



# Experimentally Speaking...

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## Message from the President



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

I AM HONORED AND EXCITED to start my term as the 2022-2023 President of the Society for Experimental Mechanics. I thank my recent predecessors for establishing a foundation: John Lambros' initiatives critical to ensure continued success of our society; Daniel Rixen for leading us through the abrupt implementation of virtual conferences; and Eric Brown for continuing our successful initiatives and leading our return to in-person meetings.

During this past year, SEM had two consecutive, increasingly successful, in-person conferences: IMAC 40 and Annual 2022. Our first in-person conference in almost 2-years, IMAC 40 started cautiously optimistic with masks and colored wrist bands to indicate individual comfort level for personal interaction. As IMAC progressed, attendees adapted to the new normal and embraced the opportunity to re-engage in-person. Attendance at Annual 2022 was comparable with past in-person conferences. Annual was energized by the reunion of colleagues who had not seen each other in two years, the exchange of fresh ideas, and the excitement of attending an in-person conference again.

I was fortunate to attend Annual and join the SEM Executive Board in 2019 where I had the opportunity to make new friends who attend the Annual Conference meeting. This was helpful to continuing virtual interaction and meeting again in-person at Annual 2022.

I am looking forward to concentrating on the following initiatives during my term:

### **Attract and exceed expectations of SEM members.**

Active members are the heart of our society. Just like my predecessors, supporting and increasing membership is my top initiative. I encourage you to log in to the SEM website for a list of SEM member benefits. SEM technical divisions are an excellent way to identify and collaborate with peers. Consistent with SEM being the "friendly society", all members and ideas are welcome. As individual members, our responsibility is to represent SEM and encourage colleagues to become active members.

What else can SEM do to attract and retain membership? Many colleagues only attend SEM conferences. How to retain and cultivate them to become active members? Please share your ideas with an Executive Board Member. We need your input to strengthen SEM membership.

As engineers and scientists, we use data to make informed decisions and plan the next steps in our research. As a professional society, we need data to answer strategic questions and make projections. The SEM staff is supporting a project to combine data from the different business systems used for membership, conferences, publications, and awards. The database project sets the cornerstone for the strategic plan developed a few years ago. Once we better understand the preferences and activity of SEM members and conference attendees, we can take action to attract, retain and encourage active members.

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## **Nurture student members by advertising and expanding SEMEF supported student symposia and continuing the Education Committee's Student Ambassador program.**

Just like in our technical professions, current students are the future members of a strong SEM. I have spoken with many members who fondly remember their first SEM conference as a student and the excitement of attending their first conference and the honor of meeting pioneers in their field. Two Student Ambassadors enthusiastically guided their fellow students during this past Annual conference. They helped their peers navigate the technical program, interact with vendors, and meet senior researchers. SEM's social media presence was significantly increased during the second week of June. I am pleased to announce that we will have Student Ambassadors at the upcoming IMAC 41.

Another way to nurture student members is through SEMEF sponsored, regional symposia. These symposia are a great way for students to share their research and more importantly, develop skills for networking and collaboration that will help in their careers. We need more host institutions to take advantage of the materials provided by SEMEF to guide hosts through the process of organizing and advertising a symposium. SEMEF will also provide funding for food and beverage during the meeting. The SEMEF committee identified regional chairs to serve as point contacts for each region.

## **Encourage and facilitate exchange of ideas between organizers and attendees of our Annual and IMAC conferences.**

Many of us think of SEM as extended family. This analogy is encouraged by the fact that we have two family reunions per year. Both IMAC and Annual have structures and best-practices in place for managing the business of the conference and society. The TD pizza lunch and presentations on the basics for young engineers are two examples where a best practice started at one meeting and migrated to the other. We need to raise

awareness of the non-common committees and structures to enable greater exchange of ideas and improve efficiency. I encourage the SEMEF and the SEM (Research, Education, and Applications) Committee Chairs and the At-Large Board members to work together to be sure that SEM members at both conferences have the opportunity to engage and contribute.

