut, Lebanon (2018).

61. "Ferrates: Emerging Advanced Materials in Energy, Biomedical, Industrial Synthesis, and Environmental Remediation"
Invited Seminar, International Research Center of Renewable Energy, Xian Jiaotong University, Xian (2018).

62. "Current Status of Ferrate Technology in Treatment and Natural Nanoparticles in Environment"
Invited Seminar, Lanzhou Institute of Chemical Physics, Lanzhou (2018).

63. **"**Ferrate Technology in Treatment of Contaminated Water"
Invited Seminar, Department of Environmental Engineering, Chongqing University, Chongqing, China (2018).

64. **"**Ferrate Technology in Treatment of Contaminated Water"
Invited Seminar, School of Environmental Science, Chongqing Jiaotong University, Chongqing, China (2018).

65. **"**Ferrate Technology in Treatment of Contaminated Water"
Invited Seminar, Department of Environmental Engineering, Sichuan University, Chengdu, China (2018).

66. **"**Treatment of Contaminants using Ferrate Technology: Current Status"
Invited Seminar, Department of Environmental Engineering, The University of Hong

Kong, Hong Kong (China).

67. "Natural Nanoparticles: Formation, Stabilization and Toxicity in Aquatic Environment"
Invited Seminar, Northwest A&F University, Yangling, China (2018).

68. "Collaborations in China in Environmental Science and Technology"
Invited Seminar, Shaanxi University of Science and Technology, Xian, China (2018).

69. "Conducting Scientific Research and Publishing Research"
Invited Seminar, Shaanxi University of Science and Technology, Xian, China (2018).

70. **"**Treatment of Contaminants using Ferrate Technology: Current Status"
Invited Seminar, Department of Environmental Engineering, Harbin Institute of Technology-Weihai, Weihai (2018)

71. "Ferrates: Emerging Advanced Materials in Energy, Biomedical, Industrial Synthesis, and Environmental Remediation"
Invited Seminar, College of Environmental Science, Zhejiang University, Hangzhou (2018).

72. "Current Status of Ferrate Technology in Treatment and Natural Nanoparticles in Environment"
Invited Seminar, Zhejiang University of Science and Technology, Hangzhou (2018).

73. **"**Ferrate Technology in Treatment of Contaminated Water"
Invited Seminar, Department of Environmental Science, Jilin Agricultural University, Changchun**,** China (2018).

74. "Ferrate Technology in Treatment of Contaminated Water"
Invited Seminar, Northeast Electric Power University, Jilin, China (2018).

75. "Natural Nanoparticles: Formation, Stabilization and Toxicity in Aquatic Environment"
Invited Seminar, Department of Environmental Science, Northeast Electric Power University, Jilin, China (2018).

76. "High-Valent Iron Species (Ferrates) in Sustainable Water Treatment: Underlying Reaction Mechanisms"
Invited Seminar, *Department of Chemistry, University of Texas, Arlington*, Texas (2017).

77. "Ferrate Technology: Green and Sustainable in Water Treatment"
Invited Seminar, *College of Environmental Science, Baylor University*, Waco, Texas (2017).

78. "Activation of Ferrate in Treatment of Micropollutants: Current Knowledge and Future Outlook"
Key Note Plenary Presentation, *2017 International Symposium on Environmental*

Science and Technology, Beijing, China (2017).

79. "Ferrate Treatment Technology in Sustainable Water Environment"
Invited Presentation, International Conference in Sustainability, Seoul, South Korea (2017).
80. "Collaboration in Environmental Science in China"
Invited Presentation, *2017 International Symposium on Environmental Science and Technology*, Beijing, China (2017).

81. "Natural Inorganic Nanoparticles: Formation, Fate, and Toxicity in Environment"
Key Note Lecture, *33rd International Conference of the Society for Environmental Geochemistry and Health* (SEGH 2017), Guangzhou, China (2017).

82. "Advances Made in Ferrate Technology to Treat Water and Wastewater"
Invited Presentation, North China Electric Power University, Beijing, China (2017).

83. "Natural Nanoparticles: Formation, Fate, and Toxicity in Environment"
Invited Seminar, Department of Environmental Science & Engineering, Xian Jiaotong University, China (2017).

84. "Ferrates: Emerging Advanced Materials for Energy, Environment, Biomedical and Industrial Organic Synthesis"
Invited Seminar, College of Environmental Science and Technology, Shaanxi University of Science and Technology, Xian, China (2017)

85. "Natural Nanoparticles: Formation, Fate, and Toxicity in Environment"
Invited Seminar, Regional Center for Eco-Environmentally Sciences, Chinese Academy of Science, Beijing, China (2017).

86. "Ferrate Treatment Technology in Sustainable Water Environment"
Invited Seminar, Environmental Science and Technology, Dalian University of Technology, Dalian, China (2017).

87. "Natural Nanoparticles: Formation, Fate, and Toxicity in Environment"
Invited Seminar, College of Environmental Science, Zhejiang University, Hangzhou, China (2017).

88. "Ferrates(Fe^{VI}, Fe^{V}, and Fe^{IV}) as Green Materials in Multimodal Action to Treat Water"
Invited Seminar, *Chemistry Department, Ewha Women University, Seoul, South Korea, China* (2017).

89. "Ferrate Treatment Technology in Sustainable Water Environment"
Invited Seminar, Department of Environmental Engineering, Nanyang Technical University, Singapore (2017).

90. "Ferrate Treatment Technology: Oxidation and Coagulation of Pollutants and Inactivation of Microorganisms"

Invited Seminar, Department of Environmental Science and Engineering, National University of Singapore, Singapore (2017).

91. "Ferrate Treatment Technology in Sustainable Water Environment"
Invited Seminar, Department of Environmental Engineering, Zhejiang University, Hangzhou. China (2017).

92. "Ferrates(Fe^{VI}, Fe^{V}, and Fe^{IV}) as Green Materials in Multimodal Action to Treat Water"
Invited Seminar, Dalian Institute of Chemical Physics, Dalian, China (2017).

93. "High-Valent Iron Based Materials in Water Treatment"
Invited Presentation, International Workshop of Advanced Materials, Urumqi (China).

94. "Natural Nanoparticles: Formation, Fate, and Toxicity in Environment"
Invited Seminar, Environmental Science, Nanjing University, China (2017).

95. "Ferrate Technology in Water Sustainable Environment"
Invited Seminar, Central South University, Changsha, China (2017).

96. "Ferrate Treatment Technology in Sustainable Water Environment"
Invited Seminar, Chemistry Department, Wuhan University, Wuhan, China (2017).

97. "Ferrate Treatment Technology in Sustainable Water Environment"
Invited Seminar, Department of Environmental Engineering, Hanzhong University of Science and Technology, Wuhan, China (2017).

98. "Ferrate Treatment Technology in Sustainable Water Environment"
Invited Seminar, Institute of Urban Environment, Chinese Academy of Science, Xiamen, China (2017).

99. "Nanoparticles in the Environment: Formation, Fate, and Toxicity"
Invited Seminar, Xiamen University, Xiamen, China (2017).

100. "Collaboration in Environmental Science and Technology in China"
Invited Seminar, Sun Yat Sen University, Guangzhou, China (2017).

101. **"**Iron-, Silver-, and Carbon- Based Materials in Environmental and Energy Applications"
Invited Seminar, University of North South Wales, Sydney, Australia (2017).

102. "Purification of Water using Iron Oxides: Green and Sustainable Ferrate Technology in Water Treatment"
Invited Seminar, Western Sydney University, Sydney, Australia (2017).

103. "Ferrate Technology: Green and Sustainable in Water Treatment"
V.K. Sharma,

Key Note Speaker, *Workshop on Environmental Iron Chemistry*, Shanghai, China

104. **"**Iron-, Silver-, and Carbon- Based Materials in Environmental and Energy Applications"
Invited Seminar, Xiamen University, Xiamen, China (2016).

105. **"**Ferrate as a Greener Compound: Oxygen Evolution from Water, Organic Synthesis, and Oxidative Transformation of Contaminants"
Invited Seminar, Shaanxi University of Science and Technology, Xian, China (2016).

106. "Reactive Species in Treatment of Water and Wastewater"
Invited Workshop, Kunming University of Science and Technology, Kunming, China (2016).

107. "Advances Made in Ferrate Technology to Treat Water and Wastewater"
Invited Seminar, Nanjing University, Nanjing, China (2016).

