

In-person Program

2nd International Conference on

Polymer Science and Engineering

◆ —◆ ◯ ◆ —◆
November 01-03, 2023 | | San Francisco, CA
◆ —◆ ◯ ◆ —◆



**DoubleTree by Hilton
San Francisco Airport
835 Airport Blvd,
Burlingame, CA**



**Timezone:
GMT -7 Pacific Time (US, Canada)**



secretary@polymersmeeting.com



+1-469-854-2280/81

MEETING JOINING LINKS (LIVE STREAMING ON ZOOM PLATFORM)

Time zone: GMT -7 Pacific Time (US, Canada)

As the conference is hybrid, the virtual attendees can access the in-person presentations and queries can be asked through zoom chat box.

Meeting links shared will be for the complete meeting to join at any point of time.

November 01-03, 2023 | In-Person

Join Zoom Meeting

<https://us06web.zoom.us/j/88144569233?pwd=jlP6Pgv227iWVp3tD52EUvla8pgB9z.1>

Meeting ID: 881 4456 9233

Passcode: To 307010

November 01, 2023 | In-Person | Parallel Session-II

Join Zoom Meeting

<https://us06web.zoom.us/j/89529992054?pwd=qnDI4DZ0QO0gem1chjoJDrWJbqaHol.1>

Meeting ID: 895 2999 2054

Passcode: 233411

Join Zoom Meeting:

<https://us06web.zoom.us/j/88144569233?pwd=jlP6Pgv227iWVp3tD52EUvIa8pgB9z.1>

Meeting ID: 881 4456 9233

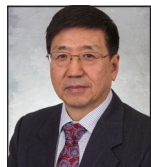
Passcode: 307010

07:55-08:15 Registrations & Badge Pickup

@ Fireplace side

08:15-08:30 Opening Remarks & Introduction

Plenary Presentations

Moderator: **Pradip Mascharak**, University of California, Santa Cruz, CA08:30-09:10 **Polymeric Biomaterials for Biomolecule Delivery and Tissue Regeneration****Peter X. Ma**, University of Michigan, Ann Arbor, MI

Peter X. Ma is the Richard H. Kingery Endowed Collegiate Professor at the University of Michigan. Dr. Ma has been an invited/keynote/plenary speaker for more than 275 times at conferences and institutions worldwide. He is an inventor with more than 30 US patents and patent applications. He has edited 4 books and published 277 peer-reviewed articles in scientific journals and books. Dr. Ma serves as a reviewer for more than 90 scientific journals and reviews faculty tenure/promotion packages for 44 institutions. He has served on 42 organizing committees of conferences and symposiums and has chaired 57 symposiums and conference sessions.

09:10-09:50 **Conjugated Polymers and Carbon Macromolecules for Clean Energy and Environmental Remediation****Liming Dai**, University of New South Wales, Australia

Liming Dai is a UNSW Scientia Professor, an ARC Laureate Fellow and an Australian Academy of Science Fellow. He is the Director of the ARC Centre of Excellence for Carbon Science and Innovation. He is also Funding Director of the Centre for Advanced Carbon Materials at UNSW. He has published more than 500 journal publications with citations over 83,000 and an h-index of 146. He serves as an Associate Editor of Nano Energy and Editorial Board Member of more than 10 international journals. He is a Clarivate Analytics World's Highly Cited Researcher (both in Materials and Chemistry).

Keynote Presentations

09:50-10:20 **Zeolite-based Nitric Oxide Delivery Platforms for Treatment of Wound Infections by Drug-resistant Bacteria****Pradip K. Mascharak**, University of California, Santa Cruz, CA

Pradip K. Mascharak received his Ph.D. from the Indian Institute of Technology, Kanpur. He did his post-doctoral research work at Stanford, Harvard, and Massachusetts Institute of Technology before joining the University of California, Santa Cruz in late 1984. He is currently a Distinguished Professor of Chemistry and Biochemistry at UCSC. His major focus of research includes (a) modeling of active sites of metalloenzymes, (b) catalysts for "Green Chemistry" and (c) syntheses of photoactive NO- and CO-donating drugs for chemotherapy of infection and malignancies. His research is supported by the National Science Foundation and the National Institute of Health.