Some of the SEM Technical Divisions overlap the mechanics and structural dynamics fields. Additive manufacturing and data sciences are emerging fields presented at both IMAC and Annual. I encourage all TD Chairs to reach out to their counterparts to explore ways to merge the mechanics and structural dynamics aspects of their fields.

Committee and TD collaboration is not restricted to in-person at the Annual and IMAC meetings. During the Great Pause, we were forced to quickly learn a lot about working, teaching, and learning remotely and now remote work has become a common part of our professional lives. We can include remote participants for committee and select TD meetings during in person conferences.

SEM is strengthened by the actions of members. Be involved: recruit new members; advise students; be active in the Focus Groups, Technical Divisions, and committees; be an author or reviewer for an SEM journal. We need active members to turn ideas into events. Tell us what will help you to be more active in SEM.

The SEM Executive Board helps manage the business of our society. I make the following appointments for the 2022-2023 year:

**Kristin Zimmerman**, as Secretary  
**Nuno Lopes** as Managing Director of the Society  
**Jon Rogers**, as Treasurer  
**Eric Brown**, Immediate Past President, as



*Current SEM President Jim De Clerck after presentation of the Presidential Service Award to past SEM President Eric N. Brown.*

Chair of Administrative Council  
**Raman Singh**, President Elect, as Chair of the Technical Activities Council  
**Jason Blough**, as Vice President, as Chair of National Meetings Council  
**Daniel Rixen**, Past President, Chair of Editorial Council  
**David Epp**, At-Large Board Member, as Executive Board Representative to IMAC Advisory Board  
**Jacob Dodson**, At-Large Board Member, as Vice-Chair of the Applications Committee  
**Leslie Lamberson**, At-Large Board Member as Vice Chair of National Meetings Council  
**M Taher Saif**, At-Large Board Member as Vice-Chair of the Education Committee  
**Julie Harvie**, At-Large Board Member, as Vice-Chair of Technical Activities Council  
**Dario Di Maio**, At-Large Board Member as Vice-Chair of the Research Committee  
**Jamie Kimberley**, At-Large Board Member as Vice-Chair of Administrative Council  
**Gordon Shaw**, At-Large Board Member as Vice Chair of Editorial Council

I am looking forward to seeing you at our 2023 conferences: IMAC in Austin Feb 13-16 and Annual in Orlando, June 5-8.

**Jim De Clerck**  
 SEM President 2022-2023 ■

# SEM Journal Update

The 2021 Impact Factors (IFs) were released just after our 2022 Annual Conference. *Experimental Techniques* saw an increase in its Impact Factor, while *Experimental Mechanics* remained steady. JDBM has been included in the Emerging Sources Citation Index and is currently projected to receive an Impact Factor in 2023. Below, you

will find a table containing a comparison of 2020 and 2021 Impact Factors and CiteScores for all three SEM journals.

Below the table are messages from the editors, originally published in the 2022 Officer's Report.

Journal Full Title	ISSN	2021/2020 Total Citations	2021 2-YR Journal Impact Factor	2020 2-YR Journal Impact Factor	2019 2-YR Journal Impact Factor	2021 5-YR Impact Factor	2020 5-Year Impact Factor	2019 5-YR Impact Factor	2021 CiteScore (new methodology as of 2021)
Experimental Techniques	0732-8818	1,358/1,077	1.7/Q3	1.167/Q4	1.058/Q3	1.507	1.122	1.022	2.9
Journal of Dynamic Behavior of Materials	2199-7446	504/151	Q3 projected*	n/a	n/a	n/a	n/a	n/a	3.5
Experimental Mechanics	0014-4851	7,075/6,436	2.794/Q2	2.808	2.496	2.872	2.96	2.655	4.8

## Experimental Mechanics

In 2021, *Experimental Mechanics* (EM) published 107 original papers in nine issues, on topics including: digital image and volume correlation, use of machine learning in experimental mechanics, residual stresses, thermal methods of stress analysis, contact mechanics, biomechanics, fracture, impact, vibrations, plasticity, optical methods and more. These works, more often than not, integrate computation, theory and experiments to advance experimental approaches and applications and to discover novel mechanical and physical behavior.

