



**2026 International Conference on
Nanobubbles, Nanodroplets, and Their Applications
(Nanobubble 2026)**

Program

**The 2026 International Conference on Nanobubbles, Nanodroplets,
and Their Applications (Nanobubble 2026)**

**August 19–22, 2026, New Jersey Institute of Technology (NJIT)
Newark, New Jersey, USA**

Welcome Message

It is our great pleasure to invite you to participate in the **2026 International Conference on Nanobubbles, Nanodroplets, and Their Applications (Nanobubble 2026)**, to be held at the **New Jersey Institute of Technology (NJIT)** in Newark, New Jersey, USA, from **August 19–21, 2026**. Building upon the strong legacy of previous conferences in Kyoto (2024), Magdeburg (2022), Suzhou (2018), Coffs Harbor (2017), Shanghai (2014), and Les Houches (2012), Nanobubble 2026 continues to serve as the premier global forum for advancing the fundamental understanding and practical applications of nanobubbles (also known as ultrafine bubbles according to ISO/TC 281) and nanodroplets.

Nanobubble technologies support several United Nations Sustainable Development Goals (UNSDGs) by reducing energy and chemical use across applications such as irrigation, wastewater treatment, and medical processes. The conference will feature the latest discoveries, technical developments, and real-world implementations of nanobubble and nanodroplet technologies across a diverse range of disciplines. Scientific sessions will encompass:

- Fundamentals, theories, and measurement/characterization of nanobubbles and nanodroplets
- Mechanisms of formation, stability, and interfacial behavior
- Advanced modeling, imaging, and analytical techniques
- Applications in food processing, medicine, chemical and environmental engineering, agriculture, and industrial processes, including mass transfer enhancement, catalysis, and reaction intensification

We are also pleased to acknowledge the growing support and partnerships from leading professional organizations and institutions, including the **International Water Association (IWA)**. As an **IWA-supported event**, Nanobubble 2026 aims to strengthen global collaboration across the water, environmental, agricultural, and industrial sectors while promoting emerging fine-bubble technologies for sustainable development and resource-efficient systems.

As a leading public polytechnic university, NJIT is a hub of technological innovation spanning nanotechnology, artificial intelligence, semiconductors, biomedical engineering, chemical engineering, and environmental systems. With its strong tradition of interdisciplinary research and global collaboration, NJIT provides an ideal venue to foster dialogue, collaboration, and innovation in nanobubble and nanodroplet science.

Nanobubble 2026 will bring together researchers, industry professionals, educators, and policymakers from around the world to exchange ideas, strengthen collaborations, and explore the transformative potential of these emerging technologies. Together, we will address critical opportunities and challenges in agriculture, water treatment, food engineering, energy, and healthcare, where nanobubbles and nanodroplets are poised to make a profound and lasting impact. We look forward to welcoming you to Newark, New Jersey, in 2026, to shape the next exciting chapter of nanobubble and nanodroplet research and applications.

Wen Zhang, Conference Chair
Jay Meegoda, Conference Co-Chair
Taha Marhaba, Conference Co-Chair
On behalf of the steering committee

Conference Committee

Domestic/local US committee

Chun Chang	Energy Geosciences Division at the Lawrence Berkeley National Laboratory (LBNL), USA
Seth Connell	Nanu Water Technology, USA
James C. Earthman	University of California, USA
Yuhong Jiang	PureNano Tech, USA
Calvin Hong Li	Villanova University, USA
Taha Marhaba	New Jersey Institute of Technology, USA
Jay Meegoda	New Jersey Institute of Technology, USA
Michael Radicone	I2 Air Fluid Innovation, Inc., USA
Claire Schmit	Messer, USA
Wen Zhang	New Jersey Institute of Technology, USA

International committee

Hans-Jürgen Butt	Max Planck Institute for Polymer Research, Germany
Qianjin Chen	Donghua University, China
Niall English	University College Dublin, Ireland
Jun Hu	Shanghai University, China
Samir Kumar Khanal	The Hong Kong University of Science and Technology, Hong Kong SAR, China
Yang Li	Beijing Normal University
Shu Liu	Beihang University, China
Detlef Lohse	University of Twente, Netherlands
Tao Lyu	Cranfield University, UK
Neelkanth Nirmalkar	Indian Institute of Technology Ropar, India
Claus-Dieter Ohl	Otto von Guericke University, Germany
Li Pan	Tongji University, China
Koichi Terasaka	Keio University, Japan
Yoshikatsu Ueda	Kyoto University, Japan
Xiaying Xin	Queen's University, Canada
Lijuan Zhang	Shanghai Advanced Research Institute (CAS), China
Xianren Zhang	Beijing University of Chemical Technology, China
Xuehua Zhang	University of Alberta, Canada

Our Speakers

1. Plenary Speakers

[Ashutosh Tiwari, DPhil, DSc](#)

Secretary-General — International Association of Advanced Materials (IAAM)

Founder & Director — Institute of Advanced Materials, Sweden

Director — Net-Zero Innovation Research Centre



Prof. Ashutosh Tiwari is the Founder and Director of the Institute of Advanced Materials, Sweden, and the founding Secretary-General of the International Association of Advanced Materials (IAAM) — a global scientific community active in over 150 countries and accredited as an Observer Organization to the United Nations Environment Programme (UNEP) under the Scientific and Technological Community Major Group. Dr. Tiwari has held distinguished academic and research positions across the globe, including Distinguished/Adjunct Professor at various leading universities in Europe, Asia, and America. He also serves as Principal Technology Expert and Director of the Net-Zero Innovation Research Centre. He is recognized as one of the top 0.01% of global net-zero innovators. Dr. Tiwari has served as an expert and committee member for the European Commission, the United Nations' Beyond Pact for the Future initiative, and multiple international foundations. He chaired IAAM's delegation at the **United Nations 2023 Water Conference** in New York and has been elected to lead IAAM's delegation at the **United Nations 2026 Water Conference** (UAE) work that directly intersects with the water, environmental, and sustainability themes. Through his research and leadership, Dr. Tiwari has advanced interdisciplinary work at the intersection of advanced materials, regenerative medicine, drug delivery systems, biosensing, and climate-neutral technologies, fostering global collaboration and AI-integrated innovation. He is currently the Editor-in-Chief of Advanced Materials Letters and has published about 50 books, 500+ articles, several patents, and 200+ technical reports. Prof. Tiwari's research portfolio includes advanced materials, net-zero technology, and sustainable innovations, such as the invention of heteropolar graphene, large-scale net-zero energy systems utilizing biomass pyrolysis for climate-neutral heat production, syngas-driven green hydrogen, and biochar potentially applicable for nanobubbles; environmental applications; agricultural and food systems; biomedical and life sciences; energy and industrial processes; and emerging directions.

[Richard Zare](#)

Marguerite Blake Wilbur Professor of Natural Science and Professor, by courtesy, of Physics

Department of Chemistry, Stanford University



Born in 1939 in Cleveland, Ohio, Professor Zare trained in physical and analytical chemistry at Harvard University (B.A. 1961, Ph.D. 1964). His doctoral study under Professor Dudley Herschbach explored photodissociation dynamics. After faculty positions spanning chemistry at the Massachusetts

Institute of Technology, chemistry, physics and astrophysics at the University of Colorado, and chemistry at Columbia University, he joined the Stanford chemistry faculty in 1977. He has taught an introductory chemistry class every year since. As a Howard Hughes Medical Institute Professor since 2006, Professor Zare has also developed a course introducing undergraduates to hands-on interdisciplinary research, combining physics, and biology to explore how living systems use molecular interactions with light for vision, photosynthesis and more. Professor Zare served as chair of the Department of Chemistry from 2005 to 2011, and has helped to guide scientific policy as chairman of several national and international science boards. His dedication to research and teaching has been recognized in many awards, including the National Medal of Science, the Wolf Prize in Chemistry, and the Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring. Among other honors, Professor Zare is a member of the National Academy of Sciences, the American Academy of Arts and Sciences, and the American Philosophical Society. He has also received 11 honorary doctorates.

Takehiko SATO

Professor

Institute of Fluid Science, Tohoku University

Takehiko Sato, Ph.D. is a Professor at the Institute of Fluid Science, Tohoku University (Japan). His research focuses on advanced fluid science and plasma-related phenomena, including high-speed multiphase flows, cavitation, plasma–liquid interactions, and their applications in engineering and biomedical fields. Professor Sato has contributed extensively to the understanding of complex flow dynamics and plasma processes, publishing widely in international journals and collaborating across interdisciplinary areas such as plasma medicine, environmental technologies, and fluid engineering.



Pan Li

Associate Professor

College of Environmental Science and Engineering
Tongji University

Pan Li, Ph.D. is an Associate Professor in the College of Environmental Science and Engineering at Tongji University. Her research focuses on advanced water treatment technologies, particularly the development and application of micro- and nanobubble systems, gas–liquid interface processes, and innovative environmental technologies for water purification and pollution control. Dr. Li's work explores the mechanisms and engineering applications of micro/nanobubbles in environmental systems, contributing to improved efficiency in water and wastewater treatment. She has published numerous scientific papers and actively mentors graduate students in environmental engineering.



