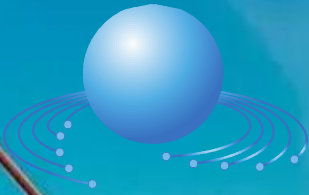


36<sup>th</sup> ANNUAL CONFERENCE



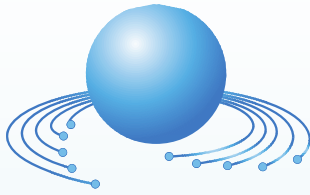
# ILASS-Americas

Institute for Liquid Atomization and Spray Systems

## 2026 CONFERENCE BOOK

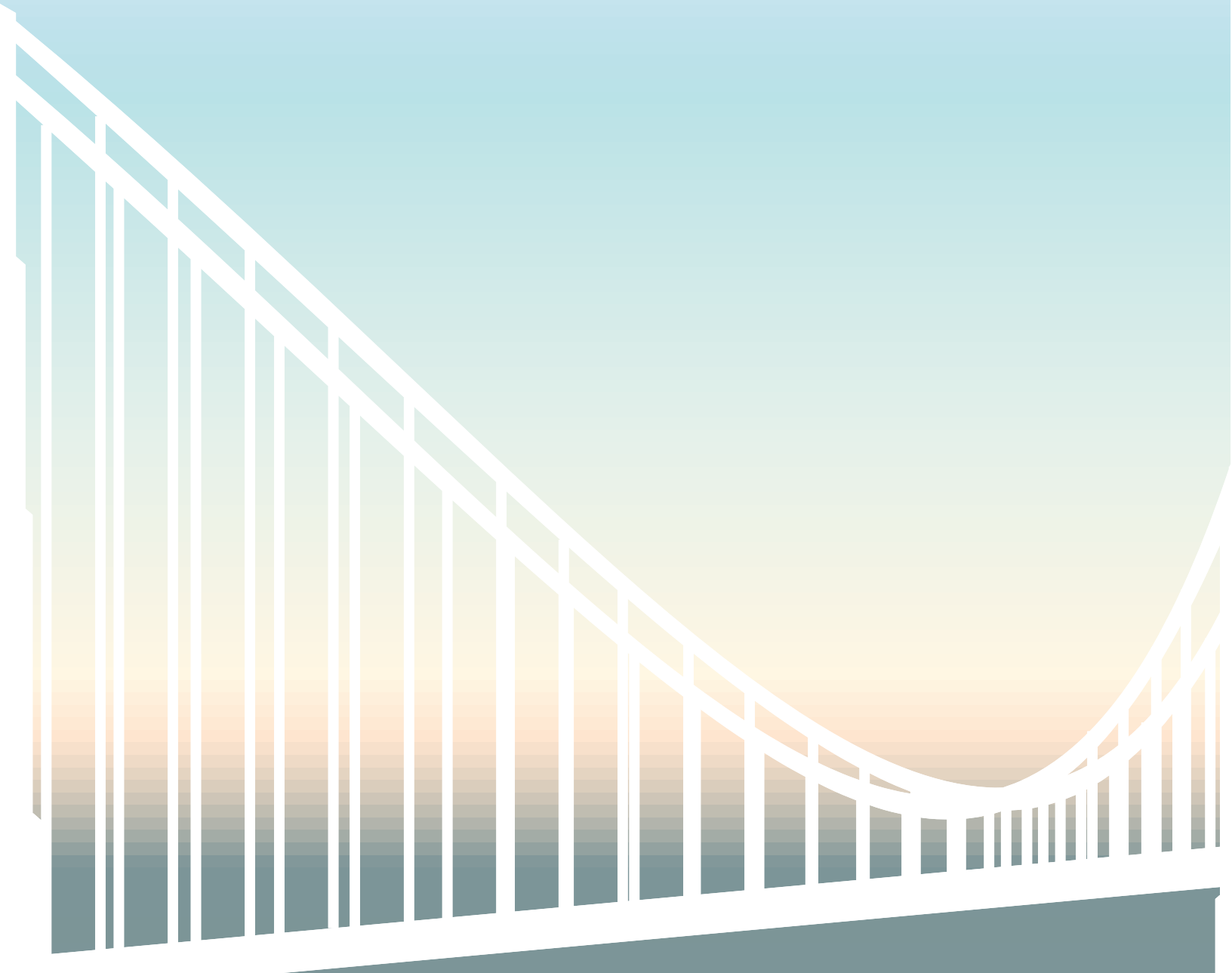
11-14 May, 2026, San Francisco Bay, CA

36<sup>th</sup> ANNUAL CONFERENCE



# ILASS-Americas

Institute for Liquid Atomization and Spray Systems



# TABLE OF CONTENTS

|                                                  |           |
|--------------------------------------------------|-----------|
| <b>Sponsors</b> .....                            | <b>3</b>  |
| <b>Board of Directors</b> .....                  | <b>4</b>  |
| <b>Conference Organizers</b> .....               | <b>5</b>  |
| <b>Technical Committee Meeting Leaders</b> ..... | <b>6</b>  |
| <b>Conference Maps</b> .....                     | <b>7</b>  |
| <b>Conference and Program Notes</b> .....        | <b>8</b>  |
| <b>Exhibitors</b> .....                          | <b>10</b> |
| Exhibitor Map .....                              | 10        |
| Exhibitor Statements .....                       | 11        |
| <b>Program</b> .....                             | <b>20</b> |
| Monday Evening .....                             | 21        |
| Tuesday .....                                    | 22        |
| Wednesday .....                                  | 25        |
| Thursday .....                                   | 28        |
| <b>Conference Contributions</b>                  |           |
| Keynote Speakers .....                           | 30        |
| List-of-Papers .....                             | 31        |
| <b>Index of Authors</b> .....                    | <b>35</b> |
| <b>Sponsors</b> .....                            | <b>38</b> |

## SPONSORS

ILASS-Americas is a non-profit organization committed to advancing the exchange of state-of-the-art knowledge in spray science. We are especially committed to supporting student participation and the next generation of researchers and engineers. Thanks to the generous support of our sponsors, we are able to significantly reduce conference registration fees for students each year. Sponsor contributions also help support conference meals, breaks, and networking opportunities throughout the meeting.

### GOLD SPONSORS



### SILVER SPONSORS





# BOARD OF DIRECTORS



**Chair**

Marcus Herrmann  
Arizona State University



**Vice-Chair**

Lyle Pickett  
Sandia National  
Laboratories



**Treasurer**

Kyle M. Bade  
Spraying Systems Co.



**Secretary**

Mario Trujillo  
University of  
Wisconsin-Madison



**Member at Large**

Michael Cloeter  
Dow Chemical (retired)



**Member at Large**

Olivier Desjardins  
Cornell University



**Member at Large**

Kuo-Cheng (Steven) Lin  
Taitech, Inc.



**Member at Large**

Christopher F. Powell  
Argonne National  
Laboratory



**Member at Large**

Chad Sipperley  
Step 2 Consulting, Inc.



**Member at Large**

Mark Owkes  
Montana State University



**Member at Large**

Brandon A. Sforzo  
Argonne National Laboratory



**Past-Chair**

Scott E. Parrish  
General Motors R&D and Planning

# CONFERENCE ORGANIZERS



## **Local-Host and Organizer**

---

Lyle Pickett  
Sandia National Laboratories



## **Program Chair**

---

Paul Vesely  
Spraying Systems Co.



## **Awards Chair**

---

Dorrin Jarrahbashi  
Texas A & M University



## **Exhibits Chair**

---

Brandon Sforzo  
Argonne National Laboratory



## **Sponsorships Chair**

---

Christopher F. Powell  
Argonne National Laboratory

# TECHNICAL COMMITTEE MEETING LEADERS



## Technical Committee Meeting Liason

Mark Owkes  
Montana State University

### Aerospace Propulsion

Tuesday, May 12



Ethan Hanson  
Advanced Atomization Technologies



Brandon Sforzo  
Argonne National Laboratory

### Industrial & Agricultural Sprays

Tuesday, May 12



Andy Thistle  
mdot technologies



Paul Vesely  
Spraying Systems Co.

### Physics of Atomization

Wednesday, May 13



Mario Trujillo  
University of Wisconsin-Madison

### Reciprocating Engine Injection

Wednesday, May 13



Lyle Pickett  
Sandia National Laboratories



Roberto Torelli  
Argonne National Laboratory

### Spray Measurements & Instrumentation

Wednesday, May 13



Chad Sipperley  
Step 2 Consulting, Inc.



Julien Manin  
Sandia National Laboratory

### Computation & Modeling

Wednesday, May 13



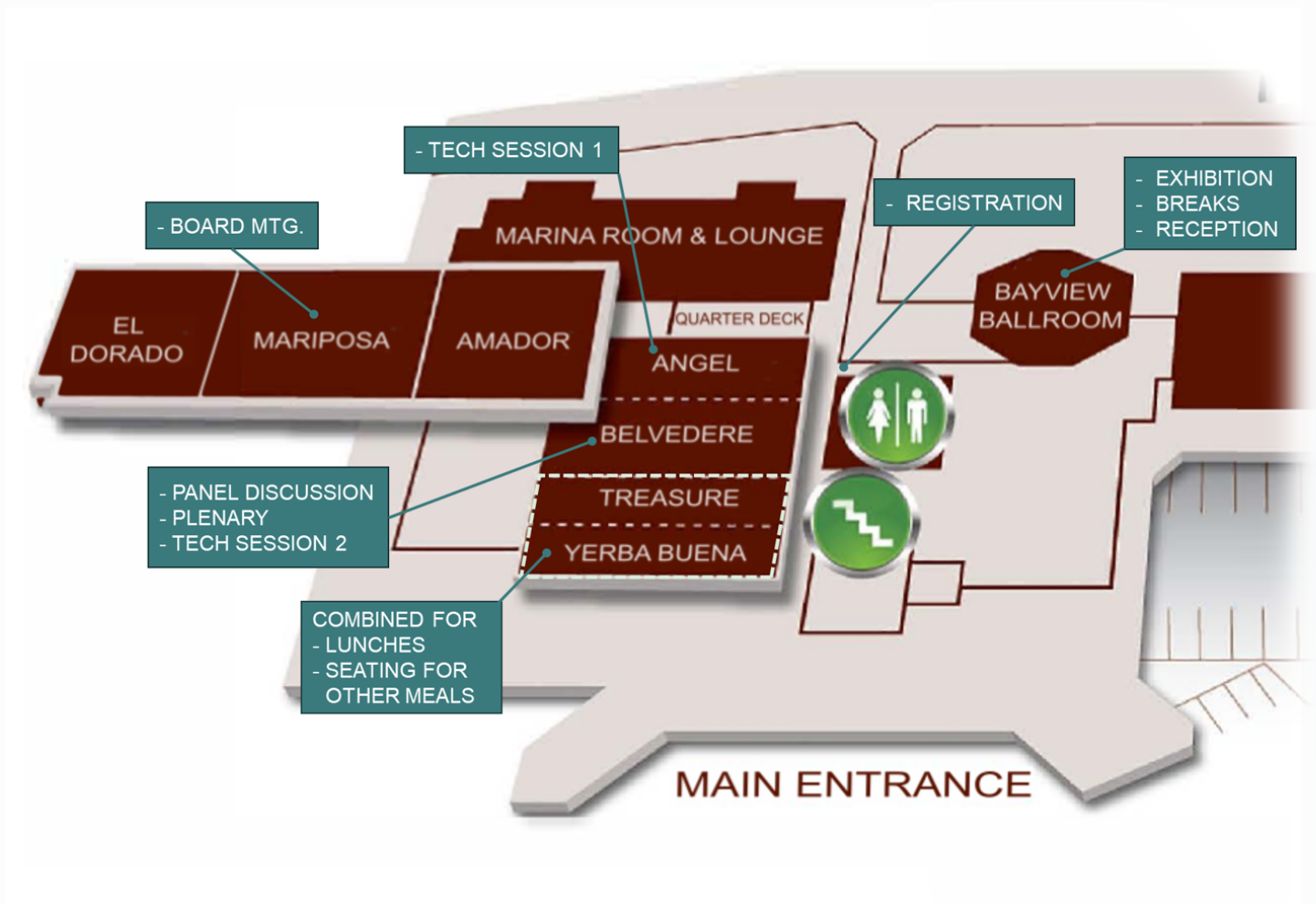
Xiaoyi Li  
RTX Technology Research Center



Fabien Evrard  
University of Illinois Urbana-Champaign

# CONFERENCE MAPS

The ILASS-Americas 2026 conference will be held at the DoubleTree Hotel Berkeley Marina in Berkeley, California. Please see the map below which highlights the rooms which will be used for the conference.



