REPORT OF THE OFFICERS, COMMITTEES, AND DIVISIONS

for the

SEM 2023 Annual Conference and Exposition on Experimental and Applied Mechanics

June 5–8, 2023
Rosen Plaza Hotel
Orlando, FL
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- Nominating
- Honors
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- SEM Historian
- SEM Education Foundation
- SEM Liaison USNC/TAM
- Membership

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**Committees:**
- E/T Advisory Group
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- E/M Papers Review

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**Committees:**
- Applications
- Research
- Education

**Technical Divisions:**
- Additive & Advanced Manufacturing
- Biological Systems & Materials
- Composite, Hybrid and Multifunctional Materials
- Computer Vision & Laser Vibrometry (IMAC)
- Data Science (IMAC)
- Dynamic Behavior of Materials
- Dynamics of Civil Structures (IMAC)
- Dynamic Environments Testing (IMAC)
- Dynamic Substructures (IMAC)
- Fracture and Fatigue
- Inverse Problem Methodologies
- Micro and Nanotechnology
- Modal Analysis/Dynamic Systems (IMAC)
- Model Validation & Uncertainty Quantification
- Nonlinear Structures & Systems (IMAC)
- Optical Methods
- Residual Stress
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- Thermomechanics & Infrared Imaging
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MISSION STATEMENT
The Society for Experimental Mechanics is composed of international members from academia, government, and industry who are committed to interdisciplinary application, research and development, education, and active promotion of experimental methods to: (a) increase the knowledge of physical phenomena; (b) further the understanding of the behavior of materials, structures and systems; and (c) provide the necessary physical basis and verification for analytical and computational approaches to the development of engineering solutions.

OVERVIEW
The Society for Experimental Mechanics, originally called The Society for Experimental Stress Analysis, was founded in 1943 as a nonprofit scientific and educational organization with the original goal to "further the knowledge of stress and strain analysis and related technologies." In the years since its founding, SEM has continued to adapt itself to the needs of the members in the experimental mechanics community. The members of SEM encompass a unique group of experimentalists, development engineers, design engineers, test engineers and technicians, and research and development scientists from industry and educational institutions.

This international network of engineers and scientists is interested in the research and application of engineering measurements and test methods with the mission to promote and encourage the furtherance of knowledge pertaining to the education, research and application of experimental mechanics to the determination of materials and system behavior.

The Society ascribes to that mission and adds to it the commitment to the development, application and general use of experimental methods to (a) better understand the physical phenomena that impede technological progress; and (b) complement analytical and computational approaches to the search for engineering solutions.

The Society for Experimental Mechanics is a member-led society that acknowledges and respects the value of a diverse community. We recognize that the scope of diversity includes race/ethnicity, religion, family status, age, physical abilities, sexual and affectional orientation, actual or perceived gender, gender identity and expression, socio-economic status and occupational focus. Our society will maintain an environment that is supportive of these elements, and we will promote inclusion within our organization and the engineering community.

We will ensure that all bylaws, policies, and charters support the Society’s commitment to diversity. We will align with and participate in those activities and organizations that encourage all dimensions of diversity.

Consideration of these and other elements of diversity will guide the statements and activities of the Society. Nothing in this statement is intended or shall be construed to unlawfully deprive any person of his or her educational and employment opportunities, compensation and/or benefits.

1 Excerpt has been modified from the Society of Women Engineer’s Diversity Statement
SEM acknowledges the following council, committee and division chairs. President James De Clerck and the entire Executive Board thank these individuals for their generous contribution of time and effort on behalf of the Society.

EXECUTIVE BOARD MEMBERS
(terms ending June 2023)
Daniel Rixen, Past President
Jacob Dodson, At-Large Member
David Epp, At-Large Member
Leslie Lamberson, At-Large Member
M. Taher Salf, At-Large Member

ADMINISTRATIVE COUNCIL
Eric Brown, Chair Administrative Council
Jamie Kimberley, Vice Chair Administrative Council
Daniel Rixen, Chair Honors Committee
John Lambros, Chair Nominating Committee