108. **"**Ferrate as a Greener Compound: Oxygen Evolution from Water, Organic Synthesis, and Oxidative Transformation of Contaminants"
Invited Seminar, Nanjing University of Technology, Nanjing, China (2016).

109. **"**Ferrate Technology: Advances made in Treating Water and Wastewater"
Invited Seminar, Jiatong Xian University, Xian, China (2016).

110. "Reactive Species in Treatment of Water and Wastewater"
Invited Workshop, Western University, London, Ontario, Canada (2016)

111. **"**Iron-, Silver-, and Carbon- Based Materials in Environmental and Energy Applications"
Invited Seminar, Sun Yat Sen University, Guangzhou, China (2016).

112. "Advances Made in Ferrate Technology to Treat Water and Wastewater"
Invited Seminar, Chinese Academy of Science, Urumqi, China (2016).

113. "Natural Nanoparticles in the Environment: Formation, Fate, and Toxicity"
Invited Seminar, Chinese Academy of Science, Urumqi, China (2016).

114. **"**Inorganic Nanoparticles in Natural Environment: Formation and Fate"
Invited Seminar, Shandong University, Jinan, China (2016)

115. "Ferrites in Sustainable Energy and Environmental Remediation: Mössbauer Spectroscopy Characterization"
Invited Presentation, Mediterranean Conference on the Applications of the Mössbauer Effect" Cavtat, Croatia (2016).

116. "Conducting Research and Publishing Scientific Research"
Invited Presentation, Center of Cyanobacteria and Toxins, Chinese Academy of Science, Brno,

Czech Republic (2016).

117. "Iron-, Silver-, and Carbon-Based Nanomaterials in Environmental and Energy Applications"
Invited Seminar, University of Texas at Arlington, Arlington, Texas (2016).

118. "**Invited Seminar**, Nanjing Institute of Technology, Nanjing, China (2016). "Advances Made in Ferrate Technology in Treating Water and Wastewater"
Invited Seminar, Dalian University of Technology, Dalian, China (2016).

119. "Iron-, Noble Metals-, and Carbon-Based Nanomaterials in Environmental and Energy Applications"
Invited Seminar, Institute of Urban Environment, Chinese Academy of Science, Xiamen, China (2016).

120. "Pulse Radiolysis Studies of Ferrates"
Invited Seminar, Tongji University, Shanghai, China (2016).

121. "Advances Made in Ferrate Technology to Treat Water and Wastewater"
Invited Seminar, Nanjing University, Nanjing, China (2016).

122. "Iron-, Silver-, and Carbon-Based Nanomaterials in Environmental and Energy Applications"
Invited Seminar, Nanjing Institute of Technology, Nanjing, China (2016).

123. "Advances Made in Ferrate Technology to Treat Water and Wastewater"
Invited Seminar, Huaqiao University, Xiamen, China (2016).

124. "Iron- and Carbon-Based Materials in Energy and Environmental Applications"
Invited Seminar, Xiamen Institute of Technology, Xiamen, China (2016).

125. "Ferrate and Ferryl Species: Mossbauer Spectroscopy Investigations"
Invited Speaker, *MECAME 2015, Mediterranean Conference on the Applications of the Mossbauer Effect*, Zadar, Croatia (2015).

126. **"**Ferrate(VI)-Promoted Removal of Metals by Ferrate(VI): Mechanism Studies using Mössbauer Spectroscopy"
Invited Speaker, *The International Conference on the Applications of the Mössbauer*

127. "Multimodal Actions of Ferrate Treatment Technology in Removing Metals, Pharmaceuticals, and Cyanotoxins in Water"
Plenary Presentation, *2015 International Symposium on Environmental Science and Technology*, Chongqing, China (2015).

128. "Iron Based Sustainable Greener Technologies to Treat Cyanobacteria and Microcystin-LR in Water"

Keynote Presentation, *IWA, 2015 International Workshop on Occurrence and Control of Taste, Odours, and Algal Toxins in Waters*, Xiamen, China (2015).

129. "Ferrates(VI, V, and IV): Oxidants/Disinfectants/Coagulants in Water Treatment Technologies"
Invited Seminar, Harbin Institute of Technology, Shenzhen Graduate School, Shenzhen, China (2015).

130. "Ferrates(VI, V, and IV): Multimodal Action in Sustainable Water Treatment Technologies"
Invited Seminar, Kunming University of Science and Technology, Faculty of Environmental Science and Engineering, Kunming, China (2015).

131. "Natural Particles in Environment"
Invited Seminar, Yunan Agricultural University, Kunming, China (2015).

132. "Ferrates: Green Oxidants with Multimodal Actions in Sustainable Treatment Technologies"
Invited Seminar, Research Center of Environmental Eco-Friendly Sciences, Chinese Academy of Science, Beijing, China (2015).

133. "Iron Oxides (Ferrates) as Green Materials for Sustainable Water Treatment"
Invited Speaker, The 10th Asia Pacific Conference on Sustainable Energy & Environmental Technologies, Seoul, Korea (2015).

134. "Water Supply Sustainability and Treatment Strategies: Challenges in Coming Decades"
Invited Seminar, School of Public Health, Peking University, Beijing, China (2015).

135. "High-Valent Iron Species (Ferrates) in Sustainable Water Treatment: Underlying Reaction Mechanisms"
Invited Seminar, Institute of Chemistry, Chinese Academy of Science, Beijing, China (2015).

136. "Formation and Fate of Natural Inorganic Nanoparticles: Underlying Mechanisms"
Invited Seminar, College of Environmental Science and Engineering, Peking University, Beijing, China (2015).

137. "Ferrate (Iron-Based Material): A Broad Portfolio of Applications"
Invited Seminar, Lisbon, Faculty of Pharmacy, Lisbon, Portugal (2015).

138. "Ferrates: Green Oxidants with Multimodal Actions in Treatment Technologies"
Invited Seminar, Department of Civil and Environmental Engineering, Rice University, Texas (2015)

139. "Ferrates (Iron-Based Material): A Broad Portfolio of Applications"
Invited Presentation, Earth Day Texas 2015, Dallas, Texas (2015).

140. "Emerging Issues- Climate Change and Water Pollution – Diseases"
Invited Presentation, Bush China-US Conference, Houston, Texas (2015).

141. "Ferrates and Ferryl Species: Mössbauer Spectroscopy Investigations"
Invited Presentation, Mediterranean Conference on the Applications of the Mössbauer Effect" 2015, Zadar, Croatia (2015).

142. "Ferrates (Iron-Based Material): A Broad Portfolio of Applications"
Invited Seminar, Institute for Medicines and Pharmaceutical Sciences, Lisbon University, Lisbon, Portugal (2015).

143. "High-Valent Iron Species: Greener Materials in Sustainable Treatment Technologies"
Invited Seminar, Chemistry Department, Osaka University, Osaka, Japan (2015).

144. "Novel Ferrate Technology in Treating Emerging Pollutants and Toxins in Water"
Invited Seminar, Chemistry Department, Tokyo Metropolitan University, Tokyo, Japan (2015).

145. "Water Structure and Ferrates as Green Material in Treating Water"
Invited Lecture, Chemistry Department, Toho University, Chiba, Japan (2015).

146. "Ferrates: Green Materials in Treating Water and Natural Silver Nanoparticles in the Environment"
Invited Seminar, Department of Chemistry, Hohai Univeristy, Nanjing (2015).

147. "Ferrates: Greener Oxidants with Multimodal Action in Treatment Technologies"
Invited Seminar, Department of Environmental Engineering, Tongji University, Shanghai, China (2014).

148. "Ferrates: Green Materials in Treating Water and Natural Silver Nanoparticles in the Environment"
Invited Seminar, School of Public Heath, Shandong University, Jinan, China (2015).

149. "Ferrates: Green Materials in Treating Water and Natural Silver Nanoparticles in the Environment"
Invited Seminar, Department of Environmental Engineering, Zheijiang University, Hongzhou, China (2015).

150. "Ferrates: Greener Oxidants with Multimodal Action in Treatment Technologies"
Invited Seminar, Institute of Geochemistry, Chinese Academy of Science, Guangzhou, China
(2014).

151. "Ferrates: Disinfecting and Detoxifying Agents"
Invited Seminar, Department of Environmental Engineering, Sun-Yat Sen University, Guangzhou, China (2014).