# CONFERENCE AND PROGRAM NOTES

These are some helpful notes for your time during ILASS-Americas 2026.

**Registration** takes place on Monday, May 11 from 5:00 – 6:30 pm in the Bayview Ballroom.

**A Welcome Reception** will take place on Monday, May 11 from 5:00 – 6:30 pm in the Bayview Ballroom, followed by a **Reception Panel Session** from 6:30 – 8 pm in Belvedere Island.

**Breakfast** (Continental) will be served every morning from approximately 7:30 – 8:30 am in the Bayview Ballroom. Exhibitor booths will be open during this time. Seating for breakfast is also available in Treasure Island room.

**Lunch** will be served on Tuesday and Wednesday in Treasure Island.

**The ILASS-Americas Annual Business Meeting** will be held during lunch on Wednesday, May 13. All conference attendees are encouraged to attend.

**Technical Committee Meetings** will be held on Tuesday afternoon and Wednesday. Conference attendees are strongly encouraged to join the technical committee discussion(s) that match their interests. The meetings are open to all conference attendees.

**The Atomization and Sprays Editorial Board Meeting** will be held on Tuesday during lunch in Mariposa; this is closed meeting for editorial board members only.

**Exhibitors' Displays** are available each day from the start to the end of each day in the Bayview Ballroom.

**Poster Session** There is no poster *session* at the the 2026 conference, but posters may be on display.

**Program changes** will be announced every morning and noted on the schedule poster outside each presentation room as the need arises.

**The Conference Banquet and Awards Ceremony** will be a dinner cruise on the San Francisco Bay aboard the Hornblower Express, during the evening of Wednesday May 13. Boarding starts just outside of DoubleTree hotel at 5:30 pm, with departure at 6:00 pm.

**Paper numbers** are provided in the List-of-Papers (page 31) of this conference book, as well as in the Index of Authors (page 35).

**Paper PDFs** are provided for all registered conference attendees though an online repository during the conference. Links to the papers are available in the **Program** and **List-Of-Papers** sections of this book. Access during the conference is password protected and will be provided to attendees.



## SPONSORS

ILASS-Americas is a non-profit organization committed to advancing the exchange of state-of-the-art knowledge in spray science. We are especially committed to supporting student participation and the next generation of researchers and engineers. Thanks to the generous support of our sponsors, we are able to significantly reduce conference registration fees for students each year. Sponsor contributions also help support conference meals, breaks, and networking opportunities throughout the meeting.

### GOLD SPONSORS



### SILVER SPONSORS

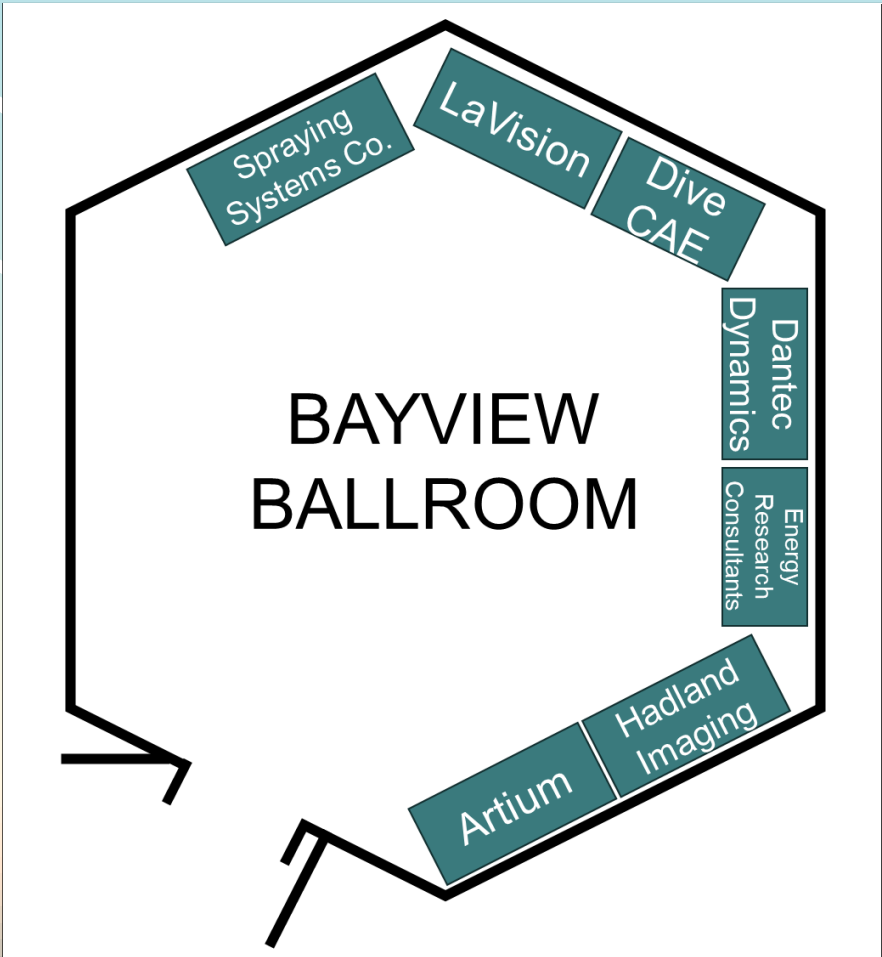


# EXHIBITOR INFORMATION

The exhibitors at this year's conference offer an array of diagnostic instrumentation, services, software, and equipment and they look forward to discussions with the conference participants in the exhibitor showcase and break area. Specific details are outlined on the following pages with statements from each exhibitor.

The exhibitors at this year's conference are:

|                                         |    |
|-----------------------------------------|----|
| Artium Technologies .....               | 11 |
| Dantec Dynamics .....                   | 12 |
| Dive CAE .....                          | 13 |
| Hadland Imaging .....                   | 15 |
| Energy Research Consultants (ERC) ..... | 16 |
| LaVision .....                          | 18 |
| Spraying Systems Co. ....               | 19 |





470 Lakeside Drive, Unit C  
Sunnyvale, CA 94085

Artium Technologies, Inc. develops and manufactures high-precision, high-accuracy instruments for characterizing sprays, clouds, and aerosol droplets. Our **Phase Doppler Interferometry (PDI)** instruments are based on the principle of light scattering interferometry, which was **invented and developed by our scientists and engineers**. Over more than three decades, this method has been systematically refined, optimized, and validated, establishing it as the benchmark for accurate and reliable measurement of droplet size, velocity, and volume flux in complex multiphase flows.

**System automation (US Patent 7,564,564)** has been a key focus of our development efforts. We have introduced advanced methods and algorithms (**US Patent 7,788,067**) to minimize the potential for user setup errors, even for the most complex measurement tasks. **Signal parsing has been introduced to mitigate measurement errors due to coincidence effects (US Patent 11,029,241)**. Advanced electronics and computers, coupled with **software utilizing innovative signal processing algorithms** and validation strategies, have resulted in significantly improved instrument performance even under the most difficult measurement conditions. Our most recent signal processors, the ASA 4, can achieve an unprecedented drop size dynamic range of 100:1. We have developed a line of integrated PDI **TurnKey (TK)** instruments, suitable for laboratory applications. Our instruments are extensively used for quality control of inkjet printing applications such as production of large OLED displays and printed circuit boards.

Our **newly developed flight probes, based on the phase Doppler method and multi-beam imaging technology, have been designed for atmospheric cloud monitoring and aircraft icing research**. These instruments are also used for a broad range of spray measurement applications and have undergone extensive field testing. Deployments at the **U.S. Air Force Eglin Air Force Base McKinley Climatic Laboratory (MCL)**, General Electric's aircraft engine icing facility, and in the **NASA Glenn Research Center Icing Research Tunnel (IRT)** have demonstrated that our instruments can provide reliable and accurate measurements in these challenging environments.

Under **U.S. Army SBIR Ph II, NASA SBIR, and the U.S. Air Force Phase I, II and STTP programs**, we have developed PDI and **advanced Particle Imaging (Particle-I)** systems for aircraft structural and engine icing research. These particle imaging systems allow easy and economic characterization of spray formation and drop size distributions. Particle-I instruments are used for measuring aircraft icing sprays containing mixed phase particles, including liquid droplets, ice particles, and large droplets that may be highly deformed. Additional applications include spray drying characterization, where both liquid particulates and irregular-shaped solid particles may be present.

Artium's other products include the **Laser Doppler Velocimeter (LDV)** for high-accuracy velocity measurements and **Laser Induced Incandescence (LII)** for measuring soot (black carbon) emission from engine exhaust and in ambient air.

We are proud to acknowledge our **STTP Award** with the **US Air Force AEDC for Characterization of Simulated Weather and Turbine Exhaust Emissions**, which will involve extensive use and continued development of both our **Particle-I** and **LII** instrumentation. We also acknowledge our Department of Energy SBIR Phase I and II grants, which have provided resources to expand our PDI flight probe development, as well as our U.S. Air Force AEDC SBIR Phase I and II grants to develop a system for characterizing sprays in large scale engine test facilities.

**Contact Information:** Dr. William Bachalo and Dr. Mason Leandro  
Artium Technologies, Inc.  
408-737-2364  
Email: [info@artium.com](mailto:info@artium.com)  
Website [www.artium.com](http://www.artium.com)

Scientists and Engineers in fluid dynamics and solid mechanics rely on measurements to make breakthroughs in applied research, technology development, and quality assurance.

Dantec Dynamics specializes in the development, manufacture and application support of measurement systems that acquire and analyze data of physical properties in fluids and in solid structures.

We deliver turnkey and customized solutions built on high-end laser optics, imaging, and sensor technologies. Our user-friendly software performs advanced data analysis and produces real-time results. Furthermore, we pride ourselves in providing our clients superior technical application support worldwide.

You gain accurate measurement results easily and quickly which help you accelerate the pace of discovery, innovation, quality control or NDT. Our distinct competence and experience in integrating measurement methods and technologies into the right solution for you, is unique.

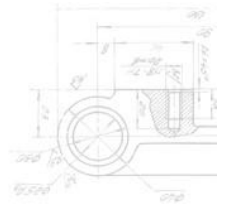
Partnering with Dantec Dynamics helps you gain crucial knowledge from any test or measurement campaign.

**Contact us at:**

Dantec Dynamics, Inc.  
300 Innovative Way, Suite 222  
Nashua, NH 03062  
United States  
Phone / +1 631 654 1290  
Fax / +1 631 654 1293  
Email: [USA@dantecdynamics.com](mailto:USA@dantecdynamics.com)  
[www.dantecdynamics.com](http://www.dantecdynamics.com)



Simulate what you couldn't before with cloud-native, meshless CFD



## Your Heat Management & Fluid Dynamics Partner

Dive CAE Helps Engineers Solving the Toughest Thermal & Fluidic Challenges



### Applied Across Various Industries

We aim to connect the dots



### Get in touch:



**Kevin O'Shea**  
Head of Sales, North America  
[oshea@divecae.com](mailto:oshea@divecae.com)  
[www.divecae.com](http://www.divecae.com)



- **Particle-based:** Solve free-surface flow problems orders of magnitude faster than mesh-based methods
- **Cloud-native:** Scalable & secure
- **Powerful Cloud GPU solver:** No hardware investment needed
- **Transparent pricing:** No surprise solver bills
- **Full team access:** Collaborate with the whole team – no seat licenses
- **Automation & AI-ready:** Automate via scripts and integrate with agentic systems
- **Global partner:** Dedicated Customer Success representatives available in North America, EU, and India







# Experience the Invisible.™

IN THE LAB & ON THE RANGE.