Niall English

Professor
School of Chemical and Bioprocess Engineering
University College Dublin

Niall English, Ph.D. is a Professor in the School of Chemical and Bioprocess Engineering at University College Dublin. His research focuses on molecular simulation, nanoscience, and energy-related materials, including gas hydrates, nanobubbles, interfacial water, and the effects of electric and electromagnetic fields on materials and biological systems. Professor English has made significant contributions to computational and theoretical chemical engineering and leads research on advanced materials and processes for renewable energy and environmental applications. He received both his B.E. (First Class Honours) and Ph.D. in Chemical Engineering from UCD and has also contributed to technology commercialization through university spin-out companies.



Yoshikatsu Ueda

Sustainable Standardization Strategy Unit,
Center for Future Pioneering Research,
Research Institute for Sustainable Humanosphere (RISH)
Kyoto University

Yoshikatsu Ueda, Ph.D. is a researcher in the Sustainable Standardization Strategy Unit at the Center for Future Pioneering Research, Research Institute for Sustainable Humanosphere (RISH), Kyoto University. His research focuses on ultrafine and nanobubbles, fine bubble technologies, and their applications in environmental remediation, materials processing, and water systems. Dr. Ueda has contributed to studies on the physical and electrochemical properties of ultrafine bubble water and its applications in cleaning, environmental recovery, and pollution mitigation. He has authored numerous publications and collaborates across interdisciplinary fields related to sustainable technologies and environmental science.



Susana Kimura-Hara

Associate Professor
Canada Research Chair in Analytical and Aquatic Chemistry -
Faculty of Science, Department of Chemistry, University of Calgary

Dr. Susana Y. Kimura-Hara joined the Department of Chemistry at the University of Calgary in July 2017. Additionally, Susana is a Tier 2 chairholder of the CRC in Analytical and Aquatic Chemistry. Prior to joining the University of Calgary, Susana was a postdoctoral fellow for two and half years in the Department of Chemistry and Biochemistry at the University of South Carolina and a postdoctoral research fellow for one year at the University of Illinois at Urbana-Champaign. Susana obtained her M.S. and Ph.D. in Environmental Engineering from University of Illinois at Urbana-Champaign and B.Eng. in Industrial Engineering from CETYS Universidad in Mexico.



Neelkanth Nirmalkar

Associate Professor
Department of Chemical Engineering
Indian Institute of Technology Ropar



Neelkanth Nirmalkar earned his Ph.D. in Chemical Engineering from the Indian Institute of Technology Kanpur. Following a post-doctoral research experience in the Department of Chemical Engineering, The University of Birmingham, UK, he joined IIT Ropar in 2019 as an Assistant Professor in the Department of Chemical Engineering. His research interests include non-Newtonian fluid mechanics and heat transfer in multiphase flows. In recent years, he has been investigating complex fluids and flow, heat transfer in nanofluids, heat transfer in phase change materials and the stability of bulk nanobubbles with potential applications in mineral processing, and water treatment. He also works in the formulation of conductive inks, aerogels, ionic liquids, phase change materials, carbon nanofibers and nanotubes, fabrication of hydrophobic nanomembranes.

2. Invited Speakers

Jianbing (Jason) Li

Professor
School of Engineering
University of Northern British Columbia



Jianbing (Jason) Li, Ph.D. is a Professor in the School of Engineering at the University of Northern British Columbia (UNBC), Canada. His research focuses on multiphase flows, micro- and nanobubble technologies, fluid mechanics, and their applications in environmental engineering and resource industries. Dr. Li's work explores innovative gas-liquid systems for water treatment, environmental remediation, and industrial processes. He has published widely in international journals and collaborates with academic and industry partners to advance sustainable engineering solutions.

Onur G. Apul

Associate Professor
Department of Civil and Environmental Engineering
Penn State University



Onur G. Apul, Ph.D. is an Associate Professor in the Department of Civil and Environmental Engineering at Pennsylvania State University. His research focuses on environmental nanotechnology and advanced materials for water and wastewater treatment. Dr. Apul's work investigates adsorption processes, nanomaterials such as graphene-based adsorbents, and innovative technologies for the removal of emerging contaminants from water systems. He has published extensively in leading journals and

collaborates on interdisciplinary projects aimed at developing sustainable solutions for environmental protection and water quality management.

Samir Kumar Khanal

Professor
PG Program Coordinator (Civil Engineering)
Department of Civil and Environmental Engineering
The Hong Kong University of Science and Technology



Samir Kumar Khanal, Ph.D. is a Professor in the Department of Civil and Environmental Engineering at The Hong Kong University of Science and Technology (HKUST), where he also serves as the PG Program Coordinator for Civil Engineering. His research focuses on environmental biotechnology and sustainable resource recovery, including anaerobic digestion, nanobubble technology, aquaponics, algae cultivation, and waste-to-resources systems. Professor Khanal is widely recognized for his contributions to innovative water and wastewater treatment and bioenergy production, and he has been named a Highly Cited Researcher by Clarivate.

Liu Shu

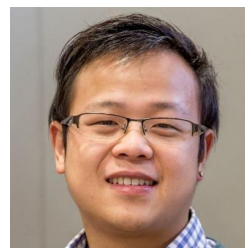
Associate Professor
Department of Material Science and Engineering
Beihang University



Shu Liu, Ph.D. is an Associate Professor in the Department of Materials Science and Engineering at Beihang University. Her research focuses on functional materials and advanced processing technologies, particularly involving micro- and nanostructured materials and their applications in environmental and energy systems. Dr. Liu's work explores interactions between materials and gas-liquid systems, including micro- and nanobubble technologies, with applications in environmental remediation and advanced materials engineering. She has published numerous scientific articles and collaborates with researchers across interdisciplinary areas of materials science and environmental technology.

Tao Lyu

FHEA (Fellow of the Higher Education Academy)
Senior Lecturer in Green Technologies
Cranfield Water Science Institute
Cranfield University



Tao Lyu, Ph.D., FHEA is a Senior Lecturer in Green Technologies at the Cranfield Water Science Institute, Cranfield University, and a Fellow of the Higher Education Academy (FHEA). His research focuses on sustainable water and environmental technologies, including micro- and nanobubble systems, algal biotechnology, nature-based solutions, and innovative processes for wastewater treatment and resource recovery. Dr. Lyu's work integrates engineering and ecological approaches to develop low-carbon solutions for water management and

environmental protection, and he has published widely in the fields of environmental engineering and green technologies.

Yang Li

Professor
School of Environment
Beijing Normal University

Yang Li, Ph.D. is a Professor in the School of Environment at Beijing Normal University. Her research focuses on environmental chemistry and advanced water treatment technologies, particularly the use of micro- and nanobubbles, advanced oxidation processes, and gas-liquid interfacial phenomena for water purification and environmental remediation. Professor Li's work aims to improve the efficiency of pollutant degradation and sustainable water management. She has authored numerous peer-reviewed publications and collaborates with interdisciplinary teams on innovative environmental technologies.



James C Earthman

Professor
Materials Science and Engineering
Joint Appointment in Biomedical Engineering
UCI Samueli School of Engineering
University of California

Professor Earthman's research activities include studies of a broad range of deformation and damage mechanisms in both model and advanced materials. His work also involves the development and use of computer-based techniques for determining the damping characteristics of biomaterials and mechanical biocompatibility, the corrosion behavior of metals exposed to living cells, and the nondestructive characterization of surface defects in situ and the effects of nanobubbles on the stability of materials. He has authored and co-authored more than 120 peer-reviewed research publications including two chapters on biomechanics and materials for tissue engineering. He is an inventor on thirteen issued U.S. patents, many international patents and five pending U.S. patents. He has also served as editor for two books in the fields of materials science and biomedical engineering.



Ing-Shouh Hwang

Research Fellow
Institute of Physics
Academia Sinica

Ing-Shouh Hwang, Ph.D. is a Research Fellow at the Institute of Physics, Academia Sinica (Taiwan). His research focuses on surface science and nanoscience, particularly using advanced scanning probe microscopy to investigate nanoscale phenomena at solid-liquid interfaces. Dr. Hwang's work explores topics such as nanobubbles, gas behavior in water, nucleation processes, and nanomaterials, contributing



important insights into interfacial physics and nanoscale fluid phenomena. He received his Ph.D. in Applied Physics from Harvard University and has published extensively on nanoscale interfacial structures and gas–liquid interactions.

Sergio Garcia Segura

Assistant Professor

School of Sustainable Engineering and the Built Environment, Arizona State University

Sergio Garcia-Segura, Ph.D. is an Assistant Professor in the School of Sustainable Engineering and the Built Environment at Arizona State University, with affiliation to the ASU Water Institute. His research focuses on electrochemical and nanotechnology-enabled processes for water and wastewater treatment, including electrocatalysis, photoelectrocatalysis, and advanced oxidation technologies. Dr. Garcia-Segura develops sustainable materials and electrochemical systems to remove contaminants and recover valuable resources from water, addressing challenges at the water–energy–food nexus. He has published extensively in environmental electrochemistry and water treatment technologies and collaborates globally on innovative solutions for sustainable water management.



Jay Meegoda

Professor in geotechnical engineering

New Jersey Institute of Technology

Prof. Meegoda is a distinguished professor of civil and environmental engineering, is a prolific researcher and developer of diverse technologies to manage waste and sustainably remediate contaminated soil and water. He also devises inventive methods to reuse waste from households and businesses.