NATIONAL MEETINGS COUNCIL
Jason Blough, Chair
Leslie Lamberson, Vice-Chair

EDITORIAL COUNCIL
Daniel Rixen, Chair through June, 2023
Gordon Shaw, Vice-Chair

TECHNICAL ACTIVITIES COUNCIL
Raman Singh, Chair through June, 2023
Julie Harvie, Vice-Chair
Sharlotte Kramer, Additive & Advanced Manufacturing
Christian Franck, Chair, Biological Systems & Materials
Frank Gardea, Chair, Composite, Hybrid, and Multifunctional Materials
Javad Baqersad, Chair, Computer Vision and Laser Vibrometry
Ramin Madarshahian, Chair, Data Science
Julie Harvie, Dynamic Environments Testing
Veronica Eliasson, Chair, Dynamic Behavior of Materials
Matt Allen, Chair, Dynamic Substructures
Ryan Berke, Chair, Fracture & Fatigue
Johan Hoefnagels, Chair, Inverse Problems Methodology
Cosme Furlong, Chair, Optical Methods
Jevan Furmanski, Chair, Time Dependent Materials
Hae Young Noh, Chair, Dynamics of Civil Structures
Frank Dellrio, Chair, Micro and Nanotechnology
Matthew Brake, Chair, Nonlinear Structures & Systems
Michael Prime, Chair, Residual Stress
Rosa DeFinis, Chair, Thermomechanics & Infrared Imaging
Roland Platz, Chair, Model Validation & Uncertainty Quantification for Structural Dynamics
Brandon Dilworth, Chair, Modal Analysis/Dynamics Systems
Chad Walber, Chair, J. F. Lally Sensors and Instrumentation
Jennifer Jordan, Chair, Research Committee
Evan Breedlove, Chair, Applications Committee
Martha Grady, Chair, Education Committee
25 AND 50 YEAR MEMBERS OF SEM

The Society for Experimental Mechanics gratefully acknowledges the following individuals who have been members of the Society for 25 and 50 consecutive years. Each will receive a special certificate commemorating their dedicated support to SEM over the past quarter or half century.

**GOLD (50 YEAR) SEM MEMBERS**
- George Amir
- Abraham Assa
- Yasumasa Koakutsu
- Lloyd J. Lazarus
- Lawrence Root

**SILVER (25 YEAR) SEM MEMBERS**
- Robert Adams
- Ronald Beukema
- David Brown
- Nripendu Dutta
- Gavin Horn
- Hubert Schreier
AGENDA
Sunday, June 4, 2023 | 6:30 p.m. - 7:30 p.m.
Room: Salon 13 | Rosen Plaza, Orlando, FL

1. WELCOMING REMARKS BY SEM PRESIDENT (JAMES DE CLERCK)

2. APPROVAL OF MINUTES OF THE JUNE 2022 ANNUAL BUSINESS MEETING (JAMES DE CLERCK)

3. REPORT OF THE EXECUTIVE DIRECTOR (NUNO LOPES)

4. REPORT OF THE TREASURER AND FINANCE COMMITTEE (JON ROGERS)

5. REPORT OF COUNCIL CHAIRS FOR THE STANDING COMMITTEES (2022–2023)

   - PLEASE NOTE: Copies of the written statements covering the basic information reported by the various committees are given in the bound booklet "Report of the Officers, Committees and Divisions" available as a pdf on the SEM website:

   a. Administrative Council (Eric Brown) for the following committees: Honors, Nominating, Membership, Fellows, SEM Historian, USNC/TAM, SEM Education Foundation, Intersociety Liaison, Membership and Past Presidents

   b. Editorial Council (Daniel Rixen) for the following committees: E/M Papers Review, EM, ET, JDBM International Advisory Boards

   c. National Meetings Council (Jason Blough) for the following committees: Exhibits and Technical Program Planning


6. OUTGOING EXECUTIVE BOARD (JAMES DE CLERCK)

7. ELECTION OF NATIONAL OFFICERS FOR 2023 – 2024 (JAMES DE CLERCK)

8. GOALS AND APPOINTMENTS FOR 2023 – 2024 (RAMAN SINGH)

9. RECOGNITION OF 25 AND 50-YEAR MEMBERS (JAMES DE CLERCK)

10. OLD BUSINESS

11. NEW BUSINESS

12. PRESIDENT’S CLOSING COMMENTS (JAMES DE CLERCK)

13. ADJOURNMENT

Prepared by Nuno Lopes, Secretary with the approval of (James De Clerck), Chair
AGENDA
Sunday, June 12, 2022 | 6:30 p.m. - 7:30 p.m.
Room: Alleghany | Omni William Penn, Pittsburgh, PA

1. WELCOMING REMARKS BY SEM PRESIDENT (ERIC BROWN)
President Brown welcomed everyone to the meeting.

2. APPROVAL OF MINUTES OF THE JUNE 2021 ANNUAL BUSINESS MEETING (ERIC BROWN)
No Meeting Occurred

3. REPORT OF THE EXECUTIVE DIRECTOR (KRISTIN ZIMMERMAN)
Kristin Zimmerman referred everyone to the printed report and welcomed input from the members.