## BETTER GEAR. BETTER RESULTS.

ULTRA HIGH-SPEED VISIBLE, INFRARED, SCHLIEREN & FLASH X-RAY IMAGING SOLUTIONS



1-888-43HADLAND (1-888-434-2352) | [www.hadlandimaging.com](http://www.hadlandimaging.com)

CONSULTATION ★ CAMERAS ★ SYSTEMS ★ LIGHTING ★ ACCESSORIES ★ SERVICE & TRAINING



GET YOUR HANDS DIRTY WITH  
ULTRA HIGH-SPEED VISIBLE, INFRARED,  
SCHLIEREN & FLASH X-RAY IMAGING IN  
**THE VAULT @ HADLAND IMAGING,**  
OUR R&D TRAINING CENTER  
IN SANTA CRUZ, CALIFORNIA.



★ ★ ★ ★ ★

**FEATURING CUTTING-EDGE  
ULTRA HIGH-SPEED IMAGING EQUIPMENT:**

Shimadzu HyperVision HPV-X2 & HPV-X3  
ultra high-speed video cameras

Scandiflash SCF150 Flash X-Ray System

Phantom high-speed video cameras

FLIR high-speed & high definition  
Science Grade infrared video cameras

REL high-intensity visible spectrum  
LED lighting

Oxford Lasers  
short-pulsed laser illumination

AMOTronics SATURN  
Transient Recorder System

MatchID 2D/3D & Multi-Camera DIC  
analysis solutions

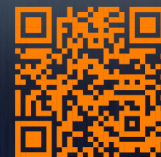
PAI .50 caliber gas gun & experiment tank

Shimadzu Precision  
Material Testing Machines

REL Split Hopkinson Pressure Bar (SHPB)  
for high strain rate testing

vibration tables, acoustic, optical & velocity  
triggers, detectors & more...

*...and our team of ultra high-speed  
imaging solutions specialists!*



★ ★ ★ ★ ★

Connect with us about getting  
hands-on experience with the gear you  
need to get the job done right!

**THE  
VAULT**

@ **HADLAND**  
SANTA CRUZ, CALIFORNIA  
IMAGING

**R&D**  
TRAINING CENTER

 **SHIMADZU**  
Excellence in Science

**SCANDIFLASH**

  
**PHANTOM**

 **FLIR**

  
**OXFORD  
LASERS**

**REL**





**Energy Research Consultants (ERC)** was founded in 1990 to address a demand for application of state-of-the-art experimental and numerical modeling tools to problems associated with transportation, propulsion, and energy generation and use. Projects which require fast and confidential answers via advanced

research tools which are not otherwise readily available are conducted by experienced personnel using a fully equipped research laboratory. Both experimental and numerical studies are conducted for clients that are addressing mission oriented, time critical projects. In addition, customer on-site work can be accommodated.

ERC has extensive experience with a wide variety of fluid dynamic, combustion, and spray system applications. In particular, ERC maintains expertise in the characterization of non-reacting and reacting flows such as those found in automotive combustion chambers and exhaust after-treatment systems, as well as those found in spray and gas fired gas turbine combustion systems and industrial processes. The expertise ranges from the basic science of liquid injection and sprays associated with a wide array of applications to study of complex practical configurations for atomization and spray formation, fuel/air mixing and combustion, swirl generation, and associated pollutant and particulate formation and operability performance and control.

Specialized measurement services are offered to both commercial and government clients. Available spray diagnostics include Phase Doppler Interferometry, Laser Diffraction, Planar Liquid Laser Induced Fluorescence (PLIF with continuous and pulsed lasers with intensified CCD cameras), planar and global OH\* LIF, optical patternation, particle image velocity, tunable diode laser spectroscopy, liquid film thickness measurements, and high speed visualization. ERC has extensive experience applying these methods to wide array of customer systems. Other capabilities include CFD modeling, test facility development, and test plan development and execution using statistically designed experimental methods.

In addition to measurement services, ERC has also developed standalone design tools (for example, Advanced Spray Injection Phenomena Simulator--ASIPS; Flame Response Sensitivity Tool—FRST) and image analysis tools (for example, Automated Feature Extraction and Analysis Tool—AFEAT). ERC has also developed other products such as a specialized imaging system for inspection inside high temperature environments and a turn-key reference burner for calibration of laser diagnostics. Gaseous and liquid fired burners are also available. Highly customized TDLAS systems are available for species concentration and temperature. Intensity ratioing systems for nano sized solid particles, liquid droplets and nano bubbles are available as well.

#### **Contact Information:**

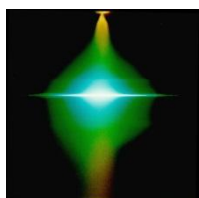
Christopher Brown, Research Manager, Business Manager, Co-Owner

23342 South Pointe Drive, Suite E, Laguna Hills, CA 92653-1422

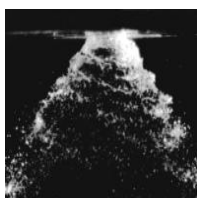
Tel: (949) 583-1197 x 101

Email: [Brown@ERC-Ltd.com](mailto:Brown@ERC-Ltd.com)

Website: [www.ERC-Ltd.com](http://www.ERC-Ltd.com)



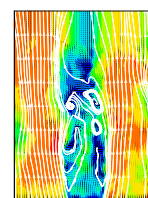
Phase Doppler  
Interferometry



High Speed  
Video



Reacting Spray  
Visualization



Particle Image  
Velocimetry

**Figure 1 – Sample Data Sets (Many Other Measurements Are Available, Please Inquire).**

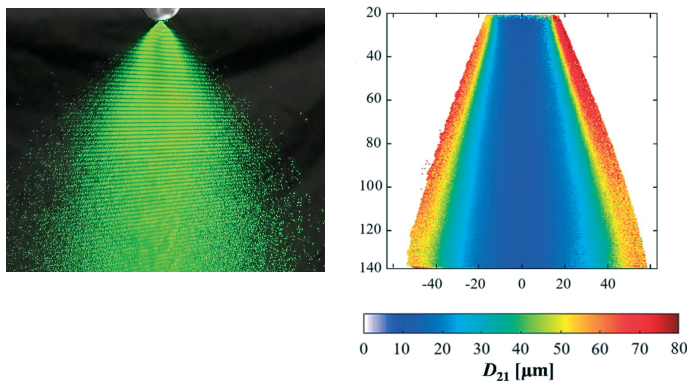
Dear conference participant,

Welcome to the **36th Annual Conference on Liquid Atomization and Spray Systems, North and South America** in San Francisco Bay.

LaVision is proud to support the spray community with intelligent imaging solutions for more than 35 years. We are pleased to contribute to this important scientific field.

With **SLIPI Droplet Sizing (SDS)**, we are excited to present our latest product innovations.

### Planar Droplet Sizing in Dense Sprays without Tracer



*Image courtesy: "Spray & Imaging Group" at the Division of Combustion Physics, Lund University.*

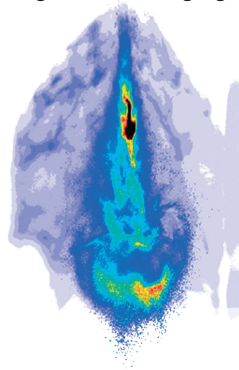
**SLIPI Droplet Sizing** combines Structured Laser Illumination Planar Imaging (SLIPI) with Polarization Ratio Imaging to measure the planar droplet size distribution ( $D_{21}$ ) in optically dense sprays. The SLIPI clean-up process effectively suppresses multiple light scattering for quantitative analysis. The method requires no fluorescent additives, is compatible with continuous wave (cw) lasers, and features a compact, flexible setup.

### Effective Stray Light Rejection with High Temporal Resolution

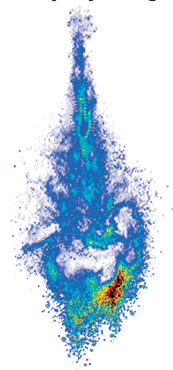
Structured Laser Illumination Planar Imaging (**SLIPI**) is a proven technique for high-fidelity spray imaging even in dense sprays where multiple scattering has traditionally obscured internal details. LaVision's **SprayMaster** systems support averaged as well as instantaneous SLIPI spray imaging.



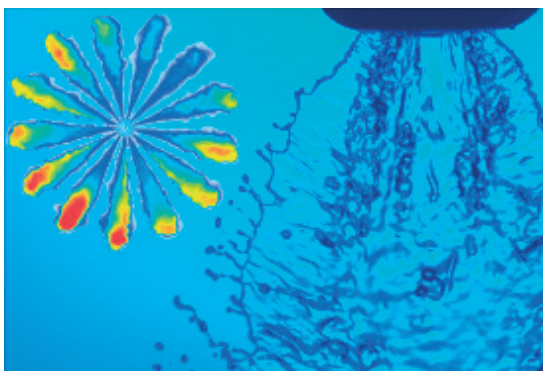
Conventional  
light sheet imaging



Instantaneous  
SLIPI spray imaging



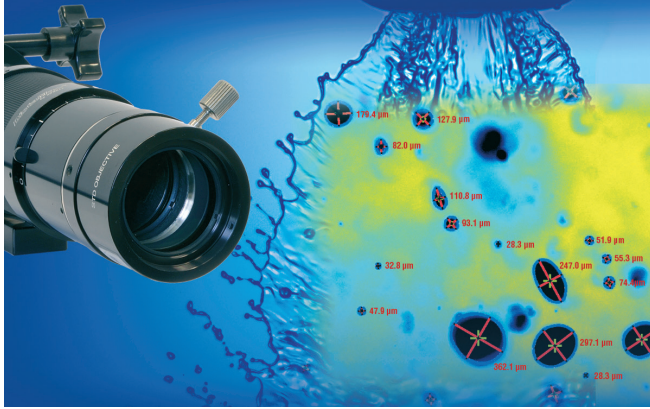
### Efficient Measurement Solutions for Scientific Research and Development



**SprayMaster** is a complete family of imaging systems for state-of-the-art spray characterization. The innovative measurement techniques applied in the **SprayMaster** systems provide new insights into even complex spray processes and permit cost effective and efficient development of smarter spray systems.



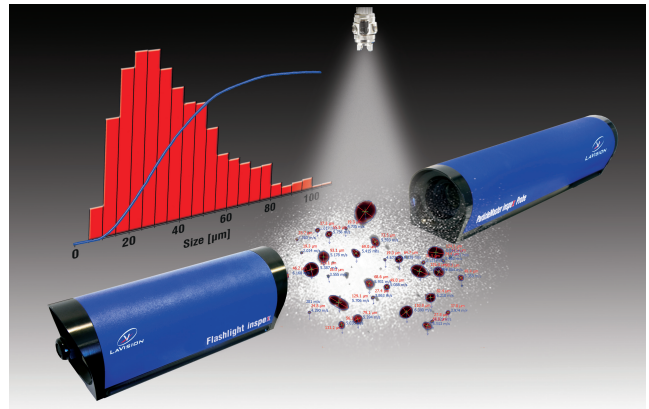
## High Resolution Dynamic Image Analysis for Droplet Sizing and Spray Break-up



LaVision's **ParticleMaster** system detects and analyzes high-magnification shadow images from particles, droplets or bubbles. The system measures the size, shape and velocity of individual particles, and derives cumulated ensemble statistics. Direct imaging of individual particles gives you confidence in the measurement method, as you can directly see the result of the image processing.

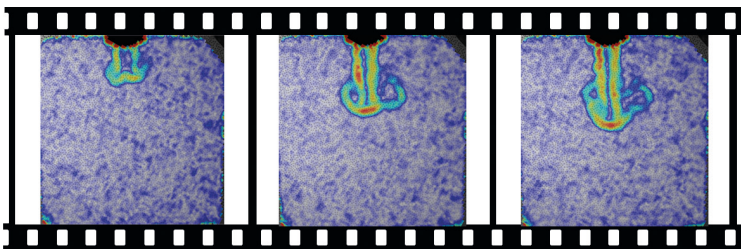


The **ParticleMaster inspex** system is especially designed for quality control applications in industrial environments. It serves as a highly integrated laboratory and testing tool for the measurement of size, shape and velocity of spray droplets, particles and grains.



## Visualization of Gaseous Flows without Seeding

LaVision's **FlowBOS** imaging systems visualize gas flows in front of a background pattern without particle contamination. The live system detects the smallest optical changes in the flow (aka Schlieren) either due to temperature gradients in thermal flows or gradients from the mixing of different gases.



