



Experimentally Speaking...

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Message from the President



James P. De Clerck, SEM President, 2022-2023

BY ALL MEASURES, IMAC-XLI held in Austin, Texas was one of the most successful SEM conferences ever. Over 600 attendees participated in the full 4-day technical program. I thank Conference Director, David Epp for joining me at the IMAC-XLI reception to greet everyone's smiling faces as they entered the exhibit hall where 37 companies were ready to showcase their equipment, software, and services.

IMAC-XLI also featured Student Ambassadors, which the Education committee initiated at the prior Annual conference. The week started with a student ice-breaker reception followed by an SEM-themed scavenger hunt. I quickly learned that of the scavenger hunt items was an ussie with the SEM President. This was a great way for me to get to know the students and encourage their continued engagement in the conference activities.

I am pleased to announce that Nuno Lopes is now the SEM Executive Director. I am looking forward to Nuno's continued leadership in his new role. Congratulations Nuno! I thank Kristin Zimmerman for serving as Executive Director for many years. Kristin will remain on the SEM Executive Board and transition to her new role as Treasurer.

The deadline for nominating your colleagues for SEM awards is fast approaching. We all know colleagues who are deserving of SEM awards and the only way for them to be recognized is through your nomination. Nomination instructions are on the [Awards page](#) of the SEM website and nominations are due April 15.



I am looking forward to 2023 Annual conference in Orlando in a few short months. The technical program is going through final revisions. The Applications, Research, and Education Committees will have hybrid meetings where all SEM members will be able to participate in-person or virtually. Watch your email for instructions to join the meeting. Be sure to get your early-bird registration before May 1.

See you in Orlando!

Jim De Clerck
SEM President 2022-2023 ■

IN THIS ISSUE

- 1 Message from the President
- 2 From the Directors
- 3 IMAC-XLI by the Numbers
- 4 IMAC-XLI: Awards and Accolades
- 6 IMAC-XLI - Highlights
- 8 Upcoming Events

From the Directors

WITH THIS MESSAGE, we would like to highlight the outcomes from our IMAC-XLI conference.

IMAC was held at the Renaissance Hotel in Austin, Texas from February 13-16, 2023. The conference attendance was higher than any previous IMAC approaching 640 attendees. The larger than average turnout was likely due to travel from Europe opening up, pent up demand from the lack of being able to meet in-person during the COVID years and that it seems Texas is a great location for IMAC. We were pleased to have 37 exhibitors with 4 new exhibitors joining the IMAC family. Many of the exhibitors spoke with Jen about returning next year to IMAC in Orlando, FL. We are thrilled to hear this since the exposition portion of the IMAC conference is truly at its core! Paid attendance totaled 580, with 228 first timers, 165 students and 25 guests were in attendance. As the conference financials will show in the Q1 report, IMAC was a huge success.

The technical program was very strong with 406 papers in the final program. We have our IMAC Advisory Board, our Program Planning Committee, our session organizers and Technical Division chairs to thank for putting together an outstanding program. We want to continue to enable emerging Technical Divisions (TDs) to blossom and grow. This year three newest TDs, Dynamic Environments Testing, Computer Vision & Laser Vibrometry, and Data Science programmed more than 15 sessions and requested to do the same in 2024 with the addition of short courses.

As part of our technical program, we offered two courses. Saturday and Sunday, we held: Modal Analysis: Theory and Application with Pete Avitabile and Randy Allemang as co-instructors and Bayesian Estimation: a Tutorial from Batch to Sequential Methods with Babak Moaveni, Costas Papadimitriou, Eleni Chatzi, Yashar Eftekhari Azam, and Vasilis Dertimanis as co-instructors. Attendance totaled 42, for both courses. We want to thank the instructors for sharing

their time and expertise with the course attendees and for adding great value to the conference.