His vision for healthy communities, free from toxic chemicals, spans the globe. He and his teams have brought environmental technologies to five continents, from New Jersey, to Ecuador, to Egypt. These locations include remote, resource-poor regions where his students have built elemental systems to filter water and dispose of waste using only the materials at hand. He first used nanobubbles in remediation just miles from the NJIT campus on the notoriously polluted Passaic River, where, as a member of a citizen advisory group, he investigated the applications of ultrasound coupled with ozone to decontaminate river sediments.



Sponsors

Platinum Sponsor



Gold Sponsor



Silver Sponsor



a powerful combination





2026 International Conference on
Nanobubbles, Nanodroplets, and Their Applications
(Nanobubble 2026)

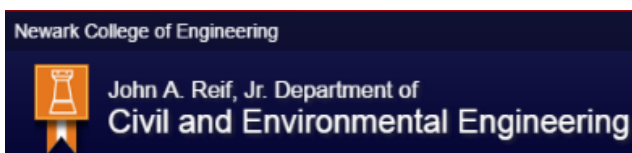


Bronze Sponsor



Garden State Laboratories, Inc.
1-800-273-8901
www.gslabs.com

Other strategic partners and supporters



**Pollution
Prevention**



Detailed Conference Schedule

08/19/2026 Welcome reception at campus center Atrium

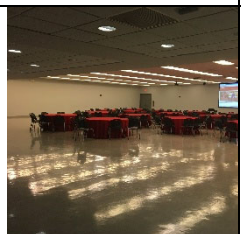
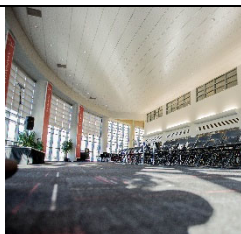
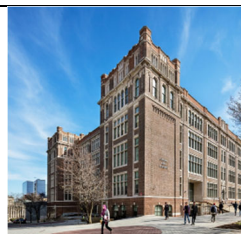
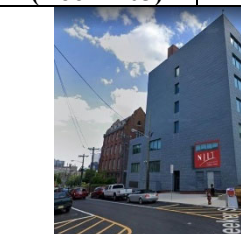
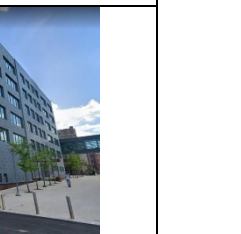
Before the conference		Location: 1st floor Campus Center
15:00-18:00	Check-in and pick up badges and conference materials	
18:00-20:00	Welcome reception (cocktail, beer, and light/finger food dinner) for registered attendees (wearing badges are required).	

**08/20/2026 First day of the conference at campus center ballroom
A/B and gallery (posters)**

First Day: Morning Session	Campus Center Ballroom A/B	
9:00-9:10	Chair: Wen Zhang	Opening Remarks by Dr. John Pelesko , Provost of New Jersey Institute of Technology
9:10-9:50		Dr. Ashutosh Tiwari Engineering Nanobubble Interfaces with Advanced Materials: Roadmap for Net-Zero Water, Health, and Sustainability
9:50-10:30		Prof. Dr. Pan Li Micro-Nanobubbles Enhanced Advanced Oxidation Processes: From Interfacial Mechanisms to Field-Scale Engineering Applications
10:30-10:45	Coffee Break	
10:45-11:25	Chair: Taha Marhaba	Prof. Dr. Takehiko Sato High-Speed Nanodroplets: Unlocking New Physics and Enabling a Next-Generation Water-Use Society
11:25-12:05		Prof. Dr. Richard Zare Can Water Act as a Catalyst?
12:05-12:20	Horiba spotlight talk	
12:20-12:25	First Raffle Prize Drawing (3 recipients of \$50 gift card and 2 recipients of \$20 gift card)	
12:25-13:10	Working Lunch: Campus Center Gallery (Outside Ballroom A/B)	
13:10-13:20	Group Photo (Outside the Campus Center along the stairs, see right picture)	



**2026 International Conference on
Nanobubbles, Nanodroplets, and Their Applications
(Nanobubble 2026)**

First Day	Campus Center			Cullimore Lecture Hall 1 st Floor	
Afternoon Session	<i>Fundamentals of Nanobubbles, Nanodroplets, and Surface Nanobubbles (Ballroom A)</i>	<i>Environmental Applications (Atrium)</i>	<i>Environmental Applications (Central King Building 116)</i>	<i>Fundamentals of Nanobubbles, Nanodroplets, and Surface Nanobubbles (Room 103)</i>	<i>Nanobubbles: From Interface to Impact (Room 104)</i>
					
	Moderators: Duwage Charitha Perera and Ragy Ragheb	Moderator: Shan Xue and Xiaying Xin	Moderator: Thu Le and Jesús Morón-López	Moderator: Jay Meegoda and Yawen Gao	Moderator: Sergio Garcia Segura and Ines Zucker
13:30 - 14:00	Ing-Shouh Hwang Institute of Physics, Academia Sinica <i>On the Nature of Mesoscopic Inhomogeneities in Ethanol–Water Mixtures: Are They Nanobubbles, Impurity Aggregates, or Mesoscopic Clathrate Hydrate Structures?</i>	James Earthman University of California <i>Bulk Nanobubbles Treatments for Removing and Preventing Mineral Fouling</i>	Onur Apul PSU <i>Tiny Bubbles, Massive Potential: Overview of Nanobubble-Enabled Water and Wastewater Treatment Technologies</i>	Jay Meegoda New Jersey Institute of Technology <i>Mysteries of Nanobubbles</i>	Lou Kondic New Jersey Institute of Technology <i>Quest for a Hot Stable Nanobubble in an Acoustic Field</i>
14:00 - 14:20	Yasumasa Matsumoto Kyoto University <i>Dielectric constant measurements to evaluate the electrical properties of ultrafine bubble water</i>	Stephanie Mollica Messer North America <i>Successful recovery of iron oxide solids from stream contaminated with Acid Mine Drainage</i>	Hsin-Hsin Tung National Taiwan University <i>Enhanced Disinfection in Premise Plumbing by Nanobubbles and Disinfectants</i>	Andrei Dukhin Dipersion Technology Inc <i>A new approach to explaining nano-bubbles paradoxical longevity</i>	Andre R Venter Western Michigan University <i>Nanobubble Enhanced Electrospray Ionization Mass Spectrometry</i>
14:20 - 14:40	Linda Cummings NJIT <i>Nanobubble Generation and Ultrasonic Cavitation Mechanisms: From Fundamental</i>	Xiaying Xin Queen's University <i>Nano-Scale Bubbles, Macro-Scale Control: Oxidative–Hydrodynamic Disruption of</i>	Shoaib Ahmad University College Dublin, Ireland <i>Study of sustainable wastewater infrastructure using energy-efficient and highly stable</i>	Zeng Yanquan University of Tokyo <i>Characterizing Nanoscale Interfacial Structures in Pure-Water</i>	S.M. Viafara-Garcia Universidad de Los Andes, Chile <i>Localized Oxygen Delivery via</i>

	<i>Dynamics to Environmental Pollutant Remediation</i>	<i>Biofilms and Microplastic-Associated Risks in Drinking Water Systems</i>	<i>electric field (EF)-based oxygen (O₂) nanobubbles (NBs) for the chemical-free removal of recalcitrant antibiotics</i>	<i>Nebulized Flows: Insights into Nanobubble formation</i>	<i>Nanobubbles Mitigates Metabolic Stress in Cortical Neurons during GelMA Free Radical Polymerization</i>
14:40 - 15:00	Ragy Ragheb Malvern Panalytical <i>Enhancing Nanobubble Characterization with Nanoparticle Tracking Analysis and Electrophoretic Light Scattering</i>	Guangyu Zhu NJIT <i>Heterotrophic microalgae for enhanced carbon capture and wastewater treatment</i>	Justin Chun-Te Lin Feng Chia University <i>Ozone nanobubbles for the degradation of NMP solvents and membrane cleaning</i>	Jiahe Zhang NJIT <i>In Situ AFM-SECM Visualization of Interfacial Nanobubble Dynamics during Electrochemical Nitrate-to-Ammonia Conversion</i>	Anna Scomparin University of Turin <i>Greener nanodroplets of benzalkonium chloride with enhanced antibacterial properties</i>
15:00 - 15:15	Coffee Break				
15:15 - 15:35	Suraj Prashad Sharma Brunel University of London <i>Comparative Microscopic Visualization Study of Air Nanobubbles in Isooctane</i>	Tao Lyu Cranfield University, UK <i>Nanobubble technology for upscale water and wastewater treatment</i>	Ines Zucker Tel Aviv University <i>Mechanistic Insights into Ozone Nanobubbles: Resolving the Stability-Reactivity Paradox in Advanced Oxidation Processes</i>	Minoru Tanigaki Kyoto University <i>Studies on Ultrafine Bubbles and Nano-sized Materials Using Radioactive Nuclei as Probes</i>	Yang Li Beijing Normal University <i>Release of Microplastics from Sediment under Ebullition: Transport Processes at Air/Sediment and Water/Sediment Interfaces</i>
15:35 - 15:55	Laura Philips Spheryx, Inc. <i>Measurement of nanobubbles in heterogeneous colloidal mixtures with total holographic characterization</i>	Priya Koundle Clemson University <i>Tetracycline degradation for wastewater treatment based on ozone nanobubbles advanced oxidation processes (AOPs) – Focus on nanobubbles formation, degradation kinetics, mechanism and effects of water composition</i>	Kent J. Semmen Disney's Animals, Science and Environment <i>From Ozone to Nanobubbles: Sustainable Disinfection of Large Marine Recirculating Systems Using CO₂ Micro/Nanobubble Technology</i>	Parham Koochak University of Pennsylvania <i>Interfacial Nanobubbles on Surfaces with Chemical Heterogeneity</i>	Gaurav Yadav Indian Institute of Technology Ropar <i>Electrochemically Reactive Nanobubbles: A Sustainable Platform for Advanced Oxidation and Carbon Utilization</i>