*BOS imaging of ammonia injection, courtesy of IFKM (KIT, Germany)*

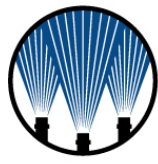


*FlowBOS camera with tablet*

The **BOS** technique visualizes the flow structure of the penetrating gas plume. The subsequent quantification of parameters like cone angle, penetration depth or perimeter enables a better understanding of the mixing process.

We are delighted to support you in solving your measurement tasks with our intelligent imaging systems!

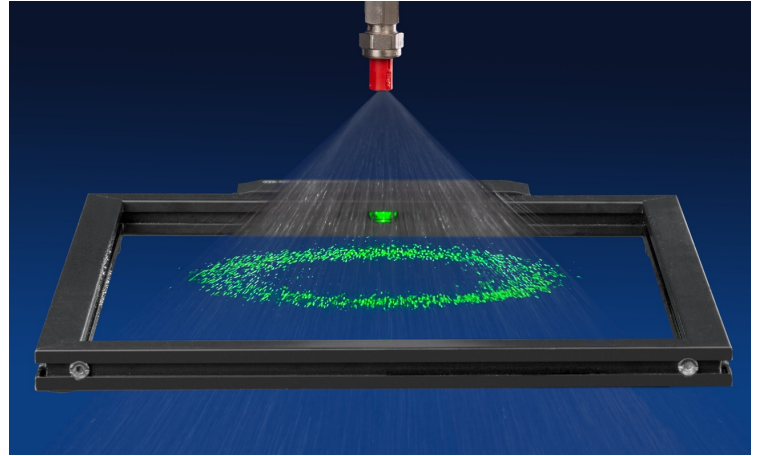




# ***Spraying Systems Co.***<sup>®</sup>

## Experts in Spray Technology

Spraying Systems Co. is the world's leading manufacturer of spray **nozzles**. Every day, our local spray technology experts help customers optimize operations and create more sustainable manufacturing practices. With tens of thousands of standard products, we have the right nozzle for your application – and we ship most standard products in one day. If you need a special product or material, contact us! We develop hundreds of custom nozzles, injectors and headers every year. Our engineering and manufacturing resources can help solve your toughest spray technology challenges.



**Spray Analysis  
and Research Services**

The **Spray Analysis and Research Services** group at Spraying Systems Co. offers contract testing and modeling services to predict and validate spray performance. Understanding spray performance in operations such as gas cooling, spray drying and coating can help you increase production, reduce operating costs, enhance sustainability and reduce costs. At our state-of-the-art laboratories located in Chicago and around the world, we offer access to commercial and proprietary instrumentation to characterize spray drop size, velocity, surface impact, coverage and distribution, material rheology, and nearly any other parameter. To do this, we utilize Phase Doppler, Laser Diffraction, High Speed Video, CFD, and other methods which can be combined with support facilities such as wind tunnels, spray material heating, and conveyor motion. Contact us at [Spray.Analysis@spray.com](mailto:Spray.Analysis@spray.com) to learn more or to discuss a project with one of our engineers.

# SPRAYSCAN<sup>®</sup>

The **SprayScan Suite** of products was developed after decades of laboratory testing for our many customers. The use of a wide range of commercial R&D instruments demonstrated but a strength, but a large overhead in cost and user expertise. The SprayScan systems are designed to be easy-to-use, fast to set up, and lower cost. These diagnostic devices are able to characterize critical spray parameters such as: the flow rate, pressure, and temperature of the spray material (SprayScan mSM), 2D spray distribution (SprayScan mPT, shown above), spray impact, and drop size. Additionally, some of the SprayScan products are designed allow real-time monitoring of in-process sprays with very little user interaction and an online dashboard to view the current status (SprayScan mSM and SprayScan ePT). Please visit our website (below) or contact us at [Spray.Analysis@spray.com](mailto:Spray.Analysis@spray.com) to discuss how SprayScan may be able to help you in the lab, or in your process.



# Detailed Program

# MONDAY EVENING

| Session Time<br>(PDT) | Monday, May 11, 2026                                                                                                                                                                                                                                                                                                                                                                                                                       |                  |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| 5:00 PM - 6:30 PM     | <b>Registration Open</b><br><b>Welcome Reception with the Exhibitors</b>                                                                                                                                                                                                                                                                                                                                                                   | Bayview Ballroom |
| 6:30 PM - 8:00 PM     | <b>Panel Discussion</b><br><b>AI in Fluid Dynamics &amp; Spray Systems</b><br>Panel Moderated by Brandon Sforzo - Argonne National Laboratory<br><br>Panelists:<br>Dr. Matthias Ihme - Stanford University<br>Dr. Peer-Timo Bremer - Lawrence Livermore National Laboratory<br>Dr. Jackie Chen - Sandia National Laboratories<br>Dr. Vaidya Sankaran - Pratt & Whitney<br>Dr. Yu Zhang - Cummins<br>Dr. Scott Parrish - General Motors R&D | Belvedere Island |
| 8:00 PM               | <b>Adjourn</b>                                                                                                                                                                                                                                                                                                                                                                                                                             |                  |

# TUESDAY MORNING

| Session Time (PDT)  | Tuesday, May 12, 2026                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                      |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7:30 AM - 8:30 AM   | <b>Breakfast with the Exhibitors</b>                                                                                                                                                                                                                  | Bayview Ballroom                                                                                                                                                                                                                                                                                                                     |
| 8:30 AM - 8:45 AM   | <b>Opening Remarks</b>                                                                                                                                                                                                                                | Belvedere Island                                                                                                                                                                                                                                                                                                                     |
| 8:45 AM - 9:45 AM   | <b>Keynote Lecture</b><br><b>AI for Science - Challenges and Opportunities</b><br><b>Modeling Interfacial Instabilities</b><br>Dr. Peer-Timo Bremer,<br>Lawrence Livermore National Laboratory                                                        | Belvedere Island                                                                                                                                                                                                                                                                                                                     |
| 9:45 AM - 9:55 AM   | <b>Introduction of the ILASS International Industrial Board</b><br>Rudolf Schick - Spraying Systems Co.                                                                                                                                               | Belvedere Island                                                                                                                                                                                                                                                                                                                     |
| 9:55 AM - 10:25 AM  | <b>Exhibitor Showcase</b>                                                                                                                                                                                                                             | Belvedere Island                                                                                                                                                                                                                                                                                                                     |
| 10:25 AM - 10:45 AM | <b>Break with the Exhibitors</b>                                                                                                                                                                                                                      | Bayview Ballroom                                                                                                                                                                                                                                                                                                                     |
| 10:45 AM - 12:05 PM | <b>Advances in Numerical Methods I</b><br>Chairs: Marcus Herrmann & Jacob McFarland<br>Angel Island                                                                                                                                                   | <b>Spray Applications - Agricultural &amp; Industrial I</b><br>Chairs: Kyle Bade & Marc Arenson<br>Belvedere Island                                                                                                                                                                                                                  |
| 10:45 AM - 11:05 AM | <b>Paper 34: A Multi-Scale Volume of Fluid Method with Hybrid Interface Reconstructions in Spray Atomization Simulations</b><br>Andrew Cahaly, Fabien Evrard, Olivier Desjardins<br>Cornell University,<br>University of Illinois at Urbana-Champaign | <b>Paper 11: Toward Predictive Modeling of Non-Newtonian Fan Sprays Using Shear-Thinning Hydrogels</b><br>Chris Nuzzolo, MD Ahasan Habib,<br>Jennifer O'Neil<br>Rochester Institute of Technology                                                                                                                                    |
| 11:05 AM - 11:25 AM | <b>Paper 66: Machine-Learning Models for Transient Shape Deformation and Drag of Drops Experiencing Aerodynamic Deformation and Breakup</b><br>S.G. Garcia, T. Mahmood, M.A.K. Tonmoy,<br>C. Severt, Y. Wang, Y. Ling<br>University of South Carolina | <b>Paper 23: Investigation of Liquid Volume Flow Rate and Injection Method on Surface Film Behavior and Atomization from an Airfoil Trailing Edge in High-Speed Flow</b><br>Safiullah, Vincent McDonnell,<br>Soichiro Tabata, Shigeki Senoo,<br>University of California Irvine,<br>Mitsubishi Heavy Industries                      |
| 11:25 AM - 11:45 AM | <b>Paper 21: Piecewise-parabolic interface reconstruction for simulations of two-phase flows using the unsplit volume-of-fluid method</b><br>Parin Trivedi, Fabien Evrard<br>University of Illinois Urbana-Champaign                                  | <b>Paper 58: An Open-Source, 3D-Printed Collector for Improved Agricultural Spray Deposition Sampling</b><br>Andrew Thistle, J. Mailloux, D. Redman,<br>A. Shuron, D. Voss, S. Weasner<br>mdt Technologies,<br>Rochester Institute of Technology                                                                                     |
| 11:45 AM - 12:05 PM | <b>Paper 44: On the Consequences and Removal of Flux Corrections in Semi-Lagrangian Volume-of-Fluid Methods</b><br>Julian Fox, Mark Owkes<br>Montana State University                                                                                 | <b>Paper 25: Experimental Study of Water and Heptane Atomization from a Solid Cone Atomizer at Ambient Pressures up to 30 atm</b><br>Christopher Brown, Jonathan Bastiaans,<br>Alex Sprague, Vincent McDonnell, Tingwen Li,<br>Eric Delsman, Mieke Dijkmans,<br>Enio Canini, Sreekanth Pannala<br>Energy Research Consultants, SABIC |
| 12:05 PM - 1:00 PM  | <b>Lunch</b><br>Treasure Island                                                                                                                                                                                                                       | <b>Atomization and Sprays Editorial Board Meeting</b><br>Mariposa                                                                                                                                                                                                                                                                    |

# TUESDAY AFTERNOON

|                   |                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                        |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1:00 PM - 2:40 PM | <b>Spray Applications - Energy Storage</b><br>Chairs: Paul Vesely & Mohamad AlKhateeb<br>Angel Island                                                                                                                                                                                                                                                                      | <b>Spray Characterization &amp; Measurements</b><br>Chairs: Steven Lin & William Bachalo<br>Belvedere Island                                                                                                                                                                                                                           |
| 1:00 PM - 1:20 PM | <b>Paper 70: Improved Processing of Silicon Anode Active Material via Electrostatic Spray Drying</b><br>Nathan Neale, Tyler Sweet, Trevor Martin, Mohamad AlKhateeb, Rudolf Schick<br>National Laboratory of the Rockies, Spraying Systems Co.                                                                                                                             | <b>Paper 39: Temperature-Dependent Spray Behavior of PACE-20 Gasoline Surrogate Using ECN Spray G Injector: A 3D Tomographic Analysis</b><br>Junghwa Yi, Logan White, Zachary Buen, Lyle Pickett<br>Sandia National Laboratories                                                                                                       |
| 1:20 PM - 1:40 PM | <b>Paper 79: Electrostatic Spray Drying: A Scalable Platform for Advanced Material Manufacturing in Energy Storage</b><br>Roshan Nemade, Mohamad AlKhateeb, Sumanjeet Kaur, Gao Liu, Rudolf Schick, Said Al-Hallaj, Vikas Berry<br>University of Illinois Chicago, Spraying Systems Co., Lawrence Berkeley National Laboratory                                             | <b>Paper 42: Experimental Investigation of the Local Extinction Coefficient of a Spray M Spray – Comparison of DBI-EI Tomography and Dual SLIPI Extinction Imaging</b><br>Florian Kohlmann, Sebastien Garcia, Bastian Lehnert, Edouard Berrocal, Michael Wensing<br>Friedrich-Alexander-Universitat Erlangen-Nurnberg, Lund University |
| 1:40 PM - 2:00 PM | <b>Paper 82: Solid Oxide Fuel Cell Electrode Manufacture through Spray Scale Up of Aerosol Jet Printed Prototypes</b><br>Qihong Zhang, Mohamad AlKhateeb, Thomas Jenkins, Tyler Hyfen, S. Elangovan, Bang-Hung Tsao, Joseph Fellner, L. Jay Deiner<br>University of Dayton Research Institute, Spraying Systems Co., AV, OxEon Energy, Air Force Research Laboratory, CUNY | <b>Paper 86: New Insights into Superheated Atomisation Offer Potential Improvement in Submicron Particle Size Distribution for Marine Cloud Brightening</b><br>Edmund Reardon, Adam Boies, Daniel Harrison, Jake Chapman, Dante McGrath, Hugh Hunt, Shaun Fitzgerald<br>University of Cambridge, Southern Cross University             |
| 2:00 PM - 2:20 PM | <b>Paper 81: Physics-Based Particle Simulation of Battery Thermal Runaway Venting and Ejecta Dynamics</b><br>Jian Gao, Ronald Grover, Jeremie Dernotte, Peter Andruskiewicz IV, Scott Parrish<br>General Motors R&D                                                                                                                                                        | <b>Paper 67: Measurement of transient heat flux for fuel droplet and spray impingement on hot walls</b><br>Vijayananda Devananda, Sarang Bidwai, Eric Mayhew, Kenneth Kim, Chol-Bum Kweon, James Michael<br>Auburn Univesity, DEVCOM Army Research Laboratory                                                                          |
| 2:20 PM - 2:40 PM | <b>Paper 47: Simulations and experiments of venting gas and electrolyte spray before thermal runaway of a 21700 lithium battery</b><br>Martin Rieth, Steven Luna, Nicolas Rasmont, John Hewson, Lyle Pickett, Lucas Richardet, Jules Ravix, Vincent Giuffrida, Michele Bardi<br>Sandia National Laboratories, IFP Energies Nouvelles                                       | <b>Open Discussion</b>                                                                                                                                                                                                                                                                                                                 |
| 2:40 PM - 3:00 PM | <b>Break with the Exhibitors</b>                                                                                                                                                                                                                                                                                                                                           | Bayview Ballroom                                                                                                                                                                                                                                                                                                                       |