Two informative lectures were given, the first by Prof. Oliver Giraldo-Londoño on "Local Stress Constraints in Topology Optimization of Structures Subjected to Arbitrary Dynamic Loads" and the SAGE Publishing Young Engineer Lecture by Dr. Yongchao Yang on "Full-field Measurement of Structural Dynamics with Incoherent Optics: Super Sensitivity and Resolution."

In addition to a great technical program, lectures and receptions, we held a Wednesday evening social event. Those in attendance enjoyed food and beverage with colleagues and new acquaintances while playing corn hole, shuffleboard, darts and singing karaoke.

We will be publishing eleven volumes of proceedings with our publisher Springer Nature, representing conference sessions and tracks from the IMAC-XLI technical program, which will be available this summer.

The work done by our Technical Program organizers, TD Chairs, Track Chairs, and Session Chairs, coordinated by the tireless work by our SEM staff, is responsible for creating outstanding programs that continue to bring in large numbers of conference participation. We, however, need to stay agile and very aware of the emerging areas that we should include in our programs. Our conference success rests on the success of the technical program and its ability to attract both existing conference contributors, and new ones.

Our Experimental Techniques Journal also met during the conference. We do our best to take the opportunity, during both IMAC and Annual, to engage in discussions with Springer Nature, the EIC's, editors,



Left to right: SEM Executive Director Nuno Lopes, Student Ambassador Cora Taylor, and IMAC Conference Director David Epp.

and reviewers on current issues needing attention and how best to support the strategic directions for each journal.

We continue to discuss the lack of interest in IMAC attendees publishing in SEM's journals. The journal that looks to be the best fit for the IMAC community is Experimental Techniques, which is actively recruiting IMAC papers including a special IMAC issue. Please visit the SEM website sem.org/journals to learn more. We need to provide our SEM/IMAC members a journal to publish their work. Through your involvement, we will continue to make progress in enabling our IMAC community to publish in SEM. Note: the call for papers for all SEM conferences invites conference attendees to submit their work being presented into one of SEM's three peer-reviewed journals.

Our Annual conference in Orlando, FL is ramping up nicely. We have over 350 abstracts received with papers being programmed into 11 tracks with three symposia over four days that are sure to make our 2023 Annual conference a success. Please visit the [SEM website](https://sem.org) to learn more.

SEM is defined by its ability to remain agile, focused and open to all experimental mechanics who enjoy and use our conference environment as the go-to place to learn and grow as experts in their field of study. Our relatively small conference size enables our agility...allowing us to keep our finger on the pulse of what is next, create a conference track to represent an emerging area of interest, and carve out our niche in that new area... A niche that sends the message to our meeting participants that SEM's IMAC, Annual and Fall conferences

are the ones to attend. This, we believe, is one of the keys to what defines us and gives strength to the meaning of the "friendly society."

We look forward to your questions or comments so please don't hesitate to email or call.

To those of you that attended IMAC-XLI, we want to personally thank you for a successful conference. And we look forward to seeing you in Orlando, FL, in 2024. We

guarantee another exciting conference as we celebrate IMAC-XLII.

To those planning on attending the Annual Conference in Orlando, FL in June, we look forward to seeing you, engaging with you and we invite you, as you register for the conference, to either renew your membership or become a new member of SEM!