152. "High-Valent Iron-Based Green Materials in Purifying Air and Water"

Invited Lecture, *Workshop on Green Chemistry on Environmental Technology and Materials*, Tunghai University, Department of Environmental Science and Engineering, Taichung City, Taiwan (2014).

153. "Silver Nanoparticles: Formation, Fate, and Toxicity in Aquatic Environment"
Invited Seminar, Hung Kuang University, Taichung City, Taiwan (2014).

154. "Ferrates- Chemistry and Applications"
Invited Seminar, National Chi Nan University, Nantou County, Taiwan (2014)

155. "High-Valent Iron Species as Green Materials for Disinfection and Detoxification"
Invited Seminar, Veterinary Medicine & Biomedical Sciences, Texas A&M University, College Station, Texas (2014)

156. "Ferrates(VI, V, and IV): Oxidants/Disinfectants/Coagulants in Water Treatment Technologies"
Invited Seminar, Swiss Federal Institute of Aquatic Science and Technology (EAWAG), Dubendorf, Switzerland (2014).

157. "Ferrites and Ferrates: Green Materials in Energy and Environmental Applications
Invited Seminar, Ruđer Bošković Institute, Zagreb, Croatia (2014).

158. "Ferrates and Ferrites: Decomposition and Application Studies using Mossbauer Spectroscopy"
Invited Speaker, Conference on Mossbauer Spectroscopy in Materials Science (MSMS 2014), Hlohovec, Czech Republic (2014).

159. "Mossbauer Spectroscopy: Applications in Biology, Chemistry, Nanotechnology, and Industry"
Invited Seminar, Technical University of Warsaw, Warsaw, Poland (2014).

160. "Reactive Intermediates in Treatment of Water and Wastewater"
Invited Lecture, Harbin Institute of Technology, Harbin, China (2014).

161. "Ferrates as Disinfectant and Green Chemical to Treatment Pollutants in Water"
Invited Seminar, Northeast Dailin University, Jilin City, China (2014).

162. "Conduct Scientific Research and Publish Results"
Invited Lecture, Northeast Dailin University, Jilin City, China (2014).

163. "Ferrates (VI, V, and IV): Fundamentals and Applications"
Invited Seminar, Notre Dame Radiation Center, Notre dame, Indiana (2013).

164. "Ferrate as Disinfectant and Green Chemical to Treat Pollutants in Water"
Invited Seminar, Barry University, Miami, Florida (2013).

165. "Ferrates(IV,V, and VI): Fundamental and Applications in Treatment of Water and Wastewater"
Invited Seminar, State Key Laboratory of Pesticides & Chemical Biology, Ministry of Education, Hua Zhong Normal University, Wuhan, China (2013).

166. "Ferrate Technology in Treatment of Water and Wastewater"
Invited Seminar, Harbin Institute of Technology, Harbin, China (2013).

167. "Ferrites and Ferrates as Environmental Friendly Materials in Photocatalytic Remediation And Energy Processes"
Invited Seminar, Dalian Institute of Chemical Physics, Dalian, China (2013).

168. "Photocatalytic Oxidation of Amino Acids"
Invited Presentation, *2013 International Symposium on Environmental Science and Technology*, Dalian, China (2013).

169. "Advances Made in Ferrate Technology To Treat Water and Wastewater"
Plenary Presentation, *2013 International Symposium on Environmental Science and Technology*, Dalian, China (2013).

170. "Ferrites and Ferrates as Environmental Friendly Materials: Mössbauer Spectroscopy Investigation"
Invited Seminar, Institute of Molecules and Materials of Le Mans, CNRS, University of Maine, France (2013).

171. "Ferrates(IV, V, and VI): Fundamentals and Applications"
Invited Seminar, School of Architecture, Civil and Environmental Engineering (ENAC), Ecole Polytechnique Fédérale Lausanne, Switzerland (2013).

172. "Ferrate Technology in Water and Wastewater Treatment"
Invited Seminar, KWR Watercycle Research Institute, Nieuwegein, Netherlands (2013).

173. "Oxidation of compounds by high-valent iron species: one- and two-electron transfer Steps"
Invited Presentation, *245th ACS National Meeting*, New Orleans, Louisiana (2013).

174. "Oxidative transformation of microcystin-LR by ferrate"
Invited Presentation, *245th ACS National Meeting*, New Orleans, Louisiana (2013).

175. "Ferrates(VI, V, and IV): Fundamentals and Applications"
Invited Seminar, Chemistry Department, Florida International University, Miami, Florida (2013).

176. "Oxidation of Pharmaceuticals by Ferrate(VI)"
Invited Seminar, Department of Environmental Engineering, University of Seoul, Seoul, Korea (2013).

177. "Ferrate(VI): Fundamentals and Applications"
Invited Seminar, Department of Environmental Engineering, Yonsei University, Wonju, Korea (2013).

178. "Mossbauer Spectroscopy of High-Valent iron Species: Industrial and Environmental Applications"
Invited Speaker, *XIII Latin American* Conference *on the Applications of the* Mössbauer *Effect - LACAME 2012*, Medellín, Colombia (2012).

179. "Ferrate(VI), V, and IV): Fundamentals and Applications"
Invited Seminar, Institute of Chemistry, Chinese Academy of Science, Beijing, China (2012).

180. "Novel Ferrate Technology in Purifying Air and Water"
Invited Seminar. Environmental Engineering, Shandong University, Jinan, China (2012).

181. "Mossbauer Spectroscopy in Studying of Synthesis and Environmental Applications of Ferrate(VI)"
Plenary Presentation, *Mossbauer Spectroscopy in Material Science 2012,* Olomouc, Czech Republic (2012).

182. "Water Consumption and Water Treatment: Regional Aspects"
Invited Presentation, *Sustainability 2012: Regional Aspects, International Interdisciplinary Sustainability Forum, Eger*, Hungary (2012)

183. "Formation and Stability of Silver Nanoparticles in Aquatic Environment"
Invited Seminar, *Research Center for Toxic Compounds, Masaryk University*, Brno, Czech Republic (2012).

184. "Oxidation of Emerging Contaminants by Novel Ferrate Technology"
Invited Seminar, *Laboratoire Géomatériaux et Environnement (LGE), Université Paris-Est*, Paris (2012).

185. "Oxidation of Emerging Contaminants by Novel Ferrate Technology"
Invited Seminar, *Institute of Chemical Engineering and Environmental Technology, Graz University of Technology*, Graz, Austria (2012).

186. "Safe and Efficient Cleaning of Polluted Water by Novel Ferrate Technology"
Invited Seminar, *Department of Chemical Engineering, University of Western Ontario, London*, Canada (2012).

187. "Novel Ferrate Technology in Water and Wastewater Treatment"
Invited Seminar, *Department of Civil and Environmental Engineering, University of Toronto*,
Toronto, Canada (2012).

188. "Ferrates(VI, V, and IV): Fundamentals and Applications"
Invited Seminar, *Federal Institute of Hydrology*, *Koblenz*, Germany (2012).

189. "Silver Nanoparticles: Synthesis, Characterization, and fate in the Aquatic Environment"
Invited Seminar, *Regional Center of Advanced Technologies and Materials, Palacky University*, Olomouc, Czech Republic (2012).

190. "Oxidation of Pollutants by Novel Ferrate Technology"
Invited Seminar, *School of Environmental Science and Engineering, Sun Yat*-sen *University*, *Guangzhou,* China (2011).

191. "Chemistry of Ferrates(VI, V, and IV): Fundamentals and Applications"
Invited Seminar, *Regional Center of Advanced Technologies and Materials, Palacky University*, Olomouc, Czech Republic (2011).

192. "Oxidation of Pollutants by Novel Ferrate Technology"
Invited Seminar, *Vienna Institute of Technology*, Vienna, Austria (2011).

193. "Oxidation of Pollutants by Novel Ferrate Technology"
Invited Seminar, *Tunghai University*, Taichung, Taiwan (2011).

194. "Water Splitting to Generate Hydrogen using Visible Light Photocatlaysts"
Invited Seminar, *National Tsing Hua University*, Hsinchu, Taiwan (2011).

195. "Oxidation of Pollutants by Novel Ferrate Technology"
Invited Seminar, *Graduate Institute of Environmental Engineering, National Taiwan University*, Taipei, Taiwan (2011).

196. "Ferrates(Fe(VI), V, and IV): Green Chemistry Oxidants"
Invited Seminar, *VERFIN Finnish Institute for Verification of the Chemical Weapons Convention*, University of Helsinki, Finland (2011).