4. REPORT OF THE TREASURER AND FINANCE COMMITTEE (JON ROGERS)
Jon Rogers referred all to his printed report and welcomed input from the members.

5. REPORT OF COUNCIL CHAIRS FOR THE STANDING COMMITTEES (2021–2022):
   a. PLEASE NOTE: Copies of the written statements covering the basic information reported by the various committees are given in the bound booklet “Report of the Officers, Committees and Divisions” distributed at the meeting.
   b. Administrative Council (John Lambros) for the following committees: Honors, Nominating, Membership, Fellows, SEM Historian, USNC/TAM, SEM Education Foundation, Intersociety Liaison, Membership and Past Presidents. Kathryn referred all to the printed report.
   c. Editorial Council (Daniel Rixen) for the following committees: E/M Papers Review, E/M International Advisory Board, E/T Editorial Committee, E/T Advisory Group. Wendy referred all to the printed report.
   d. National Meetings Council (James De Clerck) for the following committees: Exhibits and Technical Program Planning. Jim referred all to the printed report.

6. OUTGOING EXECUTIVE BOARD (ERIC BROWN)
President Brown presented outgoing Board Members with Certificates of Appreciation.

7. ELECTION OF NATIONAL OFFICERS FOR 2022 – 2023 (ERIC BROWN)
President Lambros announced that there were no additional nominations to the Executive Board received by the Secretary. In accordance with Article 9 Section 9 of the SEM Constitution Secretary Kristin Zimmerman casts the vote of the Society in favor of the slate of members as proposed by the Nominating Committee.

THE NEWLY ELECTED EXECUTIVE BOARD MEMBERS ARE:
• President: James De Clerck, 2022-2023
• President-Elect: Raman Singh, 2022-2023
• Vice-President: Jason Blough, 2022-2023
• At-large Member 2022-2024: Jamie Kimberley
• At-large Member 2022-2024: Gordon Shaw
• At-large Member 2022-2024: Julie Harvie
• At-large Member 2022-2024: Jacob Dodson

8. GOALS AND APPOINTMENTS FOR 2022 – 2023 (JAMES DE CLERCK)
[Also published in the August, 2022 SEM Newsletter]
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 conferences.

During this 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 wristbands to indicate individual comfort level for personal interaction. As IMAC progressed, attendees adapted to the

continued on next page
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. 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.

**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 the 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 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.

9. RECOGNITION OF 25 AND 50-YEAR MEMBERS (ERIC BROWN)
President Brown recognized the 25 and 50-year members of the Society and presented certificates to those present.

10. OLD BUSINESS
There was no old business.

11. NEW BUSINESS
There was no new business

PRESIDENT’S CLOSING COMMENTS (ERIC BROWN)
I am both humbled and proud to have served as your President of SEM for the 2021-2022 term.

12. ADJOURNMENT
No Meeting

Prepared by Kristin Zimmerman, Secretary with the approval of (Eric Brown), Chair
The Directors of SEM submit the following report summarizing business operations for 2022.

The report is written in five sections summarizing: finances, conferences, journals/proceedings, membership, and SEM employees.

FINANCIAL REPORT
The Society’s financial position remains strong and we refer all of you to the Report of the Treasurer that follows this section of the report. Conference direct revenues minus direct expenses (this excludes overhead) from IMAC 2022 were $94,150, from Annual were $41,531, and $27,591 from our fall iDICs conference. Together, conference revenue represented 61% of SEM’s total annual revenue. Our membership revenue fell a small amount during 2022. This is quite likely to change since we have switched back to in person conferences where many of our conference attendees select to renew their membership when they register. Journal and Publications revenue for the year was $347k (up $29k from 2021 and representing ~33% of total revenue.) Membership revenue for the year was $68,032 (~6.4% of SEM’s total revenue and down $2,199 from 2021). We need to continue to investigate effective means to communicate the value of Membership in SEM. The SEM Strategic Investment Funds on December 31, 2022 totaled $1,373k, down $82k from December 2021.

CONFERENCE REPORT
Conference attendance at IMAC XLI was 579 with 406 papers in the final program. Technical Division (TD) meetings were well attended in planning for IMAC XLII. The Annual Conference business meetings were very well attended in June and the technical program included 389 presentations. The Technical Division meetings were very well attended in their planning for Annual 2023. We want to especially thank the conference organizers, TD chairs, session chairs for their active participation in developing the technical programs making them very successful and fun. We continue to explore more ways to engage our conference attendees via the Whova App. We look forward to your after conference feedback. The strength of our conferences is our strong technical program, our friendly learning environment, and the contributions from our exhibitors and sponsors. THANK-YOU! We are continuing to find innovative ways to welcome the students and first time attendees to our conferences and our SEM Ambassador program is opening new ways to engage both first timers and conference veterans. Our goal is always to grow and add value to the SEM conference experience.