The 2020 impact factor of EM (reported in June 2021) reached a new high of 2.8 (up from 2.5), thanks to the efforts of our Editorial Board and the quality of papers submitted by our authors.

The journal is increasingly international with articles from 19 nations and Technical Editors from nine nations. The number of submissions to the journal has declined in recent years, from 489 submissions in 2019, to 426 in 2020 and 322 in 2021. It is not clear if this is an effect of the ongoing Covid pandemic or a long-term trend. In either case, a challenge ahead for EM is to continue to attract top quality papers.



Three special issues or special collections were published in 2021. These include:

- Special Issue on Experimental Advances in Cardiovascular Biomechanics, edited by J. F. Wenk and S. M. Lessner, published in January 2021, containing 22 original articles, one of our largest issues ever.
- Special Issue on Tribology of Advanced Materials, edited by Alison C. Dunn, Brandon A. Krick, Kenneth M. Liechti & Frank W. DelRio, with nine articles.
- Special Collection on New Methods and Applications of Optical and Photo-Mechanics, edited by W. Qiu, H.M. Xie, and X.L. Gong with 13 articles.

Planned for 2022 is a Special Issue on Advances in Residual Stress Technology in honor of Drew Nelson, edited by Adrian DeWald and Michael Hill.

I'd like to welcome Drs. Dario Di Maio from the University of Twente and Luoyu (Roy) Xu from Ningbo University. They increase the international presence of the journal and add expertise in modal analysis, fatigue, fracture, composites and other topics to the editorial board. I'd like to thank Drs. Matthew Enloe, Junlan Wang, Satoru Yoneyama and John Shaw for renewing as Technical Editors for another three years.

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# SEM Journal Update continued from pg.3

Plans for the remainder of 2022 focus on developing proposals for Special Issues and review articles and on efforts to promote the submission of a greater number of high-quality papers to the journal. Please contact me or any of the Technical Editors with your proposals for Special Issues on new and growing research topics in experimental mechanics and mechanics of materials, or for ideas for review articles. I invite all members of the SEM to submit your best and most exciting research and review papers to EM and please spread the word to your colleagues and students!

## Experimental Techniques

I am very happy to report that 2021 was strong year for our Experimental Techniques (ET) journal. Our manuscript submission rate seems to have fully recovered after a brief pandemic related contraction in 2020. We published 63 original papers in six Issues, covering a broad range of techniques, measurements and applications in experimental mechanics and dynamics. In June we published a Special Issue on Computer Vision and Scanning Laser Vibrometry Methods, by Guest Editors Dario Di Maio and Philip Harvey Jr. Our journal impact factor continues to steadily increase and was 1.167 for 2020, up from 1.058 in 2019. All papers are available online at [www.springer.com/journal/40799](http://www.springer.com/journal/40799).



We have two Special Issues that are on track to be published in 2022: Computation & Experiments on Dynamics of Complex Fluid & Structure, edited by Fatih Selimefendioğlu and Morteza Khoshvaght-Aliabadi, and Biomaterials for Medical and Biological Applications, edited by Mahalingam Sundhararajan, N Shivaprakash and Sri Krishnan. We continue to actively encourage submission of ideas and proposals for special issues and review articles, especially from our SEM members. Please contact me or any of the Technical Editors if you would like to discuss this or learn more, guidance can be provided throughout the process. One of the journal's goals is to increase manuscript submissions from SEM members, so please submit papers after the SEM conferences and stay informed with ET journal alerts to receive the table of contents of each new issue: [www.springer.com/alerts-frontend/subscribe?journalNo=40799](http://www.springer.com/alerts-frontend/subscribe?journalNo=40799).