197. "Fate, Effects, and Control of Sea-Dumped Chemical Weapons"
Invited Seminar, *International Seminar on Environmental Effects Related to Waste Originating from Sea-Dumped Chemical Munitions*, Vilnius, Lithuania (2011)

198. "Ferrate Technology in Water Supply Sustainability"
Plenary Presentation, *2011 International Symposium on Environmental Science and Technology*, Dongguan, Guangdong Province, China (2011).

199. "Oxidation of Pollutants by Novel Ferrate(VI) Process: Fundamentals and Applications"
Invited Presentation, *International Workshop on Frontiers in Environmental Chemical Research,* POSTECH, Korea (2011)

200. "Ferrates(VI, V, and IV): Green Chemistry Oxidants"
Invited Seminar, *Long Island ACS Section*, New York (2011).

201. "Reactivity of Aqua Ferrate (VI, V, and IV) with Inorganic an Organic Compounds: Green Chemistry"
Invited Seminar, *Maria Sklodowska-Curie Polish Radiation Research Society*, Lodz, Poland (2010).

202. "Ferrates(VI, V, and IV): Green Chemistry Oxidants in Water Treatment"
Invited Seminar, *Water Research Institute, National Research Council, Rome*, Italy (2010).

203. "Ferrates [Iron(VI) and Iron(V)] – Environmentally-Friendly Oxidants, Coagulants and Disinfectants"
Invited Seminar, *Instituto Catalana de Recerca I Estudis Avancats, IDEAE*, Barcelona, Spain (2009).

204. "Ferrate (Iron(VI)): Environmental-Friendly Oxidant, Coagulant, and Disinfectant"
Invited Lecture, *The Ukrainian State Chemical Institute, Dnepropetrovsk*, Ukraine (2009).

205. "Reactivity of Oxyiron (VI, V, and VI) with Inorganic and Organic compounds in Aqueous Solution: Pulse Radiolysis studies"
Invited Lecture, *26th Miller Conference in Radiation Chemistry*, Keszthley, Hungary, 2009.

206. "Ferrate(VI)-Oxidant, Disinfectant, and Coagulant"
Invited Seminar, *Institute of Colloidal Chemistry and Environmental Science*, Kiev, Ukraine (2009).

207. "Ferrate (Iron(VI)) – Environmentally-Friendly Oxidant, Coagulant and Disinfectant"
Invited Seminar, *UNESCO-IHE Institute of Water Education, Delft*, Netherlands (2008).

208. "Ferrates: Synthesis, Properties, and Applications in Water Treatment"
Invited Lecture, *M.V. Lomonosov Moscow State University*, Moscow, Russia (2008).

209. "Ferrate(VI) Technology in Treating Emerging Contaminants and Toxins in Water"
Special Seminar, *Chiang Mia University*, Chiang Mia, Thailand (2008).

210. "Chemistry of Higher Oxidation States of Iron (Ferrates)"
Invited Lecture, *Konan University, Shobe*, Japan (2008).

211. "Aqua Ferrate(VI, V, and IV): Properties and their Potential in Remediation Processes"
Invited Lecture, *Kinki University, Iizuka*, Japan (2008).

212. "Ferrate(VI) Technology in Treating Emerging Contaminants and Toxins in Water and Wastewater"
Invited Seminar, *Kyoto University*, Kyoto, Japan (2008).

213. "Ferrate(VI) Technology in Treating Emerging Contaminants and Toxins in Water and Wastewater"
Invited Seminar, *Yamanashi University*, *Kofu,* Japan (2008).

214. "Ferrate(VI) oxidation of Endocrine Disruptors and Pharmaceuticals: Kinetics and Products Formation,
Invited Lecture, *University of Seoul*, Seoul, South Korea (2008).

215. "Ferrates(VI)-Environmentally-Friendly Oxidants, Disinfectants, and Coagulants) in Water and Wastewater Treatment"
Invited Seminar, *Chulalongkorn University, Bangkok,* Thailand (2007).

216. "Ferrate(VI) Technology in Treating Emerging Contaminants and Toxins in Water and Wastewater"
Invited Seminar, *Eötvös Loránd University, Budapest,* Hungary (2006).

217. "Aqua Ferrate(VI, V, and IV) and their Potential in Remediation Processes"
Invited Seminar, *Institute of Isotopes, Hungarian Academy of Science, Budapest*, Hungary (2006).

218. "Ferrates(Iron(VI) and Iron(V))-Environmentally-Friendly Oxidants, Disinfectants , and Coagulants) in Water and Wastewater Treatment"
Invited Seminar, *Bren School of Environmental Science and Management, University of California-Santa Barbara* (2006).

219. "Ferrates(Iron(VI) and Iron(V))-Environmentally-Friendly Oxidants, Disinfectants , and Coagulants) in Water and Wastewater Treatment"
Seminar, *University of California-Berkeley* (2006).

220. "Ferrates(Iron(VI) and Iron(V))-Environmentally-Friendly Oxidants, Disinfectants , and Coagulants) in Water and Wastewater Treatment"
Seminar, *California Institute of Technology* (2006).

221. "Ferrates(Iron(VI) and Iron(V))-Environmentally-Friendly Oxidants, Disinfectants , and Coagulants) in Water and Wastewater Treatment"
Invited Seminar, *University of Seoul, Korea* (2005).

222. "Ferrates(Iron(VI) and Iron(V))-Environmentally-Friendly Oxidants, Disinfectants , and Coagulants) in Water and Wastewater Treatment"
Seminar, *EAWAG, Swiss Federal Institute of Aquatic Science and Technology*, Dübendorf, Switzerland (2005).

223. "Ferrates(Iron(VI) and Iron(V))-Environmentally-Friendly Oxidants, Disinfectants , and Coagulants) in Water and Wastewater Treatment"
Seminar, *Imperial College, London*, United Kingdom, (2005).

224. "Ferrates (Iron(VI) and Iron(V)): Environmentally-Friendly Oxidants and Disinfectants"
Invited Seminar, *Hong Kong Polytechnic University, Hong Kong* (2004).

225. "Chemistry and Applications of High Oxidation States of Iron (Fe(VI), Fe(V), and Fe(IV))"
Invited Seminar, *Budapest University of Science and Technology*, Budapest, Hungary (2003).

226. "Chemistry and Applications of High-Valent Oxy-Iron Compounds"
Invited Seminar, *Institute of Inorganic Technology***,** Bratislavia, Slovakia (2003).

227. "Higher Oxidation States of Iron (Fe(VI), Fe(V), and Fe(IV)): Properties and Applications"
Invited Seminar, *Chemistry Department, Yonsei University*, Seoul, Korea (2003).

228. "Higher Oxidation States of Iron (Fe(VI), Fe(V), and Fe(IV)): Environmentally-Friendly Oxidants"
Special Seminar *hosted by Thai Chemical Society at Chulalongkorn University, Bangkok,* Thailand (2003).

229. "Higher Oxidation States of Iron (Fe(VI), Fe(V), and Fe(IV)): Environmentally Friendly Oxidants in Wastewater Treatment"
Invited Seminar, *Institute of Chemical Technology, Prague*, Czech Republic (2002).

230. "Higher Oxidation States of Iron in Aqueous Solution: Thermodynamics and Kinetics"
Seminar, *J. Heyrovsky Institute of Physical Chemistry*, Prague, Czech Republic (2002).

231. "Studies of Hypervalent iron (Fe(VI), Fe(V), and Fe(IV) in Aqueous solution"
Seminar, *Max Planck Institute Festkorperforsch*, Stuttgart, Germany (2002).

232. "Studies of High Oxidation States of Iron (Fe(VI), Fe(V), and Fe(IV)) in Aqueous Solutions"
Invited Seminar, *Eötvös Loránd University, Budapest*, Hungary (2002).

233. "Ferrates (Fe(VI), Fe(V), and Fe(IV)): Properties and Applications"
Invited Seminar, *Royal Institute of Technology (KTH), Stockholm,* Sweden (2002).

234. "Reactivities of Ferrates (Fe(VI. Fe(V), and Fe(IV)) with compounds of Environmental and Biological interests"
Invited Seminar, *Pohang University of Science and Technology, Korea* (2002).

235. "Ferrates (Fe(VI), Fe(V), and Fe(IV)) in Wastewater Treatment"
Invited Seminar, *Research Center for Water Environmental Technology, University of Tokyo*, Japan (2002).