10:20-10:40 Coffee Break

@ Sierra Foyer

10:40-11:10 **Polycarbong Chemistry: Main-chain Metals-containing Conjugated Polymers**
Xia Haiping, Southern University of Science and Technology, China



Xia Haiping obtained his B.S. in Chemistry in 1983, M.S. in Polymer Science in 1986, and Ph.D. in Chemistry in 2002, all from Xiamen University, where he was promoted as a Full Professor in 1999. In 2018, he moved to Southern University of Science and Technology as a Chair Professor, and has been appointed as the Executive Dean of Shenzhen Grubbs Institute since 2019. He has won many awards, such as the “Chinese Chemical Society Huang Yao-Zeng Award in Organometallic Chemistry”, and the second prize of “the National Natural Science Award” of China in 2020.

11:10-11:40 **Research Progress and Industrialization in Polymer Materials of SINOPEC**
Yang Ling, SINOPEC Tech Houston LLC, Houston, TX



Yang Ling completed his Ph.D. in Polymer Chemistry, Peking University, Beijing, from 2001-2004. He worked at SINOPEC BRICI from 2004-2013 on ZN catalyst research; -R&D management; - Deputy Director, Intl. Coop. He worked as Business Representative from 2013 to 2015 at SINOPEC Technology in Europe Office at Frankfurt. He became Director, International Cooperation at SINOPEC BRICI between 2015-2020. He became Manager of International Cooperation for Catalyst Division, Sci & Tech Dept at SINOPEC Corp from 2022 -2023. He presently working as a Vice President at SINOPEC Tech Houston Center.

11:40-12:10 **Directed Assembly of Functional Polymer Films for Energy and Sustainability**
Alamgir Karim, University of Houston, Houston, TX



Alamgir Karim is Dow Chair Professor in William A. Brookshire Department of Chemical Engineering at University of Houston. Alamgir Karim's Ph.D. is in Physics from Northwestern University. After a postdoc in Chemical Engineering at University of Minnesota, he worked at the NIST, Gaithersburg, Maryland, as Group Leader of Polymer Blends, Combinatorial Methods and Nanomaterials, and as Goodyear Chair Professor in Polymer Engineering at University of Akron.

12:10-12:20 Discussion Time & Group Photo

12:20-13:20 Lunch Break

@ Sonoma-Mendocino

Parallel Session-I

@Sierra A

Oral Presentations

Polymer Engineering

Chair: **Nasrollah Hamidi**, South Carolina State University, Orangeburg, SC

13:20-13:40 **Construction of Dielectric Constant Prediction Models and Design of Monomers for Polymer Materials Using Machine Learning**
Yuya Shiraki, Meiji University, Japan

13:40-14:00 **Modeling the Time-dependent Pvt Behavior of Amorphous Thermoplastics Using the Interrelation of Shear and Bulk Retardation Spectra**
Felix Baumgartner, University of Stuttgart/ Institute of Plastics Engineering, Germany