Nuno Lopes, Executive Director
Kristin Zimmerman, Treasurer

IMAC-XLI by the Numbers

646
TOTAL ATTENDEES



115+
Gallons of Coffee



5 Coach buses
shuttling
300+
attendees
to and from
Punch Bowl
Social!

37
EXHIBITORS



166
PHOTOS SHARED
THROUGH THE
WHOVA APP

\$1500
WORTH OF AMAZON GIFT
CARDS AWARDED THROUGH
THE PASSPORT PROGRAM



400
PRESENTATIONS

228
First-Time Attendees

IMAC-XLI: Awards and Accolades

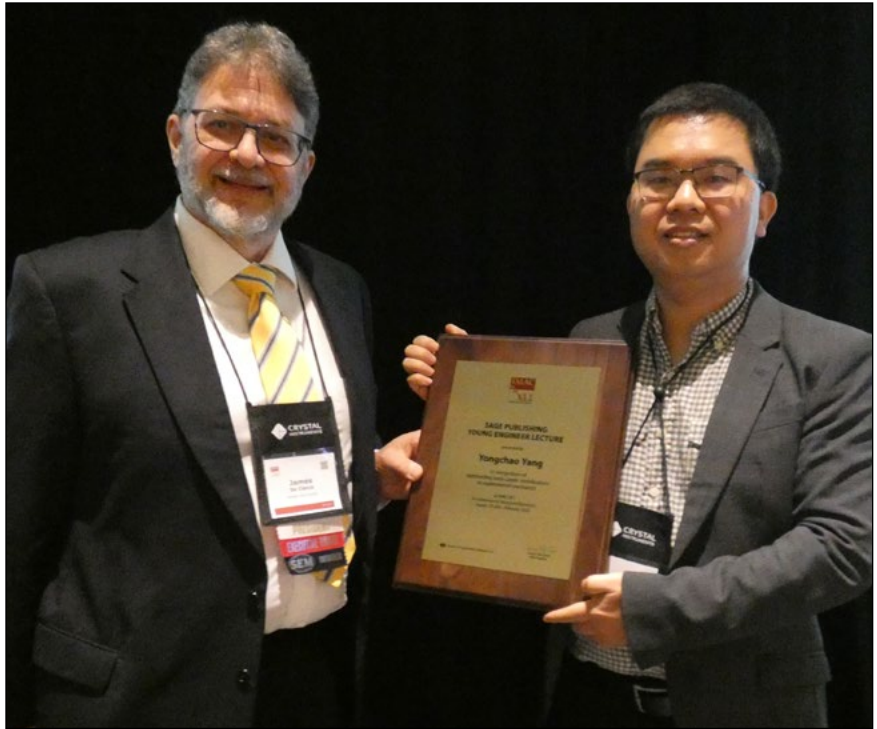
February 13-16, 2023 at the Renaissance Austin Hotel, Austin, TX

IMAC-XLI WAS OUR second in-person meeting since the start of COVID and it proved to be one of our most successful. We can attribute the strength of the technical program to the hard work of the organizers, chairs, technical divisions and membership.

We would like to thank all the attendees and exhibitors that participated in making this one of the most successful IMACs in our history. We look forward to seeing you again in 2024. ■



Above (clockwise): IMAC Conference Director—David Epp with Keynote Lecturer—Oliver Giraldo-Londono; SEM President—Jim De Clerck with SAGE Publishing Young Engineer Lecturer—Yongchao Yang; IMAC Conference Director—David Epp with B. J. Lazan Awardee—Matt Allen and SEM President—Jim De Clerck.

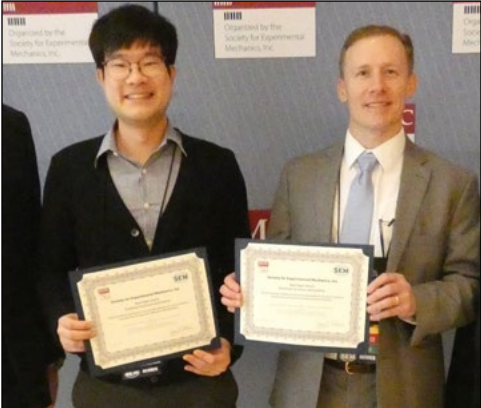


Opposite page (top row/left to right): IMAC Conference Director—David Epp with Dynamic Environments Testing Technical Division Best Paper Awardee for submission titled “Rapid, Approximate Multi-Axis Vibration Testing”—Ethan Cramer from the University Of North Texas/Los Alamos National Laboratory and SEM President—Jim De Clerck; Dan Inman and J. W. Dally Young Investigator—Zhu Mao;