236. "Reactivities of Ferrates (Fe(VI. Fe(V), and Fe(IV) with Compounds of Biological interests"

Invited Seminar, *Kyushu University, Fukuoka*, Japan (2002).

237. "The Chemistry of Higher Oxidation States of Iron (Fe(VI), Fe(V), and Fe(IV)"
Invited Seminar, *Jet Propulsion Laboratory,* Pasadena, California (2001).
, International
238. "Potassium Ferrate(VI): An Environmentally-Friendly Oxidant"
Invited Seminar, *National University of Mexico,* Mexico City, Mexico (2001).

239. "Higher Oxidation State of Iron (Fe(VI), Fe(V), and Fe(IV)): Environmentally Friendly Oxidants"
Invited Seminar, *Chulalongkorn University, Bangkok,* Thailand (2001).

240. "Ferrates (Fe(VI), Fe(V) and Fe(IV)): Alternate Oxidants in Wastewater Treatment"
Invited Seminar, *National University of Singapore,* Singapore (2001).

ORGANIZER-CONFERENCES/SYMPOSIA:

Organizer - Conference "*International Water Association (IWA) Sustainable Natural and Engineered Water Systems Management (SWSM 2023)*", Bangkok, Thailand (December 13-16. 2023).

International Scientific Committee Member – XVIII World Water Congress, International Water Resources Association, Beijing, China (September 11-15, 2023)

Organizer – Workshop "*Impacts of Climate Change on Water Resources: Challenges and Needs at Regional and Global Scale*" at 2023 Association of Environmental Engineering and Science Professors (AEESP) Research and Education Conference in Boston, MA (June 20-23, 2023).

Organizer – Symposium "*ACS Awards for Creative Advances in Environmental Science and Technology*" at 2023 Spring ACS National Meeting at Indianapolis, Indiana (2023).

Organizer – Symposium "*Catalytic, Electrocatalytic & Hetergeneous Advanced Catalytic Technologies for Treatments of Emerging Concern"* at 2023 Spring ACS National Meeting at Indianapolis, Indiana (2023).

Organizer – Sympsoium "*Advances Made by Early to Mid-Career Researchers in Environmental Science & Engineering*" at 2023 Spring ACS National Meeting at Chicago, Ilinois (2022).

Organizer – Symposium "*Greener Strategies in Environmental Sustainability*" at 262nd ACS National Meeting at Chicago, Ilinois (2022).

Organizer – Symposium "*Impact of Engineered & Natural Nanomaterials on the Environment: A symposium in Honor of Dr. Michael F. Hochella*" at 262nd ACS National Meeting at Chicago, Ilinois (2022).

Organizer – Symposium "*ACS Awards for Creative Advances in Environmental Science and Technology*" at 261st ACS National Meeting at San Diego, California (2022).

Organizer – Symposium "*Women in Science & Engineering" – A tribute to impactful contributions made to environmental chemistry*" at 260th ACS National Meeting at Atlanta, Georgia (2021).

Organizer – Symposium "*Toward Creating a Water-Energy-Food Nexus Community of Practice: Symposium in Honor of Professor Rabi H. Mohtar"* at 260th ACS National Meeting at Atlanta, Georgia (2021).

Organizer – Symposium "*Mössbauer Spectroscopy from Magnetic Nanoarchitectures to Environmental Science: A Symposium in Honor of Dr. Jean-Marc Greneche"* at 260th ACS National Meeting at Atlanta, Georgia (2021).

Organizer – Symposium "*Ecosystems, Water & Food Security in a Changing World: Challenges & Solutions in Arid Regions"* at 260th ACS National Meeting at Atlanta, Georgia (2021).

Organizer – Symposium "*Current Perspectives in Water Reuse & Recycling"* at 260th ACS National Meeting at Atlanta, Georgia (2021).

Organizer – Symposium "*Current Perspectives in Environmental Science*" at 260th ACS National Meeting at Atlanta, Georgia (2021).

Organizer – Symposium "*Advances in Chemical Oxidative Processes for Emerging Contaminants in Water & Wastewater*" at at 260th ACS National Meeting at Atlanta, Georgia (2021).

Organizer – Symposium "*Advanced Oxidation Processes: Progress & Challenges*" at at 260th ACS National Meeting at Atlanta, Georgia (2021).

Organizer – Symposium "*Green Chemistry and Engineering for a Sustainable Circular Economy*" at International Chemical Congress of Pacific Basin Societies (Pacifichem 2020), Honolulu, Hawaii, USA, December 15-20 (2020).

Organizer – Symposium "*Ferrate and Ferrite in Green Chemical Applications for Environmental Sustainability*" at International Chemical Congress of Pacific Basin Societies (Pacifichem 2020), Hawaii, USA, December 15-20 (2020).

Organizer – Symposium "*Chemistry of Water Reuse Processes toward Water Sustainability*" at 258th ACS National Meeting at San Francisco, California (2019).

Organizer – Symposium "*Chemistry of Water Reuse Processes toward Water Sustainability*" at 258th ACS National Meeting at San Francisco, California (2019).

Organizer - Symposium "*Photocatalytic and Electrochemical Processes: Fundamentals and Applications in Green Energy and Environmental Remediation: A Symposium in Honor of Professor* Krishnan Rajeshwar" at 257th ACS National Meeting at Orlando, Florida (2019).

Co-Chair – *Mediterranean Conference on the Applications of the Mössbauer Effect (MECAME2016) in Honor of Professor Frank Berry*, Zadar, Croatia, 2018.

Organizer - Symposium "*Environmental Behaviors and Health Effects of Pollutants: A Symposium in Honor of Professor Guibin Jiang*" at 256th ACS National Meeting at Boston, Massachusetts (2018).

Organizer – Symposium "Chemical Reactions at Solid-Water Interfaces of the Natural and Built Environment, at 256th ACS National Meeting at Boston, Massachusetts (2018).

Organizer - Symposium "*Shaping Activity through Structure Modification: from Small Molecule to Nanoparticle: A Symposium in Honor of Professor Bing Yan*" at 255th ACS National Meeting at New Orleans, Louisiana (2018).

Co-Chair – *Mediterranean Conference on the Applications of the Mössbauer Effect (MECAME2018) in Honor of Professor Frank Berry*, Zadar, Croatia, 2018.

Organizer - Symposium "*Oxidation Processes, Nanoparticles, and Membranes in Water and Wastewater Treatment in Honor of Professor Jun Ma*" at 253rd ACS National Meeting at San Francisco, Pennsylvania (2017).

Organizer – Session "*Nanoparticles: Formation, Fate, and Toxicity in Aquatic Environment*" at 33rd International Conference of the Society of Environmental Geochemistry and Health (SEGH 2017), Guangzhou, China (2017).

Co-Chair – *Mediterranean Conference on the Applications of the Mössbauer Effect (MECAME2018) in Honor of Professors Rivka Bauminger and Rolfe Herber*, Jerusalem, Israel 2017

Organizer – Symposium "*Formation and Transformation of Atmospheric Aerosols: Air Pollution to Climate Change" in Honor of Professor Renyi Zhang*" at 252nd ACS National Meeting at Philadelphia, Pennsylvania (2016).

Organizer – Symposium "*Greener Pathways to Organic and Nanomaterials: Sustainable Applications of Magnetic Nanocatalysts" in Honor of Dr. Rajender S. Varma*" at 251st ACS National Meeting at San Diego, California (2016).

Co-Chair – *Mediterranean Conference on the Applications of the Mössbauer Effect (MECAME2016) in Honor of Professor Philipp Gütlich*, Dubrovnik, Croatia, 2016.

Organizer – *Symposium "Ferrites and Ferrates: Chemistry and Applications in Sustainable Energy and Environmental Remediation*" at the International Chemical Congress of Pacific Basin Societies 2015, Honolulu, Hawaii (2015).

Organizer – *Symposium "Nuclear Probes in Nanoscale Characterization*" at the International Chemical Congress of Pacific Basin Societies 2015, Honolulu, Hawaii (2015).

Co-Organizer – Symposium "*Emerging Electrochemical Water Remediation Technologies: A symposium in Honor of Professor Enric Brillas and Professor Mehmet A. Oturan*" at 250th ACS National Meeting at Boston, Massachusetts, 2015.

International Advisory Board member - 2015 *International Symposium on Environmental Science and Technology*, Chongqing, China.