I would like to thank Cosme Furlong who concluded his long tenure as Technical Editor and congratulate him on joining the ET International Advisory Board. We welcomed two new Technical Editors in 2021: J. Justin Wilbanks from Sandia National Laboratories and Hao Yi from Chongqing University, China. I would like to thank all our Technical Editors for their dedication and expertise that is key to the success of the peer review process and of the journal as a whole: Matt Allen, Javad Baqersad, Allison Beese, Yuanchang Chen, Alfredo Cigada, Aaron Forster, Jeff Helm, Luciano Lamberti, Zhu Mao, Ricardo Mejia-Alvarez, Brian Owens, Paul Reynolds, Wei-Chung Wang, Justin Wilbanks, Caroline Winters, Yongfeng Xu, Hao Yi, Xing Zhang, and Kristin Zimmerman. We are also grateful to our International Advisory Board members, technical reviewers, authors and SEM staff for making everything come together to publish Experimental Techniques.

## Journal of Dynamic Behavior of Materials

I am pleased to share that 2021 was a successful year for the Journal of Dynamic Behavior of Materials. We published over 40 outstanding papers, including a special issue "High-Pressure Dynamic Strength of Materials" edited by Tracy Vogler, Sandia National Laboratories, Justin Brown, Sandia National Laboratories, and Curt Bronkhorst, University of Wisconsin - Madison. All papers can be found at [www.link.springer.com/journal/40870](http://www.link.springer.com/journal/40870) or as a free member benefit through the Society for Experimental Mechanics website ([SEM.org](http://SEM.org)).



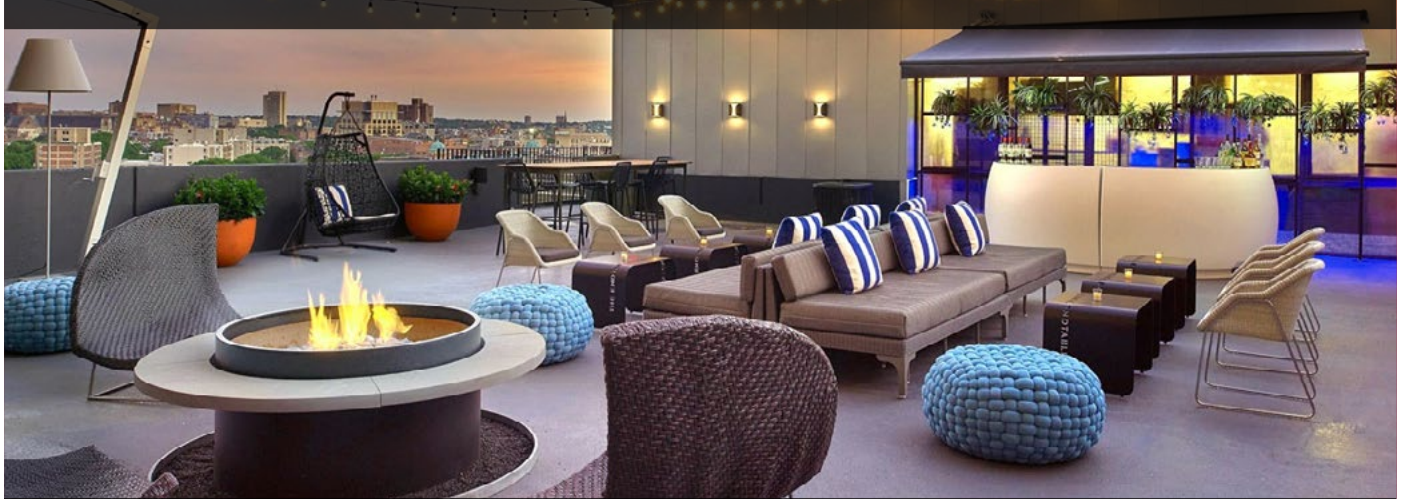
We continue to be highly international with manuscripts published with authors from the United Kingdom, Australia, Switzerland, Italy, France, Finland, Canada, Germany, and the United States of America. We continue to receive high-quality papers and have been able to publish full outstanding issues while maintaining our ability to offer timely reviews and prompt publication.