# TUESDAY EVENING

|                   |                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                    |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3:00 PM - 3:50 PM | <b>Technical Committee Meeting:<br/>Aerospace Propulsion and Power</b><br>Chairs: Ethan Hanson & Brandon Sforzo<br>Angel Island                                                                                                        | <b>Technical Committee Meeting:<br/>Industrial and Agricultural Sprays</b><br>Chairs: Andrew Thistle & Paul Vesely<br>Belvedere Island                                                                                             |
| 3:50 PM - 4:00 PM | <b>Break</b>                                                                                                                                                                                                                           |                                                                                                                                                                                                                                    |
| 4:00 PM - 5:40 PM | Spray Applications - Biomedical<br>Chairs: Chad Sipperley & Suhas Jain<br>Angel Island                                                                                                                                                 | Atomization & Spray Simulations I<br>Chairs: Fabien Evrard & Mark Ruffing<br>Belvedere Island                                                                                                                                      |
| 4:00 PM - 4:20 PM | <b>Paper 40: CFD Simulation of<br/>Metered Dose Inhaler Sprays</b><br>Daniel Duke, Alan Kastengren, David Schmidt<br>Monash University,<br>Argonne National Laboratory,<br>University of Massachusetts Amherst                         | <b>Paper 73: Examining heat-transfer<br/>deterioration and two-phase flow structure<br/>of supercritical CO<sub>2</sub> and<br/>lubricant oil in micro-heat exchangers</b><br>Sho Wada, Matthias Ihme<br>Stanford University       |
| 4:20 PM - 4:40 PM | <b>Paper 8: Developing Gravimetric Methods for<br/>Measuring Deposition into<br/>Alginate-CMC Hydrogel Structures</b><br>Lyndsay Bradford, MD Ahasan, Jennifer O'Neil<br>Rochester Institute of Technology                             | <b>Paper 36: Multi-scale Simulation of Airblast<br/>Atomization with Sub-grid Scale Breakup Modeling<br/>for Predictive Droplet Statistics</b><br>Zonghao Zou, Olivier Desjardins<br>Cornell University                            |
| 4:40 PM - 5:00 PM | <b>Paper 63: Liquid Spray-Driven Crosslinking of<br/>Extrusion-Printed Hydrogels for Anatomically<br/>Relevant Lung Models</b><br>Ahasan Habib, Perrin Woods,<br>Jennifer O'Neil, Larry Villasmil<br>Rochester Institute of Technology | <b>Paper 41: Classification of small interfacial<br/>structures in atomizing gas-liquid flow<br/>simulations using machine learning</b><br>Quirin Bassler, Fabien Evrard<br>University of Illinois Urbana-Champaign                |
| 5:00 PM - 5:20 PM | <b>Paper 12: 3D-Printed Cylindrical Airway<br/>Models for Investigating Surface Roughness<br/>Effects on Aerosol Deposition</b><br>Luke Ross, MD Ahasan Habib, Jennifer O'Neil<br>Rochester Institute of Technology                    | <b>Paper 83: On the spectral energy transfer and<br/>temporal commutation errors of adaptive<br/>mesh refinement for hybrid LES-DNS<br/>of turbulent atomization</b><br>Nihar Thakkar, Marcus Herrmann<br>Arizona State University |
| 5:20 PM - 5:40 PM | <b>Paper 68: A Topology-Aware Modeling<br/>Framework for Aerosol Deposition<br/>in Rough-Walled Airway Flows</b><br>Larry Alfonso Villasmil Urdaneta,<br>Navin Suchitt<br>Rochester Institute of Technology                            | <b>Paper 71: Fidelity-adaptive modeling of<br/>transcritical fuel injection using Pareto-optimal<br/>state-equation assignment</b><br>Mehmet, Pushan Sharma, Davy Brouzet,<br>Matthias Ihme<br>Stanford University                 |
| 5:40 PM           | <b>Adjourn</b>                                                                                                                                                                                                                         |                                                                                                                                                                                                                                    |

# WEDNESDAY MORNING

| Session Time (PDT)  | Wednesday, May 13, 2026                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                    |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7:30 AM - 8:30 AM   | <b>Breakfast with the Exhibitors</b>                                                                                                                                                                                                                                                          | Bayview Ballroom                                                                                                                                                                                                   |
| 8:30 AM - 8:45 AM   | <b>Opening Remarks</b>                                                                                                                                                                                                                                                                        | Belvedere Island                                                                                                                                                                                                   |
| 8:45 AM - 9:45 AM   | <b>Keynote Lecture</b><br><b>Fluids Under Pressure: Progress and Opportunities in Utilizing Supercritical Fluids for Advanced Power, Propulsion, and Chemical Processing</b><br>Dr. Matthias Ihme,<br>Stanford University                                                                     |                                                                                                                                                                                                                    |
|                     |                                                                                                                                                                                                                                                                                               | Belvedere Island                                                                                                                                                                                                   |
| 9:45 AM - 10:10 AM  | <b>Break with the Exhibitors</b>                                                                                                                                                                                                                                                              | Bayview Ballroom                                                                                                                                                                                                   |
| 10:10 AM - 11:30 AM | <b>Spray Applications - Automotive I</b><br>Chairs: Lyle Pickett & Matthias Ihme<br>Angel Island                                                                                                                                                                                              | <b>Advances in Numerical Methods II</b><br>Chairs: Mark Owkes & Xiaoyi Li<br>Belvedere Island                                                                                                                      |
| 10:10 AM - 10:30 AM | <b>Paper 60: Computational Modeling Improvements of a Spray-Wall interactions model for SCR systems</b><br>Muhammad Sami, Rana Faltsi, Leons Lawrence<br>Synopsys Inc.                                                                                                                        | <b>Paper 76: Physics of Liquid Sheet Breakup</b><br>Hormuzd Bodhanwalla, Mario Trujillo<br>University of Wisconsin-Madison                                                                                         |
| 10:30 AM - 10:50 AM | <b>Paper 7: CFD and experimental analysis of turbulent mixing of hydrogen under-expanded jets in gaseous-fueled propulsion systems</b><br>Francesco Duronio, Alessandro Montanaro, Andrea Di Mascio, Angelo De Vita<br>Università degli studi dell'Aquila, Consiglio Nazionale delle Ricerche | <b>Paper 27: Advancements in the seven-equation formulation for compressible two-phase flows for modeling Leidenfrost effect</b><br>Luis Hatashita, Suhas Jain<br>Georgia Institute of Technology                  |
| 10:50 AM - 11:10 AM | <b>Paper 5: Electrostatic Enhancement of Spray Droplet Deposition on a Cylindrical Surface</b><br>Mazin Tahir, Sanjeev Chandra<br>University of Toronto                                                                                                                                       | <b>Paper 75: High-Fidelity Methodology Augmented by a Temporally Resolved Secondary Breakup Model to Simulate a Realistic Swirling Flow Injector</b><br>Xiaoyi Li<br>RTX Technologies Research Center              |
| 11:10 AM - 11:30 AM | <b>Paper 77: Evaluation of Common Simulation Models for UWS Sprays</b><br>Mitchell Erickson, Andrea Strzelec, Mario Trujillo<br>University of Wisconsin-Madison, USCAR                                                                                                                        | <b>Paper 33: A Minimally Dissipative, Sharp-Interface Approach with Adaptive Mesh Refinement for High-Fidelity Compressible Multiphase Flow Simulations</b><br>Chase Lee, Olivier Desjardins<br>Cornell University |
| 11:30 AM - 11:40 AM | <b>Break</b>                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                    |
| 11:40 AM - 12:30 PM | <b>Technical Committee Meeting: Physics of Atomization</b><br>Chair: Mario Trujillo<br>Angel Island                                                                                                                                                                                           | <b>Technical Committee Meeting: Reciprocating Engine Injection</b><br>Chairs: Lyle Pickett & Roberto Torelli<br>Belvedere Island                                                                                   |
| 12:30 PM - 1:30 PM  | <b>Lunch / ILASS-Americas Annual Business Meeting</b>                                                                                                                                                                                                                                         | Treasure Island                                                                                                                                                                                                    |

# WEDNESDAY AFTERNOON

|                   |                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1:30 PM - 2:30 PM | <b>Spray Applications - Automotive II</b><br>Chairs: Ron Grover & Steven Luna<br>Angel Island                                                                                                                                              | <b>Spray Applications - Aerial Firefighting</b><br>Chairs: Dominique Legendre & Nicolas Rasmont<br>Belvedere Island                                                                                                                                                                                                                                                                                                            |
| 1:30 PM - 1:50 PM | <b>Paper 20: Impact of Flash Boiling Port Fuel Injection on PN Emission and Combustion Characteristics in Engines</b><br>Jinhong Fu, Mingli Cui, Rongjie Du, Xuesong Li, Min Xu<br>Shanghai Jiao Tong University                           | <b>Paper 29: Numerical benchmark of liquid column fragmentation for Aerial Fire Fighting application</b><br>Arthur Chicoine, Thibaut Ménard,<br>Sophia Pedersen, Mark Owkes, Aditya Parik,<br>Som Dutta, Lyes Kahouadji, Mosayeb Shams,<br>Omar Matar, Dominique Legendre<br>Institut de Mécanique des Fluides de Toulouse (IMFT),<br>CORIA, Montana State University,<br>Utah State University,<br>Imperial College of London |
| 1:50 PM - 2:10 PM | <b>Paper 59: Experimental Investigation on Spray Characteristics of Flash-Boiling Low-Pressure Port Fuel Injection</b><br>Yijia Zhang, Kang Zhang, Jinhong Fu,<br>Xuesong Li, David Hung, Min Xu<br>Shanghai Jiao Tong University          | <b>Paper 69: Direct Numerical Simulation of Shear-Thinning Jet Atomization at Moderate Density Ratio</b><br>Aditya Parik, Tadd Truscott,<br>Randy Ewoldt, Som Dutta<br>Utah State University,<br>University of Illinois Urbana-Champaign                                                                                                                                                                                       |
| 2:10 PM - 2:30 PM | <b>Paper 6: Assessment of optimal approaches for Eulerian - Lagrangian simulation of fuel sprays in advanced automotive powertrain</b><br>Francesco Duronio, Anqi Zhang, Le Zhao<br>Università degli studi dell'Aquila,<br>Aramco Americas | <b>Paper 43: High-Fidelity Simulation of Fire Retardant Atomization for Enhanced Wildfire Control</b><br>Sophia Pedersen, Mark Owkes<br>Montana State University                                                                                                                                                                                                                                                               |
| 2:30 PM - 2:55 PM | <b>Break with the Exhibitors</b><br>Bayview Ballroom                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                |