Co-Organizer – *Mediterranean Conference on the Applications of the Mössbauer Effect (MECAME2015) in Honor of Professor Svetozar Music*, Zadar, Croatia, 2015.

Co-Organizer – Symposium "*Thermodynamics and Kinetics in Treatment Processes: Past, Present, and Future*" 248th ACS National Meeting at San Francisco, California, 2014.

Co-Organizer – Symposium "*Chemistry and Application of Green Catalysts for Energy Transformation and Emission Control*" 246th ACS National Meeting at Indianapolis, Indiana, 2013.

International Advisory Board member - 2013 *International Symposium on Environmental Science and Technology*, Dalian, China.

Session Chair – Symposium "Chemistry and Applications of Advanced oxidation processes for removal of Contaminants of Emerging Concern: Chemical oxidation and Free Radicals" *245th ACS National Meeting*, New Orleans, Louisiana (2013).

Co-Organizer – Symposium "*Interactions of Nanomaterials with Emerging Environmental Contaminants*" 244th ACS National Meeting at Philadelphia, 2012.

Co-Organizer – Symposium "*Nanotechnology and the Environment: Green Technology*" in 243rd ACS National Meeting at San Diego, 2012.

Session Chair – *27th Miller Conference in Radiation Chemistry*, Tallsberg, Sweden, 2011.

Co-Organizer – "*6th Biannual Nassau Argonne International Mössbauer Symposium*" at Nassau Community College in Garden City, New York, January 13-14, 2011.

International Advisory Board member – *International Conference on Advances in Environmental Chemistry*, Aizwal, India, November 16-18, 2011.

International Advisory Board member - 2011 *International Symposium on Environmental Science and Technology*, Dongguan, Guangdong Province, China.

Special Session Chair – "*Advanced Oxidation Processes- Environmental Applications*" at *2011 International Symposium of Environmental Science and Technology*, China.

Organizer – Symposium "*Chemical Applications of Mössbauer Spectroscopy*" in 239th ACS National Meeting in San Francisco, California, 2010.

Session Chair – Symposium "*Emerging Environmental Technologies towards a Cleaner and Sustainable Society*" in 2009 ACS Fall National meeting at Washington DC, 2009.

Organizer – Symposium "*Speciation and Kinetics in Natural Waters in honor of Frank Millero*" in 2009 ACS Spring National meeting at Salt Lake City, Utah, 2009.

Organizer - Symposium "*Ferrates: Synthesis, Properties, and Applications in Water and Wastewater Treatment*" in spring 2006 ACS National meeting at San Francisco, California, 2006.

Organizing Committee Member – 3rd International Conference and Exhibition on Ballast Water Management (ICBWM 2006), Singapore, 2006

Session Chair – "*Role of Iron in the Environment*" at the Sustainability's New Age, Preservation and Planning (SNAP): An International Sustainability Forum in Melbourne, Florida, 2005.

Organizer - International Symposium "*Innovative Ferrate(VI) Technology in Water and Wastewater Treatment*" Prague, Czech Republic, 2004.

Organizing Committee Member – Mediterranean Conference on Chemistry of Aquatic Systems, Reggio Calabria, Italy, 2004

Session Chair – "*Fundamentals and Modelling*" at the 4th International Conference of Conveying and Handling Solids Particles" in Budapest, Hungary, 2003.

Alternate Councilor - Orlando Section, American Chemical Society at 246th Spring National ACS meeting, San Diego, CA, 2001.

Session Chair - "*Specialty Chemicals in the Environment*" symposium (Environmental Chemistry Division) at the Spring 2000 ACS meeting in San Francisco, California, 2000.

Organizer - Symposium "*Thermodynamics and Kinetics in Natural Waters*" in honor of Frank J. Millero in Spring 1999 ACS meeting at Anaheim, California, 1999.

Session Chair - South Texas Environmental Conference, Corpus Christi, Texas, 1996.

POSTDOCTORATE ADVISOR:

Dr. Ria Yngard	2007-2009
Dr. Zhiyong Luo	2009-2010
Dr. George Anquandah	January, 2012 – August, 2012
Dr. Chansik Kim	March 2013-January, 2016
Dr. Radina P. Kralchevska	April 2014-March 2015
Dr. Min Liu	October 2015 - September 2016

Dr. Jashanpreet Singh	September 2015-February, 2017
Dr. Jing Zhang	July, 2016-December, 2016
Dr. Mingbao Feng	February, 2017-Present
Dr. Jiaqui Liu	July, 2017-Present
Dr. Kyriakos Manoli	October, 2019-Present

GRADUATE ADVISOR:

Ph.D. Dissertation (Advisor)

Christopher Vemagiri Marbaniang	Metal ion-Enhanced Oxidation and Disinfection by Ferrate
Olatunbosun Adu	Uptake of PFAS by Plants
Long Chen	Ferrate(VI), Ferrate(V), and Ferrate(IV) Oxidation of Microcystin-LR, Sulfadiazine, and Flumequine: Oxidized Product, 2017
Nathaniel Adegboyega	Interactions of Ag^+ with Fulvic Acids in Aquatic Environment, 2014
Erik Casbeer	Ferrate(VI) Oxidation of Aromatic Amino Acids, 2012
George Anquandah	Oxidative Destruction of Pharmaceuticals by Ferrate(VI), 2011
Ria Yngard	Ferrate(VI) and Ferrate(V) Oxidation of Weak-Acid Dissociable Cyanides, 2007
Nadine Noorhasan	Reactivity of Ferrate(VI) and Ferrate(V) with Glycine and EDTA, 2006

M.S. Thesis (Advisor)

Joshua Bell	Overlooked Significance of Chromium(V) and Chromium(IV) in Environmental Chemistry and Influence of Peroxyacetic Acid On Chromium in Wastewater, 2022
Beatrice Darko	Investigation of the Interaction between Ferrate(VI) and Natural Organic Matter (NOM), 2013
Long Chen	Permanganate Oxidation of Sulfamethoxazole and Ferrate(VI) Oxidation of Selected Aliphatic Amino Acids, 2013
Fei Liu	Oxidation of Amoxicillin and 6-Aminopencillic Acid, 2012
Tameka E. Rolle	Exploring the Capacity of a Set of Low Molecular Weight Compounds to form Silver Nanoparticles under Environmentally Relevant Conditions, 2012
Meagan Strouse	Ferrate(VI) Oxidation of Model Compounds of Microcystins, 2012
Thao Hoang	The oxidation of Alginic acid, Benzoic acid and Maltose by ferrate(VI) including a TiO_2 catalysis study, 2012
Abdullah El Abduly	Oxydesulfurization of Benzothiophene, Dibenzothiophene, and Methylbenzothiophene by Ferrate(VI), 2010
Bhavesh Patel	Reactivity of Ferrate(VI) with Iminodiacetate, Nitriloacetate, and Gly-Gly, 2008
Chenay Benoit	Heterogeneous Photocatalytic Reduction of Fe(VI) in UV-Irradiated Titania Suspensions: Effect of Ammonium Ions, 2005
Santosh K. Mishra	Reactivity of Ferrate(VI) with Sulfamethoxazole and Ibuprofen , 2005
Anthony Zinger	The Interaction of Methionine with the Major Constituents of Natural Waters at Different Ionic Strengths and Temperatures, 2002

Christopher Burnett	Ferrate(VI) Oxidation of Thiocyanate, Cyanide, and Copper(I) Cyanide with Emphasis on Gold Mill Wastewater, 2001
Fabien Casteras	Dissociation Constants of Cysteine in Natural Water Media, 2001
Steven Hicks	Characterization and Degradation of Selected Petroleum Hydrocarbons following an Oil Spill into a South Texas Coastal Stream, 2000
Wayne Rivera	Degradation of Pollutants by Advanced Oxidation Processes, 1999
Kurtis Rhudy	Assessment of the Physical and Chemical Water Quality Parameters Pertaining to Brown Tide Bloom in Baffin Bay, Texas, 1999
Brandon O'Brien	Ferrate(VI) oxidation of Potassium Ferrocyanide, Potassium Ferricyanide, and Zinc Cyanide, 1998
Shari Hollyfield	Contamination in Oso Bay, Texas Sediments and Oxidation of Aniline by Ferrate(VI), 1996
Jeremy Smith	Ferrate(VI) Oxidation of Cyanide and Sulfide in Wastewater Effluents, 1996

Dissertation/Thesis Examiner (Foreign Universities)