JOURNALS/PROCEEDINGS REPORT
SEM continues to work with Springer/Nature as our sole publisher of all three of our peer-reviewed journals and our conference proceedings. Springer/Nature offers the SEM conference attendees and members significant leverage by offering a proceedings platform to publish conference presented work that can be streamlined into the publication of an article in any one of our SEM journals directly relating to topics discussed at our conferences. This is exciting and clearly an area of importance and value for our members. In 2022, EM and ET achieved their highest five-year impact factors and are continuing to grow in readership, downloads and citations. JDBM is positioned well to receive its first impact factor by June of 2023. SEM is very grateful to the Editors-In-Chief of our three journals. Their leadership, guidance and management of their networks of editors and reviewers is exemplary!

Conference Proceedings are averaging 12-15 volumes per year with eight to nine of those volumes from our IMAC conference. SEM has extended its two-year flat rate contract with Springer/Nature with remuneration per volume of $2,000. Our publication process with Springer/Nature and SEM’s copyright ownership strongly support all conference authors who have published their work in our proceedings to submit an extended version of the research discussed in their proceedings paper to one of SEM’s three peer-reviewed journals. SEM has enabled the ability to publish an extended abstract in the proceedings rather than a full paper. This gives our authors far more flexibility in publishing their conference/proceedings work in one of SEM’s journals. One thing that we will need to stay focused on is the importance of the proceedings to the conference attendee.

SEM EMPLOYEES
SEM’s employees are its most strategic investment: We think you would all agree. You, as members, are known by your names, not as a number. Your families are always welcome to our conferences and we have enjoyed growing older and learning with many of you and your families.

Please make it a point to thank Shari Matthews, Jen Tingets, Dan Trombetto and Nicole Trombetto for the outstanding work that they do to continue the successful growth of the Society.
It is customary to list the following in our Annual Business Report. Below lists each SEM employee and the years of service with SEM.

**Shari Matthews** - 21  
**Jen Tingets** - 20  
**Dan Trombetto** – 3  
**Nicole Trombetto** – 3

The dedication to SEM of these individuals is simply amazing!

We are grateful for the accomplishments of 2022 and look forward to continuing to grow our friendly society, in 2023 and beyond.

Respectfully Submitted

Kristin B. Zimmerman

Nuno Lopes
REPORT OF THE TREASURER
JON ROGERS, TREASURER

STATEMENT OF REVENUE & EXPENSE
December 31, 2022

<table>
<thead>
<tr>
<th>Source of Revenue</th>
<th>Revenue</th>
<th>Expense</th>
</tr>
</thead>
<tbody>
<tr>
<td>Membership</td>
<td>$68,032</td>
<td>$106,234</td>
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<tr>
<td>Experimental Mechanics</td>
<td>$241,950</td>
<td>$71,445</td>
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<tr>
<td>Experimental Techniques</td>
<td>$45,780</td>
<td>$70,913</td>
</tr>
<tr>
<td>Dynamic Behavior of Materials</td>
<td>$20,926</td>
<td>$70,781</td>
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<td>Publications</td>
<td>$37,018</td>
<td>$35,295</td>
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<tr>
<td>Conferences</td>
<td>$656,336</td>
<td>$710,955</td>
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<td><strong>Total</strong></td>
<td><strong>$1,070,042</strong></td>
<td><strong>$1,065,623</strong></td>
</tr>
</tbody>
</table>

**Surplus/Deficit:** $4,419

SOURCE OF REVENUE

- **Membership:** 6.4%
- **Conferences:** 61%
- **Experimental Mechanics (EM):** 22%
- **Experimental Techniques (ET):** 5%
- **Dynamic Behavior of Materials (JDBM):** 2.4%
- **Publications (PUBS):** 3.3%
SEM remains strong financially. Note, for 2022, SEM was back to in-person conferences, so our revenues bounced back from the previous year of 37% to 61% for 2022.

Our cash and savings at the end of 2022 totaled $1,373k down $82k from 2021. We do not have any cash flow issues.

At the end of 2022, SEM’s strategic investment funds that are in a managed portfolio, total $973,107. The Finance Committee and Executive Board monitor the funds per the quarterly reports to determine if there should be any adjustments to the allocations of the investments over time.

Cash in our restricted accounts (Cloud, CSI Endowment, Dally, DeMichele, Knauss, Nemat-Nasser, SEMEF, Taylor, and Theocaris) totaled $720k at the end of 2022, up $92k from December 2021.