# WEDNESDAY EVENING

|                   |                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                      |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2:55 PM - 3:45 PM | <b>Technical Committee Meeting:<br/>Computation &amp; Modeling</b><br>Chairs: Xiaoyi Li & Fabien Evrard<br>Angel Island                                                                                                                                                                                                                                                            | <b>Technical Committee Meeting:<br/>Spray Measurements and Instrumentation</b><br>Chairs: Chad Sipperley & Julien Manin<br>Belvedere Island                                                                                                          |
| 3:45 PM - 3:55 PM | <b>Break</b>                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                      |
| 3:55 PM - 5:15 PM | <b>Advances in Spray Diagnostics</b><br>Chairs: Julien Manin & Callum Gray<br>Angel Island                                                                                                                                                                                                                                                                                         | <b>Droplet Phenomena I</b><br>Chairs: Mario Trujillo & Dorrin Jarrahbashi<br>Belvedere Island                                                                                                                                                        |
| 3:55 PM - 4:15 PM | <b>Paper 74: Time-Resolved Characterization of a Methanol Direct-Injection Spray Using Dual-SLIPI Polarization Ratio Imaging</b><br>Sébastien Garcia, Florian Kohlmann,<br>Bastian Lehnert, Bastian Rüppel,<br>Raphael Clemente-Mallada,<br>Edouard Berrocal, Michael Wensing<br>Friedrich-Alexander-University Erlangen-Nürnberg,<br>Lund University                              | <b>Paper 55: Interfacial Hydrodynamic Instabilities in Detonation Driven Droplet Breakup at High Mach Numbers</b><br>Caden Blaies, Calvin Young,<br>Jacob McFarland, Andrew Cook<br>Texas A&M University,<br>Lawrence Livermore National Laboratory  |
| 4:15 PM - 4:35 PM | <b>Paper 2: An Accessible BOS Framework for Quantifying Forced Vapor Advection in Multiphase Flows</b><br>Ben David Holtzer, Leonid Tartakovsky<br>Technion                                                                                                                                                                                                                        | <b>Paper 14: Evaluation of Shadowgraphy and Laser-Induced Fluorescence for High-Speed Droplet Imaging</b><br>Jacob Keltz, Caden Blaies,<br>Praveen Ramaprabhu, Jacob McFarland<br>Texas A&M University,<br>University of North Carolina at Charlotte |
| 4:35 PM - 4:55 PM | <b>Paper 54: Development of Measurement Technique of Vapor Concentration Distributions of Low Boiling and High Boiling Components in Fuel Spray by Means of Laser Absorption Scattering Principle</b><br>Erwei Liu, Keiya Nishida,<br>Yoichi Ogata, Yusuke Hagino,<br>Takeaki Kudo, Wu Zhang, Fujikawa Tatsuya,<br>Masihisa Yamakawa<br>Hiroshima University,<br>Mazada Motor Corp | <b>Paper 72: Numerical investigation of liquid water droplet explosions using real fluid and phase-equilibrium thermodynamics</b><br>Benyamin Krisna, Matthias Ihme<br>Stanford University                                                           |
| 4:55 PM - 5:30 PM | <b>Break</b>                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                      |
| 5:30 PM - 6:00 PM | <b>Board Dinner Cruise</b><br>Berkley Marina. Walk from the Double Tree Hotel                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                      |
| 6:00 PM - 9:00 PM | <b>Banquet and Awards Ceremony</b><br>Dinner Cruise on San Francisco Bay                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                      |

# THURSDAY MORNING

| Session Time (PDT)  | Thursday, May 14, 2026                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                      |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7:30 AM - 8:30 AM   | <b>Breakfast with the Exhibitors</b>                                                                                                                                                                                                                                                                                                                                                                                                   | Bayview Ballroom                                                                                                                                                                                                                                                                     |
| 8:30 AM - 8:40 AM   | <b>Opening Remarks</b>                                                                                                                                                                                                                                                                                                                                                                                                                 | Belvedere Island                                                                                                                                                                                                                                                                     |
| 8:40 AM - 10:00 AM  | <b>Droplet Phenomena II</b><br>Chairs: Olivier Desjardins & Som Dutta<br>Angel Island                                                                                                                                                                                                                                                                                                                                                  | <b>Spray Applications - Agricultural &amp; Industrial II</b><br>Chairs: Andrew Thistle & Paul Vesely<br>Belvedere Island                                                                                                                                                             |
| 8:40 AM - 9:00 AM   | <b>Paper 46: Evaporation Effects on High-Speed Droplet Aerobreakup</b><br>Ajith Sukumaran, Dorrin Jarrahbashi<br>Texas A&M University                                                                                                                                                                                                                                                                                                  | <b>Paper 61: Co-Current vs Counter-Current Spraying in Gas Cooling Applications</b><br>Daniel deLesdernier, Jordan Peacock<br>BETE Fog Nozzle                                                                                                                                        |
| 9:00 AM - 9:20 AM   | <b>Paper 18: Influence of Heating Rate on the Evaporation and Ignition of Single Fuel Droplets</b><br>Khadiza Keya, Kenneth Oluwatobi,<br>Mst Sumaiya Akter, Ege Konuk,<br>Ziaul Huque<br>Prairie View A&M University                                                                                                                                                                                                                  | <b>Paper 9: Atomization Behavior of Shear-Thinning Hydrogels in Flat-Fan Spray Geometries</b><br>Chris Nuzzolo, Jerry Baklycki,<br>MD Ahasan Habib, Jennifer O'Neil<br>Rochester Institute of Technology                                                                             |
| 9:20 AM - 9:40 AM   | <b>Paper 62: The effects of surfactants on the breakup of droplets in the bag breakup regime</b><br>Baiyu Chen, Askari Husaini,<br>Martin Erinin<br>University of Michigan                                                                                                                                                                                                                                                             | <b>Paper 10: Atomization Behavior of Non-Newtonian Hydrogels in Air-Blast Systems</b><br>Jerry Baklycki, R.L. Dos Santos,<br>Jennifer O'Neil<br>Rochester Institute of Technology,<br>University of Florida                                                                          |
| 9:40 AM - 10:00 AM  | <b>Paper 45: Evaluating Diffuse-Interface and Sharp-Interface Methods for Predicting High-Speed Droplet Breakup</b><br>Fouad Ayoub, Amr Faisal Mohamed Ragheb,<br>Manuel Viqueria-Moreira, Christoph Brehm,<br>Andrew Sayad, Jason Rabinovitch,<br>Chase Lee, Olivier Desjardins,<br>Ajith Sukumaran, Dorrin Jarrahbashi<br>University of Maryland,<br>Stevens Institute of Technology,<br>Cornell University,<br>Texas A&M University | <b>Paper 24: Experimental Investigation of Liquid Rheology Effects on the Spray Dynamics and Modal Structures of a Research Simplex Atomizer</b><br>Edin Michael, Raja Banerjee,<br>Vincent McDonell<br>Indian Institute of Technology Hyderabad,<br>University of California Irvine |
| 10:00 AM - 10:25 AM | <b>Break with the Exhibitors</b>                                                                                                                                                                                                                                                                                                                                                                                                       | Bayview Ballroom                                                                                                                                                                                                                                                                     |



# THURSDAY MID-MORNING

|                     |                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                     |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10:25 AM - 11:45 AM | <b>Spray Applications - Aerospace</b><br>Chairs: Ethan Hanson & Andrew Radomski<br>Angel Island                                                                                                                                                                                                                       | <b>Alternative Fuels</b><br>Chair: Brandon Sforzo<br>Belvedere Island                                                                                                                                               |
| 10:25 AM - 10:45 AM | <b>Paper 57: Effect of Prefilmer Design on Atomization Behavior in the Pre-Vaporization Tube of a Small-Scale Annular Gas Turbine Combustor</b><br>Amogh Natsu, Antoine Fradet,<br>Cohen Nunes, Daniel Guildenbecher<br>Purdue University                                                                             | <b>Paper 17: Effect of Nanoparticle Doping on Flash Boiling Atomization Phase Change</b><br>Yilong Li, Shangning Wang,<br>Yijia Zhang, Yiran Sun,<br>Min Xu, Xuesong Li<br>Shanghai Jiao Tong University            |
| 10:45 AM - 11:05 AM | <b>Paper 32: Imposed Cyclic Pressure Pulse for Rapid Multiphase Injection Modeling in Rotating Detonation Engines</b><br>Nathaniel Michnoff, James Braun<br>North Carolina State University                                                                                                                           | <b>Paper 13: Hydrogen Jet Dynamics Under Engine-Relevant Conditions for Direct Injection Systems</b><br>Alessandro Montanaro, Giovanni Meccariello,<br>Daniele Piazzullo<br>STEMS - CNR Italy                       |
| 11:05 AM - 11:25 AM | <b>Paper 16: Analysis of Primary and Secondary Breakup in RDRE Triplet Injectors Through a Steady CFD and RDC Reduced Order Model</b><br>Kayla Gatsonis, John Grunenwald,<br>James Braun, Terrence Meyer,<br>Austin Webb, Chris Fugger<br>North Carolina State University,<br>Purdue University,<br>Spectral Energies | <b>Paper 51: Comparison of Methanol and Ammonia Flash Boiling Sprays</b><br>Noah Van Dam, Arianna Roots,<br>Aman Kumar<br>University of Massachusetts Lowell                                                        |
| 11:25 AM - 11:45 AM | <b>Paper 35: Effects of Droplet and Substrate Characteristics on Bubble Entrapment During Droplet Deposition</b><br>Yaquan Sun, Chuan-Yu<br>University of Surrey                                                                                                                                                      | <b>Paper 56: Analysis of transcritical behavior in dimethyl ether spray droplets in compression-ignition engines</b><br>Nicolas Rasmont, Junghwa Yi,<br>Lyle Pickett, Julien Manin,<br>Sandia National Laboratories |
| 11:45 AM - 12:25 PM | <b>Atomization and Spray Simulations II</b><br>Chairs: Chris Powell<br>Angel Island                                                                                                                                                                                                                                   |                                                                                                                                                                                                                     |
| 11:45 AM - 12:05 PM | <b>Paper 85: A Stochastic Machine Learning Surrogate Model for Comprehensive Replacement of Spray Submodels</b><br>Rohit Mishra, Advait Sankaranarayanan, Kapil Sachdev<br>Texas A&M University, Robbinsville High School                                                                                             |                                                                                                                                                                                                                     |
| 12:05 PM - 12:25 PM | <b>Paper 4: Revisiting a spray-modeling method to compare designs</b><br>Esteban Gonzalez<br>Horiba                                                                                                                                                                                                                   |                                                                                                                                                                                                                     |
| 12:25 PM            | <b>Exhibitor Passport Drawing / Meeting Adjourn</b>                                                                                                                                                                                                                                                                   | Bayview Ballroom                                                                                                                                                                                                    |

# KEYNOTE SPEAKERS

## Monday Reception Panel

"AI in Fluid Dynamics & Spray Systems"



**Peer-Timo  
Bremer**

Lawrence  
Livermore



**Jacqueline H.  
Chen**

Sandia National  
Laboratories



**Matthias  
Ihme**

Stanford  
University



**Scott  
Parrish**

General Motors  
R & D



**Vaidya  
Sankaran**

Pratt & Whitney



**Yu  
Zhang**

Cummins

## Tuesday Keynote

"AI for Science — Challenges and Opportunities"



**Peer-Timo Bremer**

Associate Director of AI Innovation Incubator  
Lawrence Livermore National Laboratory

## Wednesday Keynote

"Fluids Under Pressure: Progress and Opportunities in Utilizing Supercritical Fluids for Advanced Power, Propulsion, and Chemical Processing"



**Matthias Ihme**

Professor of Mechanical Engineering  
Laboratory of Fluids in Complex Environments - FXLab  
Stanford University