I would like to thank Daniel Casem and Paulo Rigg, whose terms on the Editorial Board ended in December 2021, for their service. The success of the journal would not be possible without the authors, Technical Editors, and International Advisory Board. ■



MARK YOUR CALENDARS!

# iDICS 2022



NOVEMBER 7-10, 2022 | REVERE HOTEL BOSTON COMMON | BOSTON, MA

# IMAC-XL



FEBRUARY 13-16, 2023 | RENAISSANCE AUSTIN HOTEL | AUSTIN, TX



# SEM Annual - Live at the Omni

June 13-16, 2022 at the Omni William Penn in Pittsburgh, PA

## Awards and Highlights from our 2022 SEM Annual Conference

JUNE MARKED OUR SECOND in-person conference for 2022 in two years. We can attribute a strong program to the hard work put in by the organizers, chairs, technical divisions and membership.

We would like to thank all the attendees, organizers, chairs and exhibitors that participated in making this return to Annual a successful one under current circumstances. It is through their hard work and dedication that we continue to provide an engaging atmosphere for the sharing of research and ideas.

We look forward to seeing you in June of 2023 in Orlando, FL. ■

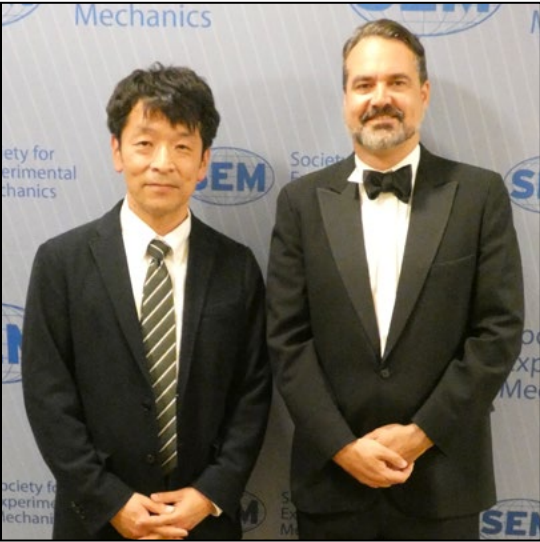


Above (clockwise): SEM President—Eric N. Brown with Springer/Nature Publishing Young Investigator Lecturer—Sarah Bentil; Eric N. Brown with William M. Murray Medal Lecturer—Peter Ifju; Libby (wife) with 2020 Honorary Member inductee—Gary Cloud and Eric N. Brown. ■



Opposite page (top to bottom/left to right): Student Ambassador—Vijendra Gupta with SEM President—Eric N. Brown and Student Ambassador—Isabella Mendoza; 2020 G.A. Brewer awardee—Daniel Casem with Eric N. Brown; 2020 SEM Fellow inductee—Phillip Reu with Eric N. Brown; 2020 SEM Fellow inductee—Satoru Yoneyama with Eric N. Brown; 2020 SEM Fellow inductee—Kristin Zimmerman with Eric N. Brown; G.A. Brewer awardee—Michael Hill with Eric N. Brown. ■