**2026 International Conference on
Nanobubbles, Nanodroplets, and Their Applications
(Nanobubble 2026)**

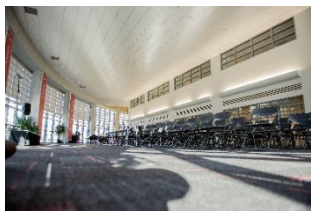
15:55 - 16:15	Andrea N. Arias-Sanchez Arizona State University <i>Generation and stability of high-concentrated nanobubbles solutions: the role of colloidal interactions and gas/liquid interfaces</i>	Lina Zhu Tongji University <i>In-Situ Algal Control by Two-stage Nanobubble Technology in Taihu Lake: Efficacy and Ecological Impact</i>	Thu Le NJIT <i>Ozone Nanobubble Technology for Enhanced Disinfection (e.g., biofilm) and Micropollutant Removal (e.g., dye and algogenic odor)</i>	Yawen Gao Tsinghua University <i>Thermal response of nanobubble suspensions under freeze-thaw cycles through experiment and molecular dynamics simulations</i>	Duwage Charitha Perera NJIT <i>Simulation of Nanobubbles subjected to an Acoustic Field</i>
16:15 - 16:35	Xiaotong Ma Xi'an Jiaotong University <i>Coupling effects of surfactants and electrolytes on the stability of bulk nanobubbles</i>	Deb Majumder, Samarpan NJIT <i>Systematic Evaluation of Nanobubbles for Stabilizing RO Membrane Performance under Gypsum Scaling</i>	Jesús Morón-López Arizona State University <i>Water Matrix Controls Ozone Nanobubble Reactivity and Oxidation Pathways in Freshwater and Seawater</i>	Kristin Hecht Hamburg University of Applied Sciences <i>Formation of Surface CO₂ Nanobubbles from Supersaturated Aqueous Solutions, Observed by In-situ ATR-FTIR Spectroscopy</i>	Yusuke Jonosono Tohoku University <i>Effect of Concave Surface Structures on the Mechanical Balance at the Three-Phase Contact Line of Interfacial Nanobubbles</i>
16:45-18:00	Poster Session in Campus Center Gallery (Outside Ballroom A/B) 				
18:00-20:00	Banquet for Registered Attendees in Ballroom A Announcement for the second round of raffle prizes (5 recipients of \$20 gift cards) 				
18:30-19:00	Pure NanoTech Spotlight Talk by Yuhong Jiang (President, North American Ultrafine Bubble Association)				

**08/21/2026 Second day of the conference at campus center ballroom
A and gallery (posters)**

Second Day Morning Session	Campus Center Ballroom A	
9:00-9:10	Chair: Wen Zhang	Opening Remarks by Dr. Moshe Kam , Dean of Newark College of Engineering, New Jersey Institute of Technology
9:10-9:50		Prof. Dr. Niall English Molecular engineering of nano-bubbles and -droplets in mixed milieux: under the influence of fields
9:50-10:30		Prof. Dr. Yoshikatsu Ueda Bridging Standards and Science: Electrical Behavior of Submicron Bubbles and the Related Applications
10:30-10:45	Particle Metrix spotlight talk	
10:45-11:15	Coffee Break	
11:15-11:55	Chair: Jay Meegoda	Prof. Dr. Susana Kimura-Hara Inside the Invisible: Challenges and Progress in Nanobubble Characterization
11:55-12:35		Prof. Dr. Neelkanth Nirmalkar Nanobubbles: from fundamental to applications
12:35-12:40	Third Raffle Prize Drawing (5 recipients of \$20 gift cards)	
12:40-13:30	Lunch: Campus Center Gallery (Outside Ballroom A/B)	



**2026 International Conference on
Nanobubbles, Nanodroplets, and Their Applications
(Nanobubble 2026)**

Second Day	Cullimore Lecture Hall 1 st Floor			
Afternoon Session	<i>Applied Nanobubbles: Carbon Capture and Agriculture (Campus Center Atrium)</i>	<i>Nanobubbles at Interfaces: From Electrochemistry to Industrial Applications (Central King Building Room 116)</i>	<i>Fundamental Mechanisms of Nanobubble Formation, Stability, and Interfacial Dynamics (Room 103)</i>	<i>Industrial and Energy Applications of Nanobubbles (Room 104)</i>
Location				
	Moderator: Thu Le and Sahar Baram	Moderator: Xiaying Xin and Julie Chen	Moderator: Calvin Li and Ing-Shouh Hwang	Moderator: Stuart Hua and Hamid Samouei
13:30-14:00	Samir Kumar Khanal The Hong Kong University of Science and Technology <i>Nanobubble technology applications in agriculture and environmental remediation</i>	Michael Radicone Heat Transfer Research, Inc <i>Chemically Infused Nanobubbles for Mitigating Heat Exchanger Fouling</i>	Peter Kusalik University of Calgary <i>Unravelling the Mystery of Nanobubble Stability and Mobility: Critical Assessment of Models and Insights from Molecular Simulations</i>	Jianbing Li and Jianliang Mao University of Northern British Columbia (UNBC) <i>Nanobubble for Oil Spill Response: Lab-scale Study to Field Demonstration</i>
14:00-14:20	Shan Xue Purenano Tech <i>Colloidal Behavior of Nanobubbles and their Application in Enhancing Plant Growth</i>	Shivi Garg Indian Institute of Technology Ropar <i>Nanobubble enhanced electrochemical conversion of CO₂ to formic acid</i>	Dietmar Lerche LUM GmbH, Berlin, Germany <i>Number-based size and concentration distribution of submicron and nanobubbles by single particle light scattering (SPLS)</i>	Hamid Samouei Texas A&M University <i>Highly Efficient Production of Nitrite and Nitrate from Air at the Gas-Water Interface of Nanobubbles</i>
14:20-14:40	Sahar Baram Newe Ya'ar Research Center <i>From Lysimeters to Orchards: Evaluating Oxygen Nanobubble Technology in Agriculture</i>	Yuki Mizuno Nagoya University <i>Nanobubble-Assisted Enhancement of Electrocatalytic Activity of Pt-Shelled Core-Shell Nanoparticles</i>	Calvin H. Li Villanova University <i>In-Situ TEM Investigation of Diffusively Controlled Growth of Nanobubbles</i>	Atukuri, Sowmya NJIT <i>Colloidal Behavior of Nanobubbles and Applications in Oil Dispersion and Soil Cleanup</i>

14:40- 15:00	Ty Shitanaka University of Hawaii at Manoa <i>Physiochemical Characterization of CO₂ Nanobubbles in Freshwater and Seawater: Implications for Enhanced Macroalgal Carbon Capture and Growth</i>	Aaron Zlotsky Hoagland Arizona State University <i>Overcoming limitations of electrochemical gas starving systems: nanobubble- engineered enhancement of CO₂ reduction reaction</i>	Kenneth Mensah Pennsylvania State University <i>Nanobubble Stability under Near-Space Hypobaric Conditions: Insights from High-Altitude Balloon Experiments toward Space Life Support Applications</i>	Abinash Biswal Brunel University of London <i>Hydrogen Nanobubble Fuel Technology for Next-Generation Clean Combustion Systems</i>
15:00- 15:30	Coffee Break in gallery area of Campus Center			
15:30- 15:50	Thu Le NJIT <i>Soil and Rhizosphere Microbiome Modulation through Irrigation with Nanobubble Water</i>	J. Nicholas Jackowetz Hydrosome Labs <i>Ultrafine Bubbles as Metabolic Modulators: Rethinking Their Mechanisms in Biological Systems</i>	Tatek Temesgen Clemson University <i>Nanobubbles for Mitigating Membrane Fouling - A Novel Approach to Anti- fouling and De- fouling</i>	Raja Naveen Varma Kucharlapati Rohrbach Cosasco Systems <i>Enhancing Pipeline Efficiency Through Nanobubble-Based Scaling Prevention: A Multi-Industry Study</i>
15:50- 16:10	Thuy Linh Ha The University of Tokyo <i>Effects of ultrafine bubble water priming on rice seed germination under drought stress</i>	Cynthia Tchouta Federal Institute for Materials Research and Testing, Berlin- Germany <i>Automated Nanobubble Generation System: Characterization and Potential Applications in the Chemical Industry</i>	Kyle Rafael Marcelino University of Hawai'i at Mānoa <i>Nanobubble Technology as an Oxygenation and Aeration Strategy Across Several Aquaponic System Designs</i>	Xinyan Wang Brunel University of London <i>Recent Progress of Nanobubble Research for Fuel Application</i>
16:10- 16:30	Arvydas Povilaitis Vytautas Magnus University <i>Effects of long-term nanobubble water application on soil moisture and water dynamics</i>	Hannah Ray Southern Nevada Water Authority <i>Method Development for Evaluation of Ozone Nanobubbles</i>	Lopchan Lama Shreeja University of Hawai'i at Mānoa <i>Nanobubble Aeration Improves Plant Growth in Aquaponic Systems</i>	Kaylie Young SLB <i>Nanobubble Technologies for Enhanced Oilfield Fluid Management and Reservoir Optimization</i>
16:30- 16:50	Yining Zhang NJIT <i>Nanobubble-Enriched Hydrogels for Sustainable Agriculture: Enhancing</i>	Sayyad Rizvi Cranfield University, UK <i>The role of micro- nanobubbles in dissolved air flotation for the removal of</i>	Wang Fangshu Qingdao University of Technology <i>In situ remediation efficiency of air</i>	Stuart Hua PureNanoTech Inc., <i>Technology Translation of Nanobubble</i>