Li Zhengtao	Fabrication of Bbioinspired Super-Hnanofibrous Membrane for Oil-Water Separation and Directional Water Transportation, Nanyang Technological University, 2019
Yingying Sun	Iron-Mediated Oxidant Production under Conditions Relevant to Both Natural Aquatic and Neurological Environments, University of New South Wales, Sydney, Australia, 2017
Qin Detao	Novel Nanocomposite Forward Osmosis Membrane for Treating Highly Saline and Oily Wastewater with Low Fouling, High Water Flux and High Selectivity, Nanyang Technological University, 2016
Manish Gupta	Synthesis of Some Metal Ferrites by Chemical Routes, Guru Nanak Dev University, Amritsar, Punjab, India, 2016
Liu Lei	TiO_2 Nanocomposites Photocatalysts for Water Disinfection and Decontamination under Solar Irradiation, Nanyang Technological University, 2013
Bai Hongwei	Hierarchically Structured $Ti0_2$ Nanorod Spheres for Clean Water and Energy Production, Nanyang Technological University, 2013
Guowei Xing	Reactions of Cu(I) and Cu(II) with H_2O_2 in Natural Waters: Kinetics, Mechanism and the Generation of Reactive Oxidizing Intermediates, University of New South Wales, Sydney, Australia, 2012
Manik Gupta	Synthesis of Nanosized Ferrites by Solution Combustion Method and Investigation of their Magnetic and Electrical Properties, Guru Nanak Dev University, Amritsar, Punjab, India, 2012
Xu Shiping	Copper Incorporated Titanium Dioxide Photocatalyst for Hydrogen Production, Nanyang Technological University, 2011
Ana Judith Rodriguez	Geochemistry of Major and Trace Elements in Coastal Sediments. The Tropical River-Estuary System of Marabasco (Mexico) and the Temperate System of the Galician Rias (Spain), Institute of Marine Investigation, Vigo, Spain, 2008
Li Cong	Mechanism and Performance of Ferrate in Drinking Water Treatment, Hong Kong Polytechnic University, Hong Kong, 2005

Ph.D. Dissertation (Committee Member)

Jieming Yuan	Single Atom Catalysts on Biochar for the Removal of Organic Contaminants in water
Yinghao Wen	Advanced Oxidation and Reduction Processes for the Removal of Recalcitrant Pollutants in Water, 2022
Xiaoxuan Wang	Plant Uptake and Impact of Engineered Metallic Nanoparticles in Soil Plant Systems, 2022
Alexandra Folcik	Electron Beam Technology for the Removal of the Cyanotoxin, Microcystin-LR, and the Cyanobacteria, Microcystis Aeruginosa in Contaminated Water, 2021
Robecca Owens	Effect of Urbanization on Morphology of Rivers in Texas, 2020
Kyriakos Manoli	Enhanced Oxidation of Organic Contaminants by Ferrate: Acid-activated and Silica gel-enhanced Ferrate(VI) Oxidation Processes, 2017
Nelson Akaighe	Fate of Silver Nanoparticles in Natural Environment, 2012
Yannick Ouedraogo	Synthesis and Computational Studies of Photoreactive Caged Molecules, 2012
Vivek Patel	Design and Synthesis of 5-Oxo-ETE Receptor Antagonist and Total Synthesis of Isoprostane D2, 2010
Pranav Patel	Design and Synthesis of Affinity Chromatography Ligands for the Isolation of 5-HEDH Enzyme: Synthesis of Prostanoids and their Identification in Human Urine, 2008
Chih-Tsung Chang	Synthesis and Identification of EPA-derived Isoprostanes. Discover of DHA-derived Neurofuranes in *Vivo*, 2008
Shiela M.H. Jacobo	Prostanoids: Synthesis, Identification and Involvement in Biological Systems, 2005
Carl F. Richardson	The influence of Biologically Related Additives on the Mineralization Properties of Hydroxyapatite, SUNY at Buffalo, New York, 1991

M.S. Thesis (Committee Member)

Amanda Tague	Characterization of Watershed, 2023
Manasa Sadhasivan	Kinetic Modelling to Probe the Advanced Oxidation Processes in a Fe(II)-PAA-ABTS, a Fe(VI)-PAA, and a Fe(VI)-Amine Systems, 2021 (Georgia Institute of Technology)
Corinne Kowald	Electron Beam Technology for the Destruction of Perfuoroocatnoic Acid and perfluorooctane Sulfonate in Soil and Water Samples, 2020
Shreyas Mirji	An Improved Unsteady Maxwell-Stefan Model for Predicting Spacecraft Propellant Evaporation in Microgravity, 2013
Andrea Rios	Dewatering of Sludge by Sodium Ferrate, 2004
Mareva Chanson	Factors affecting Turbidity and Total Suspended Solids and the Relationship between these Parameters in Crane Creek, Melbourne, Florida, 2003.
Sasan Hosein	Investigations for the Remediation of Corrosion in the Florida Institute of Technology Wave Tank, 2002
Michelle McElvaine	Mineral Controls of Iron and Manganese Concentrations in the Interstitial

	Waters of Gulf of Mexico Sediments, 2001
Ketan Vyas	Phosphate Removal by Ion Exchange Resin, 2001
Khalid Alhooshani	Selenium Analysis by Gas Chromatography/Mass Spectrometry, 2001
Nichlos Ricano	Water Quality Parameters in the Coastal Environment of Corpus Christi, 1999
Vinod Dasyam	Interactive Tool for Computing Total Alkalinity and Total Carbon Dioxide in Natural Waters, 1998
Shekhar Kontoru	Characterization of Potential Treatment Strategies of Effluent Water from Intensive Shrimp Farms, 1996
Marco Lopez	Characterization and preliminary quantification of effluent load from three coastal aquiculture facilities in South Texas, 1996

M.S. Nonthesis (Advisor)

Kiran Agarwal - 1998
Scott Rhodes - 1998
Olin Moore - 1998
Bonnie Hardie - 1996
Scott Peters - 1996
Kathy Camponova - 1996

M.S. Nonthesis (Committee Member)

Sylvia Scott - 1999
Cameron Isaacs - 1999
Robyn McGilloway - 1997
Ana Liza Gallegos - 1997
Lon Langley - 1995
John Bloom - 1995
Sherri Hatch - 1995
Bruce Jonason - 1995
Royce Kemp - 1994
Cornado Gallegos - 1994
Tim Pritchard - 1994
Diane Breckenridge - 1994
Judy Roberson - 1993

COLLABORATIONS:

Ching-Hua Huang	Georgia Institute of Technology, Atlanta, Georgia
Sylwia Ptasinska	Notre Dame Radiation Laboratory, Indiana
Frank J. Millero	University of Miami, Florida
George W. Luther III	University of Delaware, Delaware
Piero Gardinali	Florida International University, Miami, Florida
Kevin O'Shea	Florida International University, Miami, Florida
Mary Sohn	Florida Institute of Technology, Melbourne, Florida
Dionysios D. Dionysiou	University of Cincinnati, Cleveland.
Zuzana Zajickova	Barry University, Miami Shores, Florida
Jason Parson	University of Texas, Rio Grande Valley
Christie Sayes	Baylor University, Waco, Texas
Ajay K. Ray	University of Western Ontario, London, Canada
Mita Ray	University of Western Ontario, London, Canada
Thangarasu Pandiyan	National University of Mexico, Mexico City
Ana Judith Rodríguez	Instituto Politécnico Nacional La Paz, México
José Roberto Vega-Baudrit	Laboratorio Nacional Nanotecnología LANOTEC, Costa Rica
Vijayendra Garg	University of Brasilia, Brazil
Maurizio Pettine	The Water Research Institute (IRSA), Italy
Concetta De Stefano	Universita di Messina, Italy
Jia-Qian Jiang	Glasgow Caledonian University, U.K.
Nigel Graham	Imperial College, London, U.K.
Enric Brillas	Universitat de Barcelona, Spain
Mehmet Oturan	University of Est Paris, France