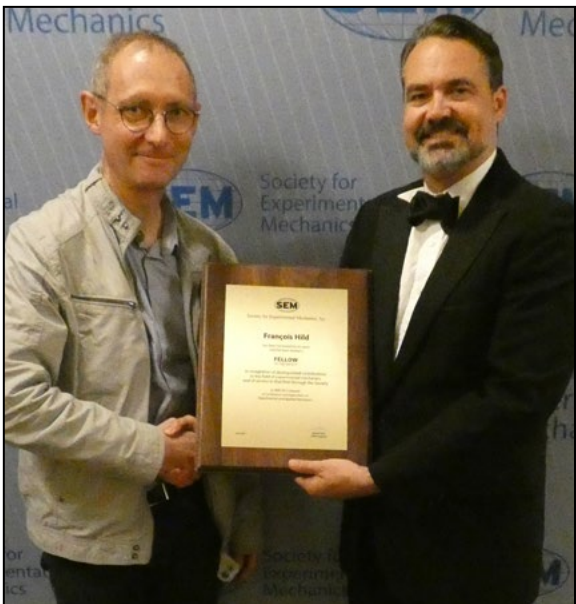
# SEM Annual - Live at the Omni continued from pg.7



Above (clockwise): SEM President—Eric N. Brown with Michael Sutton International Student Paper Competition participants; 2020 F. Zandman awardee—Veronica Eliasson with Eric N. Brown; Gary L. Cloud Scholarship awardee—Archana Lamsal with Gary Cloud; 2021 M. Hetényi awardee—Sivareddy Dondeti with Eric N. Brown; 2021 M.M. Frocht awardee—Michael Mello with Eric N. Brown. ■

Opposite page (top to bottom/left to right): 2020 William M. Murray Medal Lecturer—Janice M. Barton with SEM President—Eric N. Brown; SEM Fellow inductee—Gary Schajer with Eric N. Brown; 2021 S. Nemat-Nasser Medal awardee—Alan Zehnder with Eric N. Brown; 2021 G.A. Brewer awardee—Jennifer Jordan with Eric N. Brown; 2021 SEM Fellow inductee—Michael Prime with Eric N. Brown; Michael Sutton International Student Paper Competition winners with Eric N. Brown (left/right): 1<sup>st</sup> Place—Vatsa Gandhi, 2<sup>nd</sup> Place—Vijendra Gupta, 3<sup>rd</sup> Place—Tyler Chu; 2020 M. Hetényi awardee—Vito Rubino; 2021 B.J. Lazan awardee—Ghatu Subhash with Eric N. Brown; 2021 SEM Fellow inductee—Francois Hild with Eric N. Brown. ■





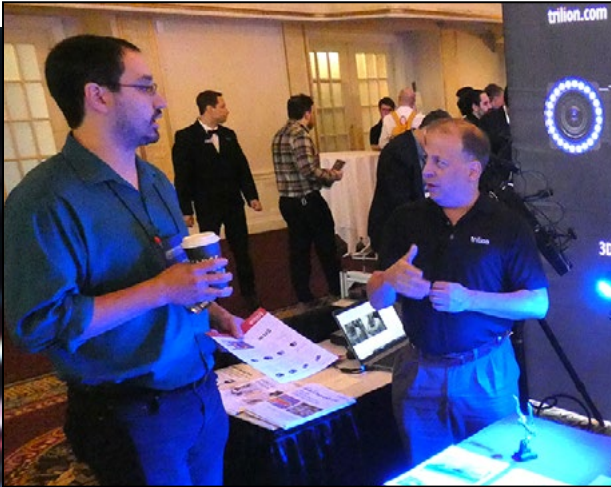


# 2022 SEM ANNUAL CONFERENCE MOMENTS

PITTSBURGH, PA | JUNE 2022







**See You Next Year at  
2023 SEM Annual  
in Orlando, FL!**



# Upcoming Events

## 2022

**iDICs 2022 Conference and Workshop** | November 7-10, 2022

Revere Hotel Boston Common

Boston, MA USA

## 2023

**IMAC-XLI** | February 13-16, 2023

Renaissance Austin Hotel

Austin, TX USA

**2023 SEM Annual Conference** | June 5-8, 2023

Rosen Plaza Hotel

Orlando, FL USA