**2026 International Conference on
Nanobubbles, Nanodroplets, and Their Applications
(Nanobubble 2026)**

	<i>Water and Nutrient Delivery to Boost Plant Growth</i>	<i>micropollutants in drinking water treatment</i>	<i>micro-nano bubbles in river water bodies</i>	<i>Systems for Practical Industrial Applications</i>
17:00- 17:45	Panel discussion in Ballroom A/B Critical and unanswered questions on nanobubbles moderated by Prof. Jay Meegoda			
17:45- 18:30	Break and poster session at the gallery area of the campus center ballroom A and B			
18:30- 20:00	Announcement of the fourth raffle prize drawing (3 recipients of \$100 gift card and 3 recipients of \$20 gift card) Hot buffet dinner for registered attendees in campus center atrium		Committee reception dinner for future conference planning (invited guests only)	

08/22/2026 Third day of the conference

08/22/2026: Third day of the conference	
9-12 pm	Local tours/excursion activities to be communicated with those who expressed interests by email
12 pm	Adjourn

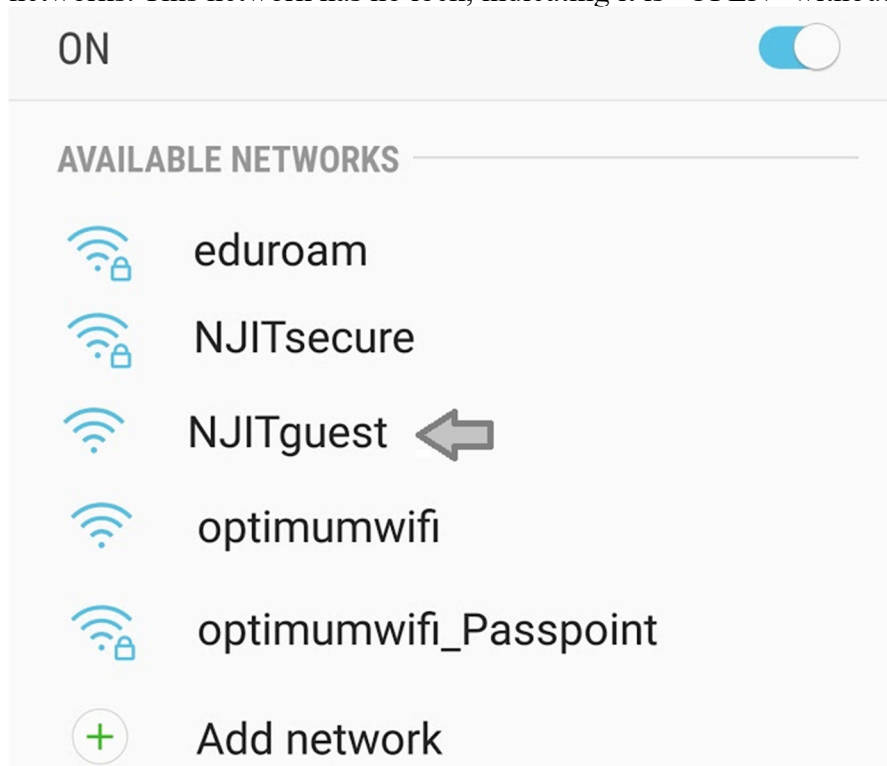
Venue

The conference location is at New Jersey Institute of Technology (150 Bleeker St #1982, Newark, NJ 07102). The ballroom A/B and atrium are both inside one building-campus center. Some parallel symposiums will be operated in smaller classrooms in this building or other campus buildings to be determined and indicated in the detailed program soon.

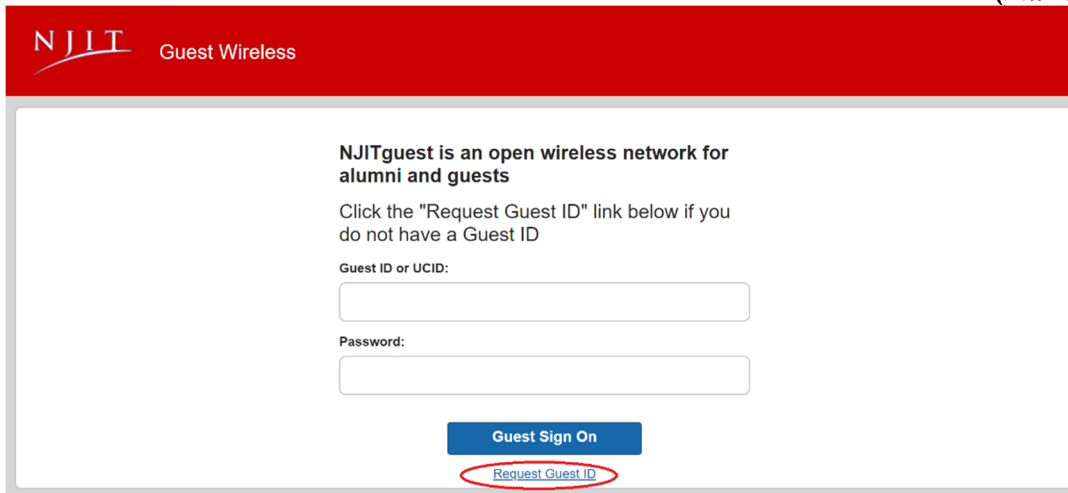
Wi-Fi Access at NJIT

“NJITguest” is intended for outside guests and alumni. The guest network has a self service portal that will allow for easier access to the Internet. This portal will allow a guest to create a Guest ID which will allow 24 hour access to the “NJITguest” network. Any visitor with access to email and SMS text messages can create an account. *Guests visiting from eduroam participating institution should use [eduroam](#) and the credentials from thier institution.*

1. To log into the NJIT guest network, select “NJITguest” on the list of available wireless networks. This network has no lock, indicating it is “OPEN” without encryption.



2. A window will open prompting you to sign in. Users who already have an NJIT UCID or Guest ID account may log in by selecting “Guest Sign On”. Select “Request Guest ID” if you are in need of creating an account.



NJIT Guest Wireless

NJITguest is an open wireless network for alumni and guests

Click the "Request Guest ID" link below if you do not have a Guest ID

Guest ID or UCID:

Password:

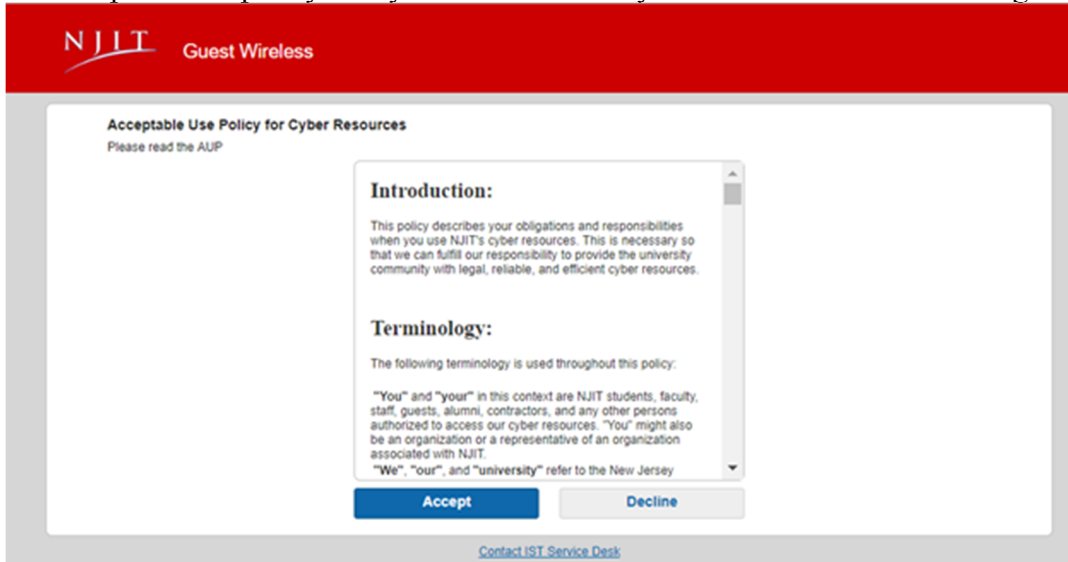
[Request Guest ID](#)

[Guest Sign On](#)

3. Fill out the required information. Please make sure to include an accurate email and SMS phone number to receive your credentials. Agree to the terms and conditions, and click **“Register.”**

4. You will receive an email and text message with your guest account credentials. Enter your Guest ID and password and click **“Guest Sign On.”** Note: Guest ID is only active for 24 hours.