- 14:00-14:20 **A Novel Method for the Initial Expansion and Deformation Behavior Analysis Within the Bead Foam Extrusion Process**
Tobias Schaible, University of Stuttgart/ Institute of Plastics Engineering, Germany
- 14:20-14:40 **Numerical Simulation of Particle-laden Flow in Single-screw Extruders by Means of CFD-DEM Considering Melting of Thermoplastics**
Alptekin Celik, University of Stuttgart/ Institute of Plastics Engineering, Germany
- 14:40-15:00 **Investigation of the Material and Processing Influences on the Weld Seam Quality of a Combined Thermoforming and Welding Process**
Dominik Muller, University of Stuttgart/ Institute of Plastics Engineering, Germany
- 15:00-15:20 **Application of Systems Dynamic Simulations in the Preparation and Characterization of Novel Functionalized Casein Microparticles and Casein Microgels**
Ronald Gebhardt, RWTH-Aachen University, Germany
- 15:20-15:40 **Modification of Nonlinear Viscoelastic Properties for Biomass-based Plastics**
Masayuki Yamaguchi, Japan Advanced Institute of Science and Technology, Japan
- 15:40-16:00 **Coffee Break** @ Sierra Foyer
- 16:00-16:20 **Rapid Polymerization of Thin Film Thermosetting Polymers Using Pulsed Light**
Kurt A. Schroder, PulseForge, Inc., Coupland, TX
- 16:20-16:40 **Online Sensing of Polymer Properties and Process Design with Machine Learning**
Rinta Kawagoe, Meiji University, Japan
- 16:40-17:00 **Embedded Carbon Nanotubes in the Hydroscopic Hydrogel for the Environmental Water Harvesting**
Nasrollah Hamidi, South Carolina State University, Orangeburg, SC
- 17:00-17:20 **Microcellular Foaming Technology**
SungWoon Cha, Yonsei University, South Korea

End of Parallel Session-I

Parallel Session-II

@ Redwood/Sequoia

Join Zoom Meeting:

<https://us06web.zoom.us/j/89529992054?pwd=qnDI4DZ0Q00gem1chjoJDrWJbqaHol.1>

Meeting ID: 895 2999 2054

Passcode: 233411

Composites & Technology

Chair: Andre Y. Lee, Michigan State University, East Lansing, MI

- 13:20-13:40 **Graphene Oxide Reinforced Vinyl Ester Polymer Matrix Composites**
Andre Y. Lee, Michigan State University, East Lansing, MI
- 13:40-14:00 **High Energy-density Energy Storage Capacitor in Multi-layer Polymer and 2D Nanofiller Composites**
Nihar R. Pradhan, Jackson State University, Jackson, MS
- 14:00-14:20 **Biodegradable Electrospun Scaffold of PLA/PBS Reinforced with Cellulose Nano Fibril for Tissue Engineering**
Hamad Al-Turaif, King Abdulaziz University, Saudi Arabia
- 14:20-14:40 **Polymer-ceramic Nanocomposite Electrolyte Development for Solid-state Battery Applications**
Yuepeng Zhang, Argonne National Laboratory, Lemont, IL
- 14:40-15:00 **High Capacity Polypyrrole Membrane as Energy Storage Material**
Ze Zhang, Laval University, Canada
- 15:00-15:20 **Advances in Nanocomposite Power Scavenging Technologies**
David Carroll, Wake Forest University, Winston-Salem, NC
- 15:20-15:40 **Advancing Understanding of Composite Polymer Electrolytes with LLZO Nanofibers**
Sanja Tepavcevic, Argonne National Laboratory, Lemont, IL
- 15:40-16:00 **Coffee Break** @ Sierra Foyer
- 16:00-16:20 **Construction of Amino-thiol Functionalized Ion-imprinted Chitosan for Lead(II) Ion Removal**
Jawza Sharhan Alnawmasi, Qassim University, Saudi Arabia
- 16:20-16:40 **Residence Distributions Methodology an Approach to Modeling Stress History and Pharmaceutical Properties**
David Bigio, University of Maryland, College Park, MD
- 16:40-17:00 **Rheological Property Recovery and Stability of Recycled Polymers**
H. Henning Winter, University of Massachusetts Amherst, Amherst, MA
- 17:00-17:20 **Functional Modification of Macromolecular Systems for Nano-generators**
Unnikrishnan Gopalakrishna Panicker, National Institute of Technology, India