# LIST-OF-PAPERS

## Paper Numbers, Titles, and Authors

2. An Accessible BOS Framework for Quantifying Forced Vapor Advection in Multiphase Flows  
*Ben Ben David Holtzer, Leonid Tartakovsky*
4. Revisiting a spray-modeling method to compare designs  
*Esteban Gonzalez*
5. Electrostatic Enhancement of Spray Droplet Deposition on a Cylindrical Surface  
*Mazin Tahir, Sanjeev Chandra*
6. Assessment of optimal approaches for Eulerian-Lagrangian simulation of fuel sprays in advanced propulsion systems  
*Francesco Duronio, Anqi Zhang, Le Zhao*
7. CFD and experimental analysis of turbulent mixing of hydrogen under-expanded jets in gaseous-fueled propulsion systems  
*Francesco Duronio, Alessandro Montanaro, Andrea Di Mascio, Angelo De Vita*
8. Developing Gravimetric Methods for Measuring Deposition into Alginate-CMC Hydrogel Structures  
*Lyndsay Bradford, MD Ahasan Habib, Jennifer O'Neil*
9. Atomization Behavior of Shear-Thinning Hydrogels in Flat-Fan Spray Geometries  
*Chris Nuzzolo, Jerry Baklycki, MD Ahasan Habib, Jennifer O'Neil*
10. Atomization Behavior of Non-Newtonian Hydrogels in Air-Blast Systems  
*Jerry Baklycki, R. L. Dos Santos, Jennifer O'Neil*
11. Toward Predictive Modeling of Non-Newtonian Fan Sprays Using Shear-Thinning Hydrogels  
*Chris Nuzzolo, MD Ahasan Habib, Jennifer O'Neil*
12. 3D-Printed Cylindrical Airway Models for Investigating Surface Roughness Effects on Aerosol Deposition  
*Luke Ross, MD Ahasan Habib, Jennifer O'Neil*
13. Hydrogen Jet Dynamics Under Engine-Relevant Conditions for Direct Injection Systems  
*Alessandro Montanaro, Giovanni Meccariello, Daniele Piazzullo*
14. Evaluation of Shadowgraphy and Laser-Induced Fluorescence for High-Speed Droplet Imaging  
*Jacob Keltz, Caden Blaies, Praveen Ramaprabhu, Jacob McFarland*
16. Analysis of Primary and Secondary Breakup in RDRE Triplet Injectors Through a Steady CFD and RDC Reduced Order Model  
*Kayla Gatsonis, John Grunenwald, James Braun, Terrence Meyer, Austin Webb, Chris Fugger*
17. Effect of Nanoparticle Doping on Flash Boiling Atomization Phase Change  
*Yilong Li, Shangning Wang, Yijia Zhang, Yiran Sun, Min Xu, Xuesong Li*
18. Influence of Heating Rate on the Evaporation and Ignition of Fuel Droplets  
*Khadiza Keya, Kenneth Oluwatobi Fadamiro, Mst Sumaiya Akter Snigdha, Ege Konuk, Ziaul Huque*

20. Impact of Flash Boiling Port Fuel Injection on PN Emission and Combustion Characteristics in Engines  
*Jinhong Fu, Mingli Cui, Rongjie Du, Xuesong Li, Min Xu*
21. Piecewise-parabolic interface reconstruction for simulations of two-phase flows using the unsplit volume-of-fluid method  
*Parin Trivedi, Fabien Evrard*
23. Investigation of Liquid Volume Flow Rate and Injection Method on Surface Film Behavior and Atomization from an Airfoil Trailing Edge in High-Speed Flow  
*Vincent Safiullah, Vincent McDonell, Soichiro Tabata, Shigeki Senoo*
24. Experimental Study of Atomization of Non-Newtonian and High Viscosity Liquids using a Research Simplex Atomizer  
*Edin Michael, Vincent McDonell*
25. Experimental Study of Water and Heptane Atomization from a Solid Cone Atomizer at Ambient Pressures up to 30 atm  
*Christopher Brown, Jonathan Bastiaans, Vincent McDonell, Tingwen Li, Eric Delsman*
27. Advancements in the seven-equation formulation for compressible two-phase flows for modeling Leidenfrost effect  
*Luis Hatashita, Suhas Jain*
29. Numerical benchmark of liquid column fragmentation for Aerial Fire Fighting application  
*Arthur Chicoine, Thibaut Ménard, Sophia Pedersen, Mark Owkes, Aditya Parik, Som Dutta, Lyes Kahouadji, Mosayeb Shams*
32. Imposed Cyclic Pressure Pulse for Rapid Multiphase Injection Modeling in Rotating Detonation Engines  
*Nathaniel Michnoff, James Braun*
33. A Minimally Dissipative, Sharp-Interface Approach with Adaptive Mesh Refinement for High-Fidelity Compressible Multiphase Flow Simulations  
*Chase Lee, Olivier Desjardins*
34. A Multi-Scale Volume of Fluid Method with Hybrid Interface Reconstructions in Spray Atomization Simulations  
*Andrew Cahaly, Fabien Evrard, Olivier Desjardins*
35. Effects of Droplet and Substrate Characteristics on Bubble Entrapment During Droplet Deposition  
*Yaquan Sun, Chuan-Yu Wu*
36. Multi-scale Simulation of Airblast Atomization with Sub-grid Scale Breakup Modeling for Predictive Droplet Statistics  
*Zonghao Zou, Olivier Desjardins*
39. Temperature-Dependent Spray Behavior of PACE-20 Gasoline Surrogate Using ECN Spray G Injector: A 3D Tomographic Analysis  
*Junghwa Yi, Logan White, Zachary Buen, Lyle Pickett*
40. CFD Simulation of Metered Dose Inhaler Sprays  
*Daniel Duke, Alan Kastengren, David Schmidt*
41. Classification of small interfacial structures in atomizing gas-liquid flow simulations using machine learning  
*Quirin Bassler, Fabien Evrard*
42. Experimental Investigation of the Local Extinction Coefficient of a Spray M Spray – Comparison of DBI-EI Tomography and Dual SLIPI Extinction Imaging  
*Florian Kohlmann, Sebastien Garcia, Bastian Lehnert, Edouard Berrocal, Michael Wensing*

43. High-Fidelity Simulation of Fire Retardant Atomization for Enhanced Wildfire Control  
*Sophia Pedersen, Mark Owkes*
44. On the Consequences and Removal of Flux Corrections in Semi-Lagrangian Volume-of-Fluid Methods  
*Julian Fox, Mark Owkes*
45. Evaluating Diffuse-Interface and Sharp-Interface Methods for Predicting High-Speed Droplet Breakup  
*Fouad Ayoub, Amr Faisal Mohamed Ragheb, Manuel Viqueira-Moreira, Christoph Brehm, Andrew Sayad, Jason Rabinovitch, Chase Lee, Olivier Desjardins*
46. Evaporation Effects on High-Speed Droplet Aerobreakup  
*ajith Sukumaran, Dorrin Jarrahbashi*
47. Simulations and experiments of venting gas and electrolyte spray before thermal runaway of a 21700 lithium battery  
*Martin Rieth, Steven Luna, John Hewson, Kislaya Srivastava, Lyle Pickett*
51. Comparison of Methanol and Ammonia Flash Boiling Sprays  
*Noah Van Dam, Arianna Roots, Aman Kumar*
54. Development of Measurement Technique of Vapor Concentration Distributions of Low Boiling and High Boiling Components in Fuel Spray by Means of Laser Absorption Scattering Principle  
*Erwei LIU, Keiya NISHIDA, Yoichi OGATA, Yusuke HAGINO, Takeaki KUDO, Wu ZHANG, Fujikawa TATSUYA, Masahisa YAMAKAWA*
55. Interfacial Hydrodynamic Instabilities in Detonation Driven Droplet Breakup at High Mach Numbers  
*Caden Blaies, Calvin Young, Jacob McFarland, Andrew Cook*
56. Analysis of transcritical behavior in dimethyl ether spray droplets in compression-ignition engines  
*Nicolas Rasmont, Junghwa Yi, Lyle Pickett, Julien Manin*
57. Effect of Prefilmer Design on Atomization Behavior in the Pre-Vaporization Tube of a Small-Scale Annular Gas Turbine Combustor  
*Amogh Natu, Antoine Fradet, Cohen Nunes, Daniel Guildenbecher*
58. An Open-Source, 3D-Printed Collector for Improved Agricultural Spray Deposition Sampling  
*Andrew Thistle*
59. Experimental Investigation on Spray Characteristics of Flash-Boiling Low-Pressure Port Fuel Injection  
*Yijia Zhang, Kang Zhang, Jinhong Fu, Xuesong Li, David L. S. Hung, Min Xu*
60. Computational Modeling of Spray-Wall interactions in SCR systems  
*Muhammad Sami*
61. Co-Current vs Counter-Current Spraying in Gas Cooling Applications  
*Daniel deLesdernier, Jordan Peacock*
62. The effects of surfactants on the breakup of droplets in the bag breakup regime  
*Baiyu Chen, Askari Husaini, Martin Erinin*
63. Liquid Spray–Driven Crosslinking of Extrusion-Printed Hydrogels for Anatomically Relevant Lung Models  
*Ahasan Habib, Perrin Woods, Jennifer O'Neil, Larry Villasmi*
66. Machine-Learning Models for Transient Shape Deformation and Drag of Drops Experiencing Aerodynamic Deformation and Breakup  
*S. G. Garcia, T. Mahmood, M. A. K. Tonmoy, C. Severt, Y. Wang, Y. Ling*
67. Measurement of transient heat flux for fuel droplet and spray impingement on hot walls  
*Vijayananda Devananda, Sarang Bidwai, Eric Mayhew, Kenneth Kim, Chol-Bum Kweon, James Michael*



68. A Topology-Aware Modeling Framework for Aerosol Deposition in Rough-Walled Airway Flows  
*Larry Alfonso Villasamil Urdaneta, Navin Suchitt*
69. Direct Numerical Simulation of Shear-Thinning Jet Atomization at Moderate Density Ratio  
*Aditya Parik, Tadd Truscott, Randy Ewoldt, Som Dutta*
70. Improved Processing of Silicon Anode Active Material via Electrostatic Spray Drying  
*Nathan Neale, Tyler Sweet, Trevor Martin, Mohamad AlKhateeb, Rudolf Schick*
71. Fidelity-adaptive modeling of transcritical fuel injection using Pareto-optimal state-equation assignment  
*Mehmet Adiguzel, Pushan Sharma, Davy Brouzet, Matthias Ihme*
72. Numerical investigation of liquid water droplet explosions using real fluid and phase-equilibrium thermodynamics  
*Benyamin Krisna, Matthias Ihme*
73. Examining heat-transfer deterioration and two-phase flow structure of supercritical CO<sub>2</sub> and lubricant oil in micro-heat exchangers  
*Sho Wada, Matthias Ihme*
74. Time-Resolved Characterization of a Methanol Direct-Injection Spray Using Dual-SLIPI Polarization Ratio Imaging  
*Sébastien Garcia, Florian Kohlmann, Bastian Lehnert, Bastian Rüppel, Raphael Clemente-Mallada, Edouard Berrocal, Michael Wensing*
75. High-Fidelity Methodology Augmented by a Temporally Resolved Secondary Breakup Model to Simulate a Realistic Swirling Flow Injector  
*Xiaoyi Li*
76. Physics of Liquid Sheet Breakup  
*Hormuzd Bodhanwalla, Mario Trujillo*
77. Evaluation of Common Simulation Models for UWS Sprays  
*Mitchell Erickson, Andrea Strzelec, Mario Trujillo*
79. Electrostatic Spray Drying: A Scalable Platform for Advanced Material Manufacturing in Energy Storage  
*Roshan Nemade, Mohamad Alkhateeb, Sumanjeet Kaur, Gao Liu, R.J. Schick, Said Al-Hallaj, Vikas Berry*
81. Physics-Based Particle Simulation of Battery Thermal Runaway Venting and Ejecta Dynamics  
*Jian Gao, Ronald Grover, Jeremie Dernotte, Peter Andruskiewicz IV, Scott Parrish*
82. Solid Oxide Fuel Cell Electrode Manufacture through Spray Scale Up of Aerosol Jet Printed Prototypes  
*Qihong Zhang, Mohamad AlKhateeb, Thomas Jenkins, Tyler Hyfen, S. Elangovan, Bang-Hung Tsao, Joseph Fellner, L. Jay Deiner*
83. On the spectral energy transfer and temporal commutation errors of adaptive mesh refinement for hybrid LES-DNS of turbulent atomization  
*Nihar R. Thakkar, Marcus Herrmann*
85. A Stochastic Machine Learning Surrogate Model for Comprehensive Replacement of Spray Submodels  
*Rohit Mishra, Advait Sankaranarayanan, Kapil Sachdev*
86. New Insights into Superheated Atomisation Offer Potential Improvement in Submicron Particle Size Distribution for Marine Cloud Brightening  
*Edmund Reardon, Adam Boies, Daniel Harrison Harrison, Jake Chapman, Dante McGrath, Hugh Hunt, Shaun Fitzgerald*

# INDEX OF AUTHORS

All authors are listed here with the paper number & page number of their paper listing in this Book where the paper title and authors are provided. Authors are listed in alphabetical order with a reference to their paper in the format: *(Paper Number)Page Number*.