5. Accept the use policy for cyber resources and you will be connected to using the network.



NJIT Guest Wireless

Acceptable Use Policy for Cyber Resources
Please read the AUP

Introduction:

This policy describes your obligations and responsibilities when you use NJIT's cyber resources. This is necessary so that we can fulfill our responsibility to provide the university community with legal, reliable, and efficient cyber resources.

Terminology:

The following terminology is used throughout this policy:

“You” and “your” in this context are NJIT students, faculty, staff, guests, alumni, contractors, and any other persons authorized to access our cyber resources. “You” might also be an organization or a representative of an organization associated with NJIT.

“We”, “our”, and “university” refer to the New Jersey

[Accept](#) [Decline](#)

[Contact IST Service Desk](#)

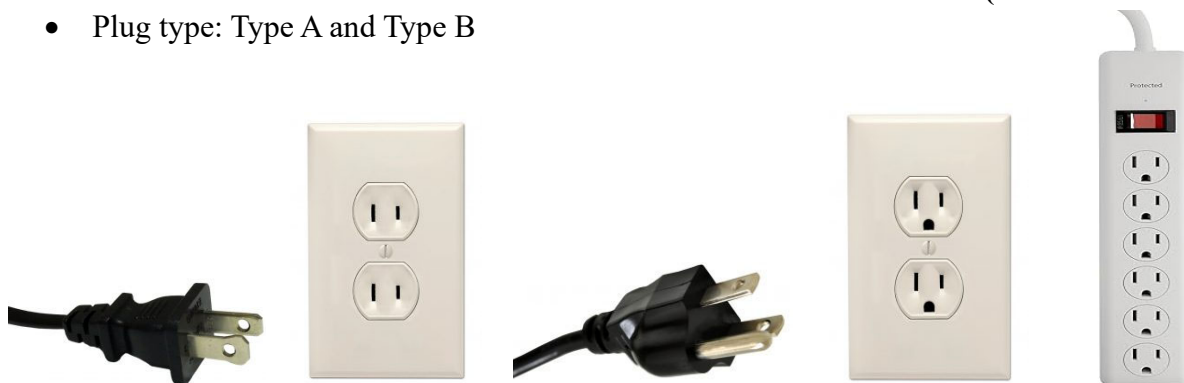
Electricity

Please bring proper electrical device (e.g. laptop) to the conference venue and note the local electrical specifications to ensure compatibility and safe operation.

The electrical standards in the United States are:

- Standard Voltage: 120V
- Frequency: 60 Hz

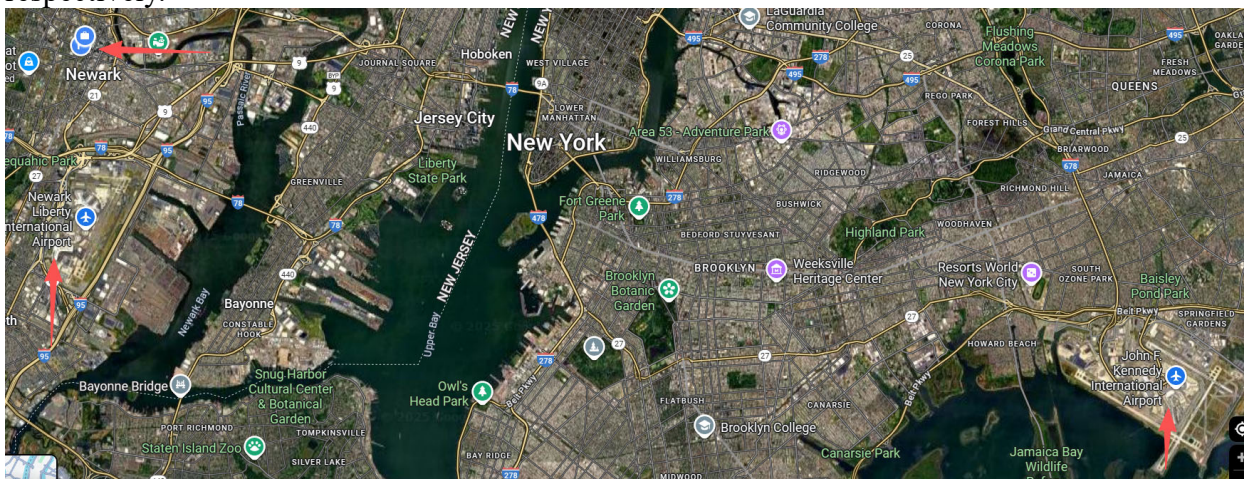
- Plug type: Type A and Type B



(From left to right: 2 pin plug-wall socket, 3 pin plug-wall socket and power strip)

Transportation

The two major airports: JFK and Newark airport are marked by red arrows below and for easy commute, Newark airport is suggested as your terminal airport as it is just 10 min by car to reach the campus. Otherwise, you will take a long taxi for 50-60 min from JKK to reach Newark or NJIT campus. See the three red arrows in the image below that points to NJIT, JFK and Newark airports respectively.



1. Out-of-town attendees should fly into Newark Liberty International Airport (EWR), Newark, NJ. The airport is 5 miles away from hotels and the meeting venue. Public transit (NJ Transit, Amtrak) taxi/ride share are available from the airport. It is possible to navigate to the meeting without a rental car.
2. Getting There from NYC: From New York Penn Station to Newark Penn Station: NEC, NJCL, RARV trains or
3. From Newark- Penn Station to NJIT: 10-15 minute walk or take Newark Light Rail (To Grove Street Line) 4 stops to Warren Street/NJIT (4 mins)



2026 International Conference on Nanobubbles, Nanodroplets, and Their Applications (Nanobubble 2026)

4. Bus Lanes:

Raymond Blvd Side:

71/73 (Livingston Ml via St Barnabas) 5 stops to Warren St at Wilsey St

21 Orange Main & Day 5 stops to Warren St at Wilsey St

Market St Bus Lane at Raymond

34B/34M (Bloomfield) 5 stops to W Market St at Wickliffe St

5. Public Transit:

Newark Liberty International Airport

- **[AirTrain Newark](#)**

Provides easy connections to and from NJ TRANSIT, PATH, and Amtrak through One Gateway Center.

Train service is available directly from Newark Liberty International Airport to Newark Penn Station.

- **Bus service**

Available through NJ Transit Bus Lines: 28, 37, 62, 67, 107.

The closest bus stops are Central Ave and Broad St on Market, see [NJ Transit website](#) for schedule.

New Jersey Transit

- **Broad Street Station**

A five-block walk to the NJIT campus, Newark's Broad Street Station is a stop on both the Morris and Essex lines

[View Schedules and Routes](#)

- **Newark Light Rail**

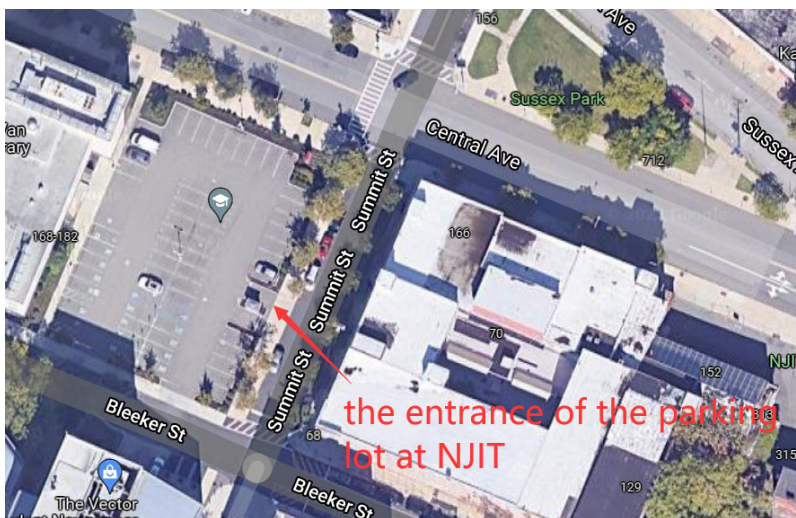
The Newark City Subway is now part of the Newark Light Rail System run by NJ Transit. From Newark Penn Station, take the Warren Street stop to the NJIT Campus.

[View Schedules and Routes](#).

Parking

Parking is free at the NJIT Parking Deck at **154 Summit St. Newark, NJ 07103**. If the Summit Street deck is full, alternative parking is available at 42 Sylvia Jackson Way, Newark, NJ 07103, which is slightly farther from the venue.

Reservation for the lot 7 (see below) is available for Up to 10 special VIP guests if this request is made to Dr. Wen Zhang before March 30, 2026. The NJIT parking lot 7 is located at 61 Summit Street, Newark, NJ 07102. After arriving at the game, tell the gatekeeper your name and indicate you are here for the 2026 nanobubble conference and he will let you in.



Hotel

A list of hotels around NJIT within walking distances are suggested to choose from. You may also choose some far-distance ones with commute or rental cars. During the conference dates, we will request free parking on campus parking deck.