End of Parallel Session-II

- P-01 ***In-situ* Change of Polymer Glass Transition Temperature According to Gas Saturation by Temperature in High Pressure Vessel**
Kwan Hoon Kim, Yonsei University, South Korea
- P-02 **Tunable Heating Rate Sensitive Triple Shape Memory Polymer**
Robert David Ludwig Jerusalem, TU Dortmund, Germany
- P-03 **Critical Crosslinking as a Tool for Innovative Polymer Properties**
Frank Katzenberg, TU Dortmund, Germany
- P-04 **Development of Biomedical Polymer Using Microcellular Foaming Process and Bacterial Cellulose**
Jin Hong, Yonsei University, South Korea
- P-05 **Potential Food Packaging Antibacterial Contact Surfaces: PLA Dopped by Copper Double Salts**
Olga Martin, Universidad Carlos III de Madrid, Spain
- P-06 **Spray Deposited Functional Polymer Nanocomposites**
Mingqing Wang, University College London, UK
- P-07 **Preparation of Polymeric Membranes of P(VDF-TrFE) Containing a TiO₂-rGO Nanocomposite for the Photocatalytic Degradation of Organic Contaminants in Water, Under Solar Light**
Eduarda B.H. Santos, University of Aveiro, Portugal
- P-08 **Improvement of Material Properties upon Tailoring the Morphology of Crosslinked Polyethylene**
Michail Maricanov, TU Dortmund, Germany
- P-09 **Structure and Properties of Isosorbide-based Polycarbonate Containing Biobased Antiplasticizer**
Han Ruiqi, Japan Advanced Institute of Science and Technology, Japan

End of Day-1

Join Zoom Meeting:

<https://us06web.zoom.us/j/88144569233?pwd=jlP6Pgv227lWVp3tD52EUvIa8pgB9z.1>

Meeting ID: 881 4456 9233

Passcode: 307010

Polymer Properties

Chair: **Ishrat M. Khan**, Clark Atlanta University, Atlanta, GA

Keynote Presentation

08:30-09:00 **Surface and Thin Film Characteristics of Polymer Melts from All-atom Molecular Dynamics Simulations**
Do Y. Yoon, Stanford University, Stanford, CA



Do Y. Yoon is Adjunct Professor of Chemical Engineering at Stanford University since 2012. He obtained his B.S. in Chemical Engineering from Seoul National University, Korea (1969), and earned his Ph.D. in Polymer Science and Engineering from University of Massachusetts Amherst, working with Richard S. Stein (1973). He did his postdoctoral study with Paul J. Flory in Chemistry Department of Stanford University (1973-1975). He then worked in IBM Research Laboratory in San Jose, California as Research Staff Member and Manager of Polymer Physics Group (1975-1999). He published about 260 research papers (h-index of 75 and about 20,000 citations), was elected a fellow of American Physical Society (1985).

Oral Presentations

- 09:00-09:20 **Metal-like Lustrous Materials Using Oligo(3-alkoxythiophene) Dyes**
Satoru Tsukada, Chiba University, Japan
- 09:20-09:40 **Toughening of Poly (Ionic Liquid)-based Ion Gels by Adding Nanomaterials**
Takaichi Watanabe, Okayama University, Japan
- 09:40-10:00 **Wetting Behaviour of Poly (Ethylene Oxide)-grafted Silica Surfaces in the Presence of Free Homopolymers**
M Natalia DS Cordeiro, University of Porto, Portugal
- 10:00-10:20 **Design of Soft Materials: Where Theory, Simulations and Experiments Meet**
Andrey Dobrynin, University of North Carolina, Chapel Hill, NC
- 10:20-10:40 **Spanning from the Nano-scale to Individual Polymer Chains: A Chemical Perspective on the Glass Transition**
Armand Soldera, Universite de Sherbrooke, Canada
- 10:40-11:00 **Break** @Sierra Foyer
- 11:00-11:20 **Evaluation of Metabolic Pathways and Polyhydroxyalkanoates Production in *Halomonas* Sp. HG01, a Moderate Halophilic Bacterium Isolated from Northern Peru, from Different Carbon Sources: Experimental Data and Genome Assessment**
Juliana Cardinali Rezende, Federal University of ABC, Brazil
- 11:20-11:40 **Sustainable Block Copolymers and Renewable/Reusable Thermoplastic Elastomers**
Ishrat M. Khan, Clark Atlanta University, Atlanta, GA