Karel Bouzek	Institute of Inorganic Technology, Prague, Czech Republic
Radek Zboril	Nanomaterial Center, Palacky University, Olomouc, Czech Republic
Jan Hives	Slovakia Institute of Technology, Bratislava, Slovakia
Georgy Pokol	Budapest University of Technology and Economics, Hungary
Zoltan Homonnay	Eötvös Loránd University, Budapest, Hungary
Khemarath Osathaphan	Chlalongkorn University, Bangkok, Thailand
Rajasekhar Balasubramanian	National University of Singapore, Singapore
X.-Z. Li	Hongkong Polytechnic University
Hyunook Kim	University of Seoul, Korea
Shiro Kubuki	Tokyo Meteropolitan University, Japan
Tetsuaki Nishida	Kindai University, Osaka, Japan
Ruey-An Doong	National Tsing Hua University, Taiwan
Walter den	Tunghai University, Taiwan
Chun He	Sun Yat-sen University, Guangzhou, China
Xin Yang	Sun Yat-sen University, Guangzhou, China
Baoling Yuan	Huaqiao University, Xiamen, China
Junhu Wang	Dalian Institute of Chemical Physics, Dalia, China
Xuhui Sun	Dianli University, Jilin City, China
Hui Zhang	Wuhan University, China
ZunyaoWang	Nanjing University, China
Jun Ma	Harbin Institute of Technology, China
Shuguang Lu	East China University of Science & Technology, Shanghai, China

VISITING SCHOLARS AT TAMU:

Jan Kolařík	Palacky University, Olomouc, Czech Republic (2014)
Ariana Fargašová	Palacky University, Olomouc, Czech Republic (2014)
Martina Karlikova	Palacky University, Olomouc, Czech Republic (2014)
Guilin He	Zheijang University, Hangzhou, China (2015-2016)
Wiliam Trujillo Herrera	National University of San Marcos, Peru (2015)
Carlos Alberto Herta Aguillar	National University of Mexico, Mexico City, Mexico (2015)
Min Lu	Northeast Dalian University, Jilin City, China (2015-2016)
Alex Dantas da Silva	LeTourneau University, Longview, Texas (2015)
Camila Caroline Zeni Silva	State University of New York, Plattsburgh, New York (2015)
Eric Lichthouse	French National Institute for Agricultural Research, Dijon, France (2015)
Radina Petrova Kralchevska	Palacky University, Olomouc, Czech Republic (2015-2016)
Jong Yeon Hwang	Soil and Groundwater Research Division, National Institute of Environmental Research, Environment Research Complex, Incheon, Republic of Korea (2016)
Xiaori Fu	East China University Science & Technology, Shanghai, China (September 2016-October, 2016)
Shiro Kubuki	Tokyo Metropolitan University, Japan (2016)
	Hyunook Kim University of Seoul, Republic of Korea (2016)
Pavla Plachtová	Masaryk University, Brno, Czech Republic (2016-2017)
Walter Den	Tunghai University, Taichung, Taiwan (2017)
Ranhong Li	Jilin Agricultural University, Jilin, China (2017-2018)

Xianbing Zhang	Chongqing Jiaotong University, Chongqing, China (2017-2018)
Bo Pan	Shaanxi University fo Science and Technology, China (2019-2020)
Ruobai Li	Guadong University of Technology, Guangzhou, China (2019-2020)

VISITING SCHOLARS AT FLORIA INSTITUTE OF TECHNOLOGY:

Petra Á. Szilágyi	Eötvös Loránd University, Budapest, Hungary (2004)
Krisztina Kovács	Eötvös Loránd University, Budapest, Hungary (2004)
János Madarász	Budapest University of Technology and Economics, Budapest (2005)
Zuzana Macova	University of Chemistry and Technology Prague, Czech Republic (2005)
Zoltan Homonnay	Eötvös Loránd University, Budapest, Hungary (2005)
Attila Vértes	Eötvös Loránd University, Budapest, Hungary (2005)
Erno Kuzmann	Eötvös Loránd University, Budapest, Hungary (2005)
György Pokol	Budapest University of Technology and Economics, Budapest (2005)
JiaQian Jiang	University of Surrey, Guildford, United Kingdom (2005)
Václav Bumbálek	University of Chemistry and Technology Prague, Czech Republic (2007)
Jan Hives	Slovak University of Technology in Bratislava, Slovakia (2008)
Karel Bouzek	University of Chemistry and Technology Prague, Czech Republic (2008)
Hyunook Kim	University of Seoul, Republic of Korea (2010)
Goestar Klingelhoefer	University of Mainz, Germany (2011)
José Francisco Marco Sanz	Consejo Superior de Investigaciones Científicas, Madrid, Spain (2011)
Libor Machala	Palacky University, Olomouc, Czech Republic (2012)
Karolina Siskova	Palacky University, Olomouc, Czech Republic (2012)

UNDERGRADUATE RESEARCH ADVISOR:

Shavi Tolan (Undergraduate Student) – Sept 2011-Dec 2013 – Undergraduate credit hours- 10 hrs/wk
Monica Moreno Munoz (Undergraduate Student) – Fall 2013 –Undergraduate Credits hours- 5 hrs/wk
Maria Huba (Undergraduate Student) – Fall 2013 –Undergraduate Credits hours- 5 hrs/wk
Aalekhyat Tenali (High School student) – Summer 2013 – FIT Summer Program
Bob Merill (High School Student) – Summer 2002– FIT Summer Program
Mathew Brunstein (High School Student) – Summer 2002– FIT Summer Program

REVIEWER For JOURNALS:

Journal of Physical Chemistry
Environmental Science and Technology
Inorganic Chemistry
Industrial & Engineering Chemistry Res.
ACS Applied Materials and Interfaces
Chemical Reviews
Water Research
Electrochimica Acta
Chemosphere
Hydrobiologia
Journal of Environmental Management
The Science of Total Environment
Electrochemistry Communications
Fluid Phase Equilibria
Journal of Molecular Catalysis A Chemical
Analytica Chimica Acta
Fresenius Environmental Bulletin
Polish Journal of Environmental Studies
Bulletin of Chemical Society of Japan
Surface and Coatings Technology
Desalination
Environmental Technology
Journal of Biomedical Materials Research
Separation & Purification Technology
Environmental Pollution
Environmental Chemistry Letters
Colloids and Surfaces B
Canadian Journal of Microbiology
Applied Catalysis: Environmental
Colloids and Surfaces B
Physics and Chemistry of the Earth
Journal of Solid State Chemistry
Journal of Applied Phycology
Thermochimica Acta
Chemical Engineering Journal
Toxicological and Environmental Chemistry
International Journal of Chemical Kinetics
African Journal of Microbiology
Marine Pollution Bulletin
Inorganica Chimica Acta
Molecules
Polyhedron
Ionics
American Journal of Biotechnology and Medical Research
Journal of Material Chemistry B
ACS Chemical Neuroscience
Journal of the American Chemical Society
Environmental Science and Technology Letter
Langmuir
Journal of Chemical Engineering Data
Analytical Chemistry
ACS Sustainable Chemistry & Engineering
Canadian Journal of Chemistry
Journal of the Applied Electrochemistry
Journal of Solution Chemistry
Environmental Engineering Science
Journal of Colloid and Interface Science
Colloids and Surfaces A
Journal of Material Chemistry
Journal of Biological Inorganic Chemistry
Process Biochemistry
Catalysis Today
Journal of Environmental Health and Science
Journal of Hazardous Materials
Chemical Papers
Critical Rev. Environmental Science & Engineering
Hyperfine Interactions
Ozone Science and Engineering
Journal of Environmental Science and Engineering
Aquatic Geochemistry
Toxicon
Chemical Engineering Science
Chemical Sciences
Materials Research Bulletin
Journal of Sulfur Chemistry
Journal of Environmental Science and Health Part A
Desalination and Water Treatment
Ecotoxicology and Environmental Safety
Journal of Advanced Oxidation Processes
Marine Chemistry
Journal of Environmental Engineering
ACS Nano
Journal of Catalysis
Green Chemistry
Journal of Physical Organic Chemistry|
Environmental Analytical Chemistry
Metals
Journal of Radioanalytical and Nuclear Chemistry
Scientific Reports
European Journal of Inorganic Chemistry
Journal of Applied Solution Chemistry and Modeling
Advanced Sustainable Systems
Canadian Journal of Chemical Engineering

Current Inorganic Chemistry
Current Opinion in Environmental Science and Health
Advanced Materials
Nature Communications
Journal of Nanoscience and Nanotechnology
Frontier in Environmental Sciene & Technologies
ACS Omega
Toxicology Research
Nature Sustainability: Review
Chinese Journal of Chemical Engineering
Toxicology Research
ACS Earth and Space Chemistry
Journal of Environmental Quality
Nano-Micro Letters
Canadian Journal of Chemical Engineering
ACS ES&T Water