[Hotel Indigo Newark Downtown](#)

810 Broad Street
Newark, NJ 07102
0.8 miles from NJIT

[Robert Treat Hotel](#)

50 Park Pl, Newark, NJ 07102
0.8 miles from NJIT

[TRYP by Wyndham Newark Downtown](#)

24 E Park St, Newark, NJ 07102
0.8 miles from NJIT

[Hampton Inn & Suites Newark-Harrison-Riverwalk](#)

Passaic Ave Harrison, NJ 07029
0.8 miles from NJIT

[Courtyard Newark Downtown](#)

858 Broad Street, Newark, NJ 07102
0.9 miles from NJIT

[Best Western Robert Treat Hotel](#)

50 Park Place, Newark
Newark, NJ 07102
1.0 mile from NJIT



**2026 International Conference on
Nanobubbles, Nanodroplets, and Their Applications
(Nanobubble 2026)**

Hilton Newark Penn Station

1 Gateway Center Raymond Blvd, Newark, NJ 07102
1.2 miles from NJIT

Hilton Newark Airport

1170 Spring Street, Newark, NJ 07104
1.2 miles from NJIT

DoubleTree by Hilton Hotel Newark Airport

128 Frontage Road Newark, NJ 07201
5.1 miles from NJIT

Author List

Oral Presenters

Name	Institution
Abinash Biswal	Brunel University London
AirFluid Innovation	Industry
Andrei Dukhin	Dispersion Technology Inc.
Andre Venter	Western Michigan University
Anna Scomparin	University of Torino, Italy
Arash Zamyadi	Monash University
Arvydas Povilaitis	Vytautas Magnus University
Chunlei Wang	Shanghai University
Fang Yang	Southeast University, China
Gaurav Yadav	IIT Ropar
Thuy Linh Ha	The University of Tokyo
Hsin Tung	National Taiwan University
Ing-Shouh Hwang	Academia Sinica, Taiwan
James Earthman	University of California Irvine
Jianbing (Jason) Li	University of Northern British Columbia
Kalyani Agarwal	Independent Researcher (Indian Institute of Technology)
Kristin Hecht	Hamburg University of Applied Sciences
Kyle Marcel	University of Hawaii
Lee Philips	Spheryx Inc.
Dietmar Lerche	LUM GmbH, Berlin, Germany
Jianliang Mao	University of Northern British Columbia
Mathieu Nsenga	Independent Researcher
Michael Radicone	I2 Air Fluid Innovation, Inc., USA
Nick Jackowetz	Hydrosome Labs
Nikhil Varma	Cosasco
Onur Apul	Penn State University
Parham Khosravi	University of Pennsylvania
Patrick Murphy	University of Pennsylvania
Peter Kusalik	University of Calgary, Canada
Pierre Chanson	Hydrosome Labs
Praveen Koundinya	Clemson University
Qiming Zhang	Nanyang Technological University
Ragy Ragheb	Malvern Panalytical
Rongrong Wang	Sinopec Research Institute
Hamidreza Samouei	Texas A&M University
Sayyad Rizvi	Cranfield University
Scott Lopchan	University of Hawaii
Sergio Marino Viáfara García	Universidad de los Andes, Chile
Shahar Bar	Volcani Institute, Israel
Samir Kumar Khanal	The Hong Kong University of Science and Technology
Shanshan Deng	New Jersey Institute of Technology

Shivi Garg	IIT Ropar
Shoaib Ahmad	University College Dublin
Lou Kondic	New Jersey Institute of Technology
Sowmya Atukuri	New Jersey Institute of Technology
Stephanie Mollica	Messer Americas
Suraj Prashad Sharma	Brunel University London, UK
Minoru Tanigaki	Kyoto University
Tatek Temesgen Terfas	Clemson University
Jay Meegoda	New Jersey Institute of Technology
Tyler Smith	University of Hawaii
Xiaotong Ma	Xi'an Jiaotong University, China
Xiaying Xin	Queen's University, Canada
Fangshu Wang	Qingdao University of Technology
Xinyan Wang	Brunel University London
Yang Li	Beijing Normal University
Yanquan Zeng	University of Tokyo
Yanwen Gao	Tsinghua University
Yasumasa Matsumoto	Kyoto University, Japan
Kent J. Semmen	Disney's Animals, Science and Environment
Yuhan Li	Shanghai Jiao Tong University

Poster Presenters

Name	Institution
David Austin	University of California Irvine
Ichiro Otsuka	Japan
Kohei Nishiyama	MTG Co., Japan
Patrick Murphy	University of Pennsylvania
Roberta Cavalli	University of Torino
Sebastian Viafara	Universidad de los Andes
Yaodi Zhu	China
Yuhan Li	Shanghai Jiao Tong University
Ethan Yao	Livingston High School, New Jersey

Abstract Access

You may click [this link](#) to access all abstracts submitted to this conference.



PURE NANOTECH

Nanobubbles — Sustain, Deliver, Clean

High-purity, high-concentration nanobubbles with uniform ultra-small size, acting as nano-scale carriers with gentle ROS hygiene. They power high-value applications across agriculture, food processing, wastewater treatment, aquaculture, skin & dental health, oil & mining, biomedical delivery, and beyond.

PURE NANOTECH Nanobubble Generators

Gas modes: O₂ / O₃ / H₂ / Air • Customizable on request.



Standard – Research
0 to 4 LPM



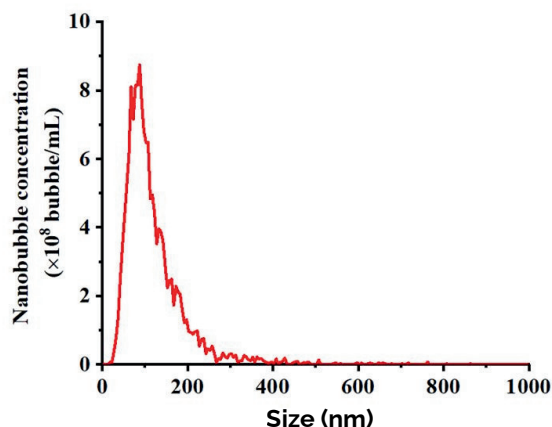
Standard – Industrial
0 to 15 GPM



Intermediate – Industrial
0 to 60 GPM

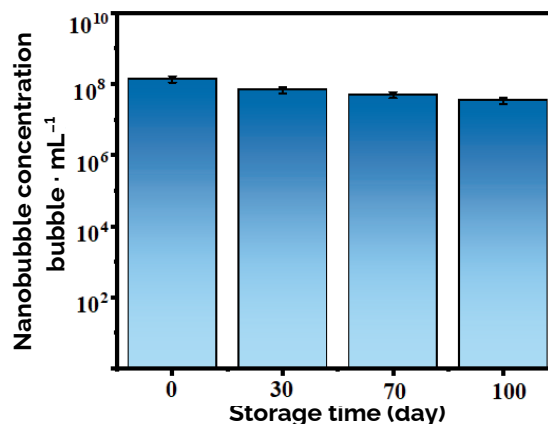
PURE NANOTECH Performance

Nanobubble Size Distribution



Total nanobubble concentrations on the order of 10¹⁰ particles/mL, utilizing DI water.

Nanobubble Stability Over Time



Stable nanobubble concentration maintained over extended storage time.

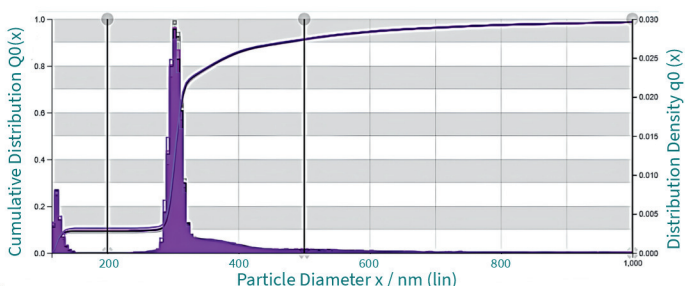
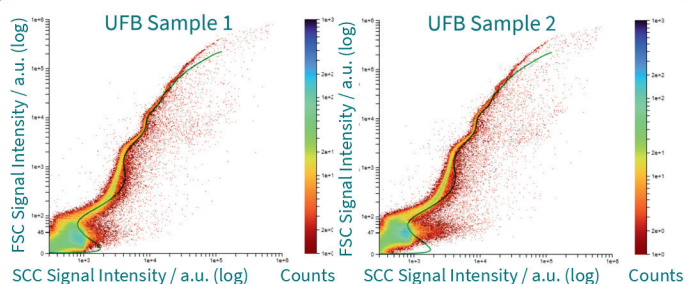
Discover how **PURE NANOTECH's**
Nanobubble Generators stand apart





LUMiSpoc[®]

Counting & Sizing of every single Nanobubble with unmatched resolution



Number-based nanobubble size and concentration distributions



<4% sizing uncertainty with <10 nm resolution



Measures down to 10^4 & up to 5×10^9 particles/mL with negligible coincidence error, uncertainty < 12%