- 11:40-12:00 **Adhesive Bonded Joints in the Automotive and Transportation Industry: Experimental and Numerical Aspects**
Pierre Jousset, Eastern Switzerland University of Applied Science, Switzerland
- 12:00-12:20 **Development of Poly (Lactic Acid)/Poly (Ethylene Glycol)-Poly(Propyl Glycol)-Poly(Ethylene Glycol) Blended Nanofiber Membranes for Fog Collection**
Mohammad Rezaul Karim, King Saud University, Saudi Arabia
- 12:20-12:40 **Molecular Design and Understanding of Multifunctional Hydrogels from Fundamentals to Diverse Applications**
Jie Zheng, The University of Akron, Akron, OH
-
- 12:40-13:40 **Lunch Break** @ Sonoma-Mendocino
- Chair: Jadwiga Turlo**, Medical University of Warsaw, Poland
- 13:40-14:00 **An Epoxy Silicon Hybrid Coating as a Solution to Lower Ice Adhesion Strength on Metallic Structures**
Akre Simone Anne Adja, University of Quebec at Chicoutimi, Canada
- 14:00-14:20 **Towards Biomimetic Polymers for Protein Recognition**
Ian A. Nicholls, Linnaeus University, Sweden
- 14:20-14:40 **Birefringence Control of Photoalignable Liquid Crystalline Polymers and Application to Polarization Optical Devices**
Nobuhiro Kawatsuki, University of Hyogo, Japan
- 14:40-15:00 **Nanostructured Multi-responsive Coatings for Tuning Surface Properties**
Suzanne Giasson, Universite de Montreal, Canada
- 15:00-15:20 **Developing Polypropylene for Extrusion-based 3D Printing**
Hans-Werner Schmidt, University of Bayreuth, Germany
- 15:20-15:40 **Extrusion Processes of Acrylonitrile Butadiene Styrene During the Material Extrusion Additive Manufacturing**
Cheng Luo, University of Texas at Arlington, Arlington, TX
- 15:40-16:00 **In-situ Investigation of Polymer Structure Evolution with Neutron Scattering**
Yingrui Shang, Oak Ridge National Laboratory, Oak Ridge, TN
- 16:00-16:20 **Recent Progress on the Revolutionary Mechanical Recycle and Environmentally Friendly Molding Based on Physical Degradation / Physical Regeneration Theory**
Shigeru Yao, Fukuoka University, Japan
-
- 16:20-16:40 **Coffee Break** @ Sierra Foyer
- 16:40-17:00 **Multivalent-type Compounds Remarkably Enhance the Biological Activities**
Koji Matsuoka, Saitama University, Japan
- 17:00-17:20 **3D Printing of Bone Scaffolds Based on Starch and Active Hydroxyapatite**
Bianca Chierigato Maniglia, University of Sao Paulo, Brazil
- 17:20-17:40 **Immunoactive Polysaccharides of Natural Origin-complex Mechanisms of Immunomodulatory Activity**
Jadwiga Turlo, Medical University of Warsaw, Poland
- 17:40-18:00 **Characterization of Microstructures and Its Impact on Properties of Branched Poly (Glycerol Sebacate)**
Jinal Pothupitiya, Secant Group, Quakertown, PA

End of Day-2

Join Zoom Meeting:

<https://us06web.zoom.us/j/88144569233?pwd=jlP6Pgv227lWVp3tD52EUvIa8pgB9z.1>

Meeting ID: 881 4456 9233

Passcode: 307010

Polymer Applications

Oral Presentations

Chair: **Anindya Deb**, Indian Institute of Science Bangalore, India

- 08:30-08:50 **Compatibilization of Polyolefins Through Dynamic Covalent Crosslinking**
Yinghua Jin, RockyTech Ltd., Boulder, CO
- 08:50-09:10 **Extraction and Characterization of Cellulose Nanocrystals from Corn Husk Wastes and Its Application in Film Preparation**
Sergio Samuel Mayta Paucara, Universidad Nacional de Ingenieria, Peru
- 09:10-09:30 **Effect of NMP on the Holographic Data Storage of a Photosensitive Polymer**
Junchao Jin, Fujian Normal University, China
- 09:30-09:50 **Novel Chain Extenders for Polyester**
Mohamed A. Abdelwahab, Michigan State University, East Lansing, MI
- 09:50-10:10 **Structural and Bioinformatic Studies of the Cellulose Synthase CESA5 of Physcomitrium Patens and Its Product – *In-vitro* Synthesized Cellulose Microfibrils**
Tracy Nixon, The Pennsylvania State University, State College, PA
- 10:10-10:30 **Coffee Break** @ Sierra Foyer
- 10:30-10:50 **Molecularly Imprinted Polymers as Recognition Elements in Acoustic, Electrochemical or Optical Sensors to Detect Pesticides or Drugs in Water**
Maria Teresa Seabra dos Reis Gomes, University of Aveiro, Portugal
- 10:50-11:10 **Fabrication and Characterization of Hydrogen Peroxide and Thymol Loaded PVA/PVP Hydrogel Coatings as a Novel Anti-mold Surface for Hay Protection**
Eyal Malka, Bar-Ilan university, Israel
- 11:10-11:30 **Mechanical Properties of a PU Foam for Vehicle Safety Design Guided by a Novel Approach for Foam Chemistry Optimization**
Anindya Deb, Indian Institute of Science Bangalore, India
- 11:30-11:50 **Free-standing Polymer Thin Films for Delivery of Drugs or Stem Cells**
Shinji Takeoka, Waseda University, Japan
- 11:50-12:10 **Application of Polymeric Scale Inhibitor Colloidal Materials for Oilfield Mineral Scale Control**
Ping Zhang, University of Macau, Macau
- 12:10-12:30 **Engineering Nonconventional Lignin to Improve Biomass Saccharification**
Chang-Jun Liu, Brookhaven National Laboratory, Upton, NY
- 12:30- **Lunch & Departures** @ Sonoma-Mendocino

End of Day-3

Explore our Events in 2024

Boston

8th International Conference on
Catalysis and Chemical Engineering
February 26-28, 2024 | Boston, MA

Venue:

Boston Marriott Newton Hotel
2345 Commonwealth Avenue
Newton, MA 02466, USA

CATALYSIS

■■■ FEBRUARY 26-28, 2024 | BOSTON, MA

Email: catalysis@uniscigroup.org

Phone: +1-469-854-2280/81

Los Angeles

8th Edition of
Global Energy Meet (GEM-2024)
March 04-06, 2024 | Los Angeles, CA

Venue:

Four Points by Sheraton
Los Angeles International Airport
9750 Airport Boulevard
Los Angeles, CA 90045, USA

GEM-2024

March 04-06, 2024 | Los Angeles, CA

Email: gem@uniscigroup.net

Phone: +1-469-854-2280/81

San Francisco

5th International Conference on
Materials Science & Engineering
June 10-12, 2024 | San Francisco, CA

Venue:

DoubleTree by Hilton
San Francisco Airport
835 Airport Blvd, Burlingame
CA 94010, USA

MATERIALS

■■■ JUNE 10-12, 2024 | SAN FRANCISCO, CA

Email: materials@uniscigroup.net

Phone: +1-469-854-2280/81

We wish to see you at
Polymers-2024



USG-United Scientific Group

(A non-profit organization)

8105, Rasor Blvd - Suite #112, PLANO, TX 75024

Tel: +1-469-854-2280/81; **Fax:** +1-469-854-2278;

Email: secretary@polymersmeeting.com

Web: <https://polymers.unitedscientificgroup.org/>