All papers are provided in PDF form through the links contained in this conference book to all registered conference attendees.

|                                     |                              |                                |                                |
|-------------------------------------|------------------------------|--------------------------------|--------------------------------|
| Chapman, J. ....                    | (86)34                       | De Vita, A. ....               | (7)31                          |
| Fradet, A. ....                     | (57)33                       | deLesdernier, D. ....          | (61)33                         |
| Lee, C. ....                        | (45)33                       | Delsman, E. ....               | (25)32                         |
| McGrath, D. ....                    | (86)34                       | Dernotte, J. ....              | (81)34                         |
| Sayad, A. ....                      | (45)33                       | Desjardins, O. ...             | (33)32, (34)32, (36)32, (45)33 |
| Wu, C. ....                         | (35)32                       | Devananda, V. ....             | (67)33                         |
| A. K. Tonmoy, M. ....               | (66)33                       | Di Mascio, A. ....             | (7)31                          |
| Adiguzel, M. ....                   | (71)34                       | Du, R. ....                    | (20)32                         |
| Ahasan Habib, M. .                  | (11)31, (12)31, (8)31, (9)31 | Duke, D. ....                  | (40)32                         |
| Al-Hallaj, S. ....                  | (79)34                       | Duronio, F. ....               | (6)31, (7)31                   |
| Alfonso Villasmil Urdaneta, L. .... | (68)34                       | Dutta, S. ....                 | (29)32, (69)34                 |
| AlKhateeb, M. ....                  | (70)34, (82)34               | Elangovan, S. ....             | (82)34                         |
| Alkhateeb, M. ....                  | (79)34                       | Erickson, M. ....              | (77)34                         |
| Andruskiewicz IV, P. ....           | (81)34                       | Erinin, M. ....                | (62)33                         |
| Ayoub, F. ....                      | (45)33                       | Evrard, F. ....                | (21)32, (34)32, (41)32         |
| Baklycki, J. ....                   | (10)31, (9)31                | Ewoldt, R. ....                | (69)34                         |
| Bassler, Q. ....                    | (41)32                       | Faisal Mohamed Ragheb, A. .... | (45)33                         |
| Bastiaans, J. ....                  | (25)32                       | Fellner, J. ....               | (82)34                         |
| Ben David Holtzer, B. ....          | (2)31                        | Fitzgerald, S. ....            | (86)34                         |
| Berrocal, E. ....                   | (42)32, (74)34               | Fox, J. ....                   | (44)33                         |
| Berry, V. ....                      | (79)34                       | Fu, J. ....                    | (20)32, (59)33                 |
| Bidwai, S. ....                     | (67)33                       | Fugger, C. ....                | (16)31                         |
| Blaies, C. ....                     | (14)31, (55)33               | G. Garcia, S. ....             | (66)33                         |
| Bodhanwalla, H. ....                | (76)34                       | Gao, J. ....                   | (81)34                         |
| Boies, A. ....                      | (86)34                       | Garcia, S. ....                | (42)32, (74)34                 |
| Bradford, L. ....                   | (8)31                        | Gatsonis, K. ....              | (16)31                         |
| Braun, J. ....                      | (16)31, (32)32               | Gonzalez, E. ....              | (4)31                          |
| Brehm, C. ....                      | (45)33                       | Grover, R. ....                | (81)34                         |
| Bremer, T. ....                     | (Keynote)30, (Panel)30       | Grunenwald, J. ....            | (16)31                         |
| Brouzet, D. ....                    | (71)34                       | Guildenbecher, D. ....         | (57)33                         |
| Brown, C. ....                      | (25)32                       | Habib, A. ....                 | (63)33                         |
| Buen, Z. ....                       | (39)32                       | HAGINO, Y. ....                | (54)33                         |
| Cahaly, A. ....                     | (34)32                       | Harrison Harrison, D. ....     | (86)34                         |
| Chandra, S. ....                    | (5)31                        | Hatashita, L. ....             | (27)32                         |
| Chen, B. ....                       | (62)33                       | Herrmann, M. ....              | (83)34                         |
| Chen, J. ....                       | (Panel)30                    | Hewson, J. ....                | (47)33                         |
| Chicoine, A. ....                   | (29)32                       | Hunt, H. ....                  | (86)34                         |
| Clemente-Mallada, R. ....           | (74)34                       | Huque, Z. ....                 | (18)31                         |
| Cook, A. ....                       | (55)33                       | Husaini, A. ....               | (62)33                         |
| Cui, M. ....                        | (20)32                       |                                |                                |

|                        |                                                |                                |                                              |
|------------------------|------------------------------------------------|--------------------------------|----------------------------------------------|
| Hyfen, T. ....         | (82)34                                         | Nuzzolo, C. ....               | (11)31, (9)31                                |
| Ihme, M. ....          | (Keynote)30, (Panel)30, (71)34, (72)34, (73)34 | O'Neil, J. ....                | (10)31, (11)31, (12)31, (8)31, (9)31, (63)33 |
| Jain, S. ....          | (27)32                                         | OGATA, Y. ....                 | (54)33                                       |
| Jarrahbashi, D. ....   | (46)33                                         | Oluwatobi Fadamiro, K. ....    | (18)31                                       |
| Jay Deiner, L. ....    | (82)34                                         | Owkes, M. ....                 | (29)32, (43)33, (44)33                       |
| Jenkins, T. ....       | (82)34                                         | Parik, A. ....                 | (29)32, (69)34                               |
| Kahouadji, L. ....     | (29)32                                         | Parrish, S. ....               | (Panel)30, (81)34                            |
| Kastengren, A. ....    | (40)32                                         | Peacock, J. ....               | (61)33                                       |
| Kaur, S. ....          | (79)34                                         | Pedersen, S. ....              | (29)32, (43)33                               |
| Keltz, J. ....         | (14)31                                         | Piazzullo, D. ....             | (13)31                                       |
| Keya, K. ....          | (18)31                                         | Pickett, L. ....               | (39)32, (47)33, (56)33                       |
| Kim, K. ....           | (67)33                                         | R. Thakkar, N. ....            | (83)34                                       |
| Kohlmann, F. ....      | (42)32, (74)34                                 | Rabinovitch, J. ....           | (45)33                                       |
| Konuk, E. ....         | (18)31                                         | Ramaprabhu, P. ....            | (14)31                                       |
| Krisna, B. ....        | (72)34                                         | Rasmont, N. ....               | (56)33                                       |
| KUDO, T. ....          | (54)33                                         | Reardon, E. ....               | (86)34                                       |
| Kumar, A. ....         | (51)33                                         | Rieth, M. ....                 | (47)33                                       |
| Kweon, C. ....         | (67)33                                         | Roots, A. ....                 | (51)33                                       |
| L. Dos Santos, R. .... | (10)31                                         | Ross, L. ....                  | (12)31                                       |
| L. S. Hung, D. ....    | (59)33                                         | Rüppel, B. ....                | (74)34                                       |
| Lee, C. ....           | (33)32                                         | Sachdev, K. ....               | (85)34                                       |
| Lehnert, B. ....       | (42)32, (74)34                                 | Safiullah, V. ....             | (23)32                                       |
| Li, T. ....            | (25)32                                         | Sami, M. ....                  | (60)33                                       |
| Li, X. ....            | (17)31, (20)32, (59)33, (75)34                 | Sankaran, V. ....              | (Panel)30                                    |
| Li, Y. ....            | (17)31                                         | Sankaranarayanan, A. ....      | (85)34                                       |
| Ling, Y. ....          | (66)33                                         | Schick, R. ....                | (70)34, (79)34                               |
| LIU, E. ....           | (54)33                                         | Schmidt, D. ....               | (40)32                                       |
| Liu, G. ....           | (79)34                                         | Senoo, S. ....                 | (23)32                                       |
| Luna, S. ....          | (47)33                                         | Sevart, C. ....                | (66)33                                       |
| Mahmood, T. ....       | (66)33                                         | Shams, M. ....                 | (29)32                                       |
| Manin, J. ....         | (56)33                                         | Sharma, P. ....                | (71)34                                       |
| Martin, T. ....        | (70)34                                         | Srivastava, K. ....            | (47)33                                       |
| Mayhew, E. ....        | (67)33                                         | Strzelec, A. ....              | (77)34                                       |
| McDonell, V. ....      | (23)32, (24)32, (25)32                         | Suchitt, N. ....               | (68)34                                       |
| McFarland, J. ....     | (14)31, (55)33                                 | Sukumaran, a. ....             | (46)33                                       |
| Meccariello, G. ....   | (13)31                                         | Sumaiya Akter Snigdha, M. .... | (18)31                                       |
| Meyer, T. ....         | (16)31                                         | Sun, Y. ....                   | (17)31, (35)32                               |
| Michael, E. ....       | (24)32                                         | Sweet, T. ....                 | (70)34                                       |
| Michael, J. ....       | (67)33                                         | Tabata, S. ....                | (23)32                                       |
| Michnoff, N. ....      | (32)32                                         | Tahir, M. ....                 | (5)31                                        |
| Mishra, R. ....        | (85)34                                         | Tartakovsky, L. ....           | (2)31                                        |
| Montanaro, A. ....     | (13)31, (7)31                                  | TATSUYA, F. ....               | (54)33                                       |
| Ménard, T. ....        | (29)32                                         | Thistle, A. ....               | (58)33                                       |
| Natu, A. ....          | (57)33                                         | Trivedi, P. ....               | (21)32                                       |
| Neale, N. ....         | (70)34                                         | Trujillo, M. ....              | (76)34, (77)34                               |
| Nemade, R. ....        | (79)34                                         | Truscott, T. ....              | (69)34                                       |
| NISHIDA, K. ....       | (54)33                                         | Tsao, B. ....                  | (82)34                                       |
| Nunes, C. ....         | (57)33                                         | Van Dam, N. ....               | (51)33                                       |
|                        |                                                | Villasmil, L. ....             | (63)33                                       |
|                        |                                                | Viqueira-Moreira, M. ....      | (45)33                                       |

Wada, S..... (73)34  
Wang, S..... (17)31  
Wang, Y..... (66)33  
Webb, A..... (16)31  
Wensing, M..... (42)32, (74)34  
White, L..... (39)32  
Woods, P..... (63)33  
  
Xu, M. .... (17)31, (20)32, (59)33  
YAMAKAWA, M..... (54)33

Yi, J..... (39)32, (56)33  
Young, C..... (55)33  
  
Zhang, A. .... (6)31  
Zhang, K..... (59)33  
Zhang, Q..... (82)34  
ZHANG, W. .... (54)33  
Zhang, Y..... (Panel)30, (17)31, (59)33  
Zhao, L..... (6)31  
Zou, Z..... (36)32

## SPONSORS

ILASS-Americas is a non-profit organization committed to advancing the exchange of state-of-the-art knowledge in spray science. We are especially committed to supporting student participation and the next generation of researchers and engineers. Thanks to the generous support of our sponsors, we are able to significantly reduce conference registration fees for students each year. Sponsor contributions also help support conference meals, breaks, and networking opportunities throughout the meeting.

### GOLD SPONSORS



***Spraying Systems Co.***<sup>®</sup>  
Experts in Spray Technology



**WOODWARD**

### SILVER SPONSORS