Dual-angle scattering plus MIE simulation for impurity identification



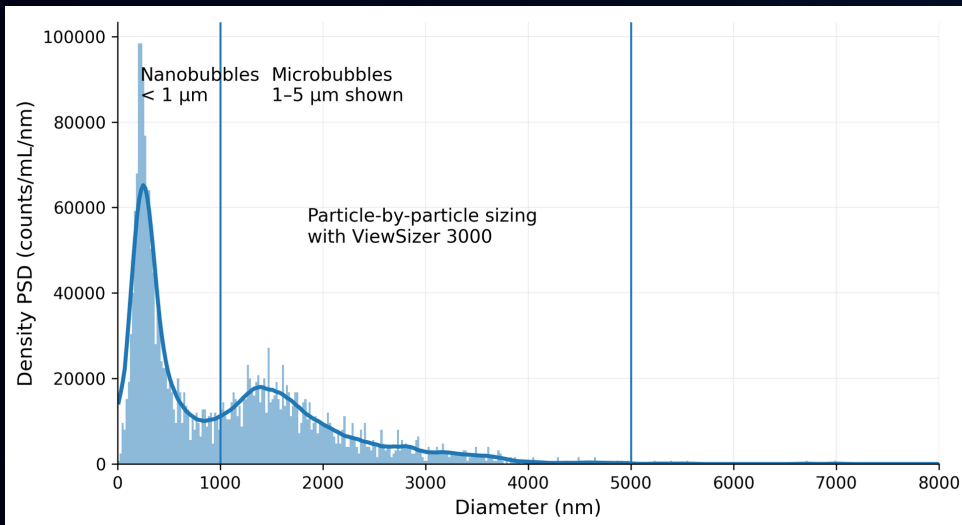
Number concentrations can be calculated for any particle size range

HORIBA

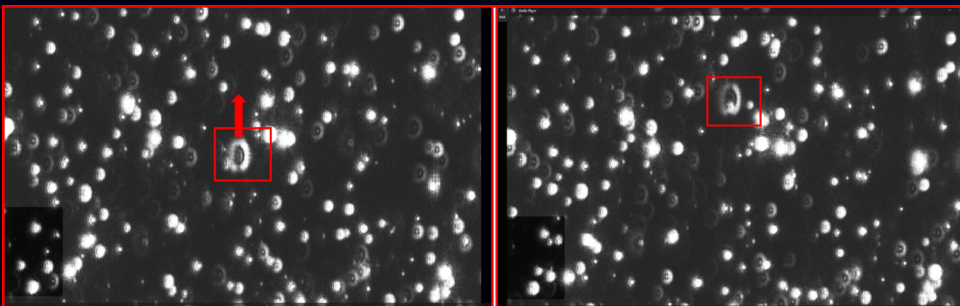
Quantify Micro-Nanobubble (MNB) Mixture

ViewSizer 3000

Multispectral NTA & Sedimentation Analysis



Mode	Total counts	Mode (nm)	D50 (nm)	D10 (nm)	D90 (nm)	Span (nm)	Concentration (particles/mL)
SA	3035	206.91	783.25	196.38	2382.50	2.791	2.43×10^{11}
SA	2954	230.55	697.00	195.34	2282.80	2.995	2.36×10^{11}
SA	2905	209.33	721.75	201.10	2186.50	2.751	2.32×10^{11}



SCAN ME



<https://rebrand.ly/HORIBAbubbles>



- Visualize and size MNB populations within minutes
- Track repeatability and reproducibility across generator settings
- Compatible with diverse diluents, including high-ozone samples
- Product Specs: Size (10 nm - 15 μm) and concentration ($1\text{E}5$ p/mL and up)



INTERNATIONAL
CONFERENCE ON
**NANO-
BUBBLES**

Proud to sponsor and present

NanoBurstXTM

Rapidly Forming Chemistry
Catalyzed Nanobubbles

August 19th-21st, 2026



www.nanoburstx.com

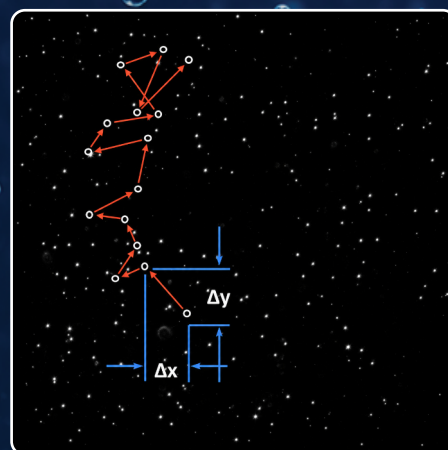


info@i2airfluidinnovation.com

Make Your Nanobubbles Visible

Quantify and Characterize with
ZetaView[®] NTA

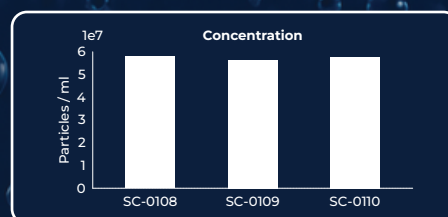
PARTICLE
METRIX



Concentration

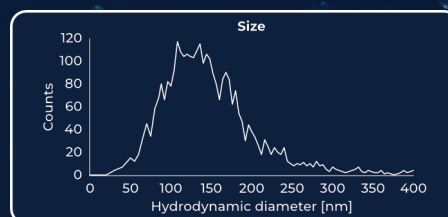
Calibration free Concentration Scanning Technology – Delivers reproducible quantification

down to 10^5 nanobubbles/ml



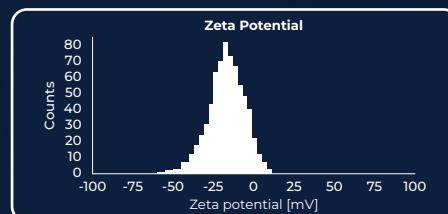
Size

High resolution nanobubble size distribution – Enables accurate characterization of nanobubble populations



Zeta Potential

Integrated Zeta Potential Analysis – Reveals nanobubble **stability** and **surface charge properties**



Meet us and the ZetaView[®]
in the exhibition area.



Visit us online



Measure every bubble. Maximize every outcome.

**NanoSight Pro gives you
the insight to transform
nanobubble science.**

See more

Reveal every nanobubble with
particle-level characterization.

Understand more

Build confidence through trusted
measurements of size, concentration
and stability.

Achieve more

Optimize performance with the insight
to make better scientific decisions.



**Come and meet us
in the exhibition area**



**Discover complete
nanobubble
characterization**



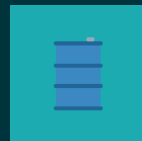
Poseidon-100:

- Weight: 1-8 kg
- Diameter: 12-25 cm
- Height: 20-90 cm
- Airflow: 20-80 liters/min
- Power consumption: 30-68 Watts
- Submersion depth: 4-5 meters
- Solar power options: Available for land and floating islands
- Power supply: AC 110/220 V
- Supports alternative gases for aeration, including ozone-resistant variants.
- Suitable for tanks with volumes up to 5000 liters (smaller model) or 200,000 liters (larger model).
- Safe handling of hazardous gases (e.g., H₂, CH₄, O₃) with controlled atmosphere generators.
- Solar-power options (either shore or floating-based)
- Mains electricity

Services:



Wastewater & Water Treatment: Improve aeration, lower costs, retrofit existing tanks.



Oil & Gas: Enhanced oil recovery (EOR), produced water treatment, oil-water separation.



Algaculture: Large-scale algae cultivation for biofuels and CO₂ capture



Floating-photovoltaic (FPV) power on a floating island, with battery back-up; powering a submerged NB generator.



Algae - laden panel



One week of passive, solar-powered NB generation

Why Choose Us?

1

Better oxygen transfer than blowers, coarse/fine bubble diffusers

2

Lower energy footprint

3

No need for compressed gas or high maintenance

4

Verified pilot projects with major partners (Europe, USA, Middle East)



Nanobubble Technology Company





Vulcan-500

- 350-800 l.p.m. water
- single-pass NB level of $\sim 3 \times 10^7$ per ml
- 3-4 passes for $2 \sim 10^8$ per ml
- Works with submersible pump
- Internal power needed ~ 150 W
- Typical pressure drop in this flowrate range: not more than 1 bar
- Gas-compressor (e.g., CO₂, air, O₂, N₂, etc) or air-pump: about 10-25:1 less than liquid flow on STP-volumetric basis, typically at ~ 5.5 bar g - about 250-500 W power
- Internal pressure of unit: ~ 4 bar g
- Water-pumping energy: depends on pump characteristic-curve operating conditions; typically about 0.8-2 kW

Contact Us:



+353-87-6179765



info@aquab.com



www.aquab.com



Old Mill Industrial Estate, Kill
Naas, Kildare W91 KVV4
Ireland



Regular wastewater-sediment settlement on left, compared to NB-treated Dissolved-Air Flotation on the right

Comparison to competitors:

- NB populations about 20-60 times larger with Nanosight NTA (ignoring substantial sub-45 nm populations); with NB populations of some 2.5-3 times longer life, with zeta potentials typically larger in magnitude than 25-30 mV.
- Independent ISO-compatible validation of NB production by Malvern agents.
- CE-marked, ATEX-rated, IP-rated for outdoor compatibility.
- Bespoke sun/dust/wind/rain shrouds available for outdoor use
- Trailer-mountable for transportability



General market availability:

1

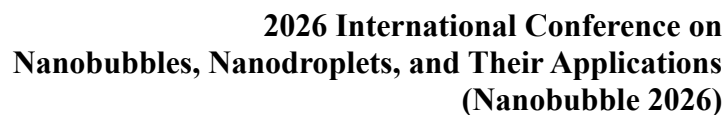
Current: TRL-8 to TRL-9 units (submersible, continuous-flow)

2

Next: Mass-market production, full solar integration, remote software roll-out

3

Service-Level Agreements (SLAs) are available for rental and purchase options



Key ideas / questions / follow-up contacts:

[illegible]