Opposite page (middle row/left to right): Computer Vision & Laser Vibrometry Technical Division 2nd Place Best Paper Awardees for submission titled “Measurement of Airborne Ultrasound Using Laser Doppler Vibrometry”—Students of University of Texas At Austin; Data Science Technical Division Best Paper Awardee for submission titled “Better Together: Using Multi-Task Learning to Improve Feature Selection Within Structural Datasets”—Sarah Bee, University of Sheffield and SEM President—Jim De Clerck;

Opposite page (bottom row/left to right): Dynamics Of Civil Technical Division Best Paper 2nd Place Awardee for submission titled “Evaluating Rhythmic Jumping on Vibrating Platform Using Kinematic Data”—Nimmy Abraham from the University Of Exeter; Model Validation & Uncertainty Quantification Technical Division Best Paper Awardee for submission titled “Quantifying Model Form Uncertainty In Springmass-Damper Systems”—Raleigh Bandy from the University of Colorado Boulder; IMAC Conference Director—David Epp with Dynamics Of Civil Technical Division Best Paper 1st Place Awardee for submission titled “A Simulink Model for the Dynamic Analysis of Floating Wind Turbines”—Jiayao Meng from the University of Oxford and SEM President—Jim De Clerck; Nonlinear Structures and Systems Technical Division Best Paper Awardees for submission titled “Nonlinear Model Updating of Geometrically Nonlinear Structures Based on Gaussian Process Regression Reduced Order Modeling”—Kysic Park from the University of Minnesota and Matt Allen from Brigham Young University

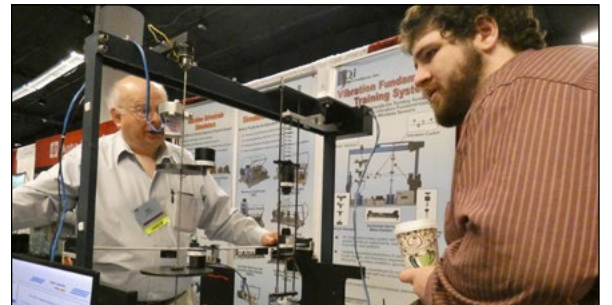


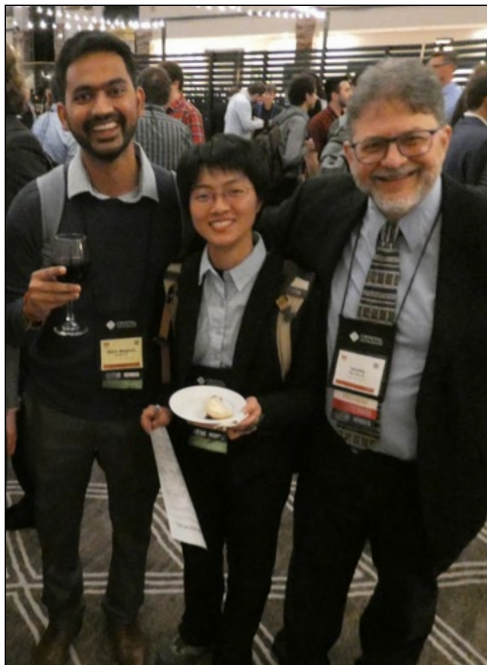


XLI IMAC

MOMENTS

AUSTIN, TX | FEBRUARY 2023





See You Next
Year at **IMAC-XLII**
in Orlando, FL!

Upcoming Events

2023

2023 SEM Annual Conference | June 5-8, 2023

Rosen Plaza Hotel

Orlando, FL USA

2024

IMAC-XLII | Jan. 29–Feb. 1, 2024

Rosen Plaza Hotel

Orlando, FL USA

2024 SEM Annual Conference | June 3–6, 2024

Hilton Vancouver Washington

Vancouver, WA USA

2025

IMAC-XLIII | Feb. 10–13, 2025

Rosen Plaza Hotel

Orlando, FL USA

2025 SEM Annual Conference | June 2–5, 2025

Hyatt Regency Milwaukee

Milwaukee, WI USA