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**SEM DONATIONS**

For 2022, contributions and withdrawals to our restricted funds managed by Mass Mutual were:

- **Contributions to the Restricted Awards Fund:** $250
- **Withdrawals from the Restricted Awards Fund:** $17,133
  (Award Distributions: Dally, Cloud, DeMichele, Taylor, CSI, Theocaris)

- **Contributions to the Restricted SEMEF Fund:** $6,135
- **Withdrawals from the Restricted SEMEF Fund:** $1,500
  (Distributions: $1,500 for the Student Symposia.)

- **Other SEM Contributions:**
  TW Proulx SEM Development Fund = $2,950

The Society for Experimental Mechanics, Inc. sincerely thanks all who have donated to SEM. Your contributions are truly appreciated and will help the Society fulfill its mission.
NOMINATING COMMITTEE REPORT

Chair (June 2022): Wendy Crone

The Nominating Committee completed its assigned duties at the 2022 SEM Annual Conference and reported on its recommendations for 2022-2023 SEM Officers and Executive Board to the then current Executive Board. The committee will next meet during the 2023 SEM Annual Conference to develop recommendations of outstanding nominees for 2023-2024.

Input to the Nominating Committee from the Society’s membership is both encouraged and solicited. The incoming committee chair is Wendy Crone, (June 2022).

Nominations for the 2023-2024 SEM Executive Board officers are: President, Raman Singh; President-Elect, Jason Blough; and Vice President, Junlan Wang. Incoming Executive Board At-Large Members: H.Y. Noh, Maarten van der Seijs, Meg Grady, and Sharlotte Kramer. These individuals are the official choice of the SEM Nominating Committee.

The Society’s bylaws also provide for alternative nominations. Article IX, Section 4, of the SEM constitution states that, “A member may also be nominated by written petition of at least 25 Individual Members of the Society, and submitted to the Secretary, together with the member’s consent to serve, if elected, at least 90 days prior to the Annual Business Meeting.” The Bylaws also provide that, if no additional nominations are submitted by the membership at large, the Secretary of the Society shall cast an affirmative vote on behalf of the membership at the Society’s Annual Business Meeting.

This information is posted on the SEM Website.

HONORS COMMITTEE REPORT

Chair (June 2022): John Lambros

The Honors Committee met during the 2022 SEM Annual Conference and identified outstanding recipients for SEM Awards, most of which will be presented at the 2023 SEM Conference. These awards and their recipients are:

Murray Medal & Lecturer: .............................................................. Peter Ifju
Springer Young Investigator Lecture: ..................................... Sarah Bentil
SAGE Young Engineer Lecture: ............................................. Javad Baqersad
G.A. Brewer Award: ................................................................. Michael Hill
Gary Cloud Scholarship: ............................................................. Archana Lamsal
James W. Dally Award: ............................................................. Yuhang Hu
Wolfgang Knauss Award: .............................................................. Yuhang Hu
Sia Nemat-Nasser Award: .......................................................... Emmanuel Gdoutos
C.E. Taylor Award: ................................................................. Gary Cloud
A.J. Durelli Award: ........................................................................... NA
B. J. Lazan Award: ................................................................. Yasushi Miyano
DeMichele Award: ................................................................. Matt Allen
M.M. Frocht Award: ................................................................. Wei-Chung Wang
F.G. Tatnall Award: ................................................................. Paul Reynolds
P.S. Theocaris Award: ............................................................. Arun Shukla
F. Zandman Award: ................................................................. NA
Harting Award ...................... Fabio Lo Savio, Guido La Rosa, Marco Bonfanti, Damiano Alizzi, Ernesto Rapisarda, Eugenio Pedullà, “Novel Cyclic Fatigue Testing Machine for Endodontic Files” (2020)

The 2023 DeMichele Award and SAGE Young Engineers Lecture were presented at the IMAC-XLI Conference in February. The Honors Committee will meet again during the 2023 SEM Annual Conference and Exposition.
PAST PRESIDENTS COMMITTEE
Chair: Peter Ifju

The Past Presidents Committee is dedicated to serving the Society by responding to requests for assistance, but also by not giving unsolicited advice to current society officers. The committee currently has two major activities.

The first activity is to organize the SEM International Student Paper Competition (ISPC).

The 2022 ISPC was organized and chaired by Dr. Jon Rogers of Sandia National Laboratories. The following Past Presidents served as judges during the competition:

Randy Allemang (SEM President 2003-2004)
Jose Freire (SEM President 2004-2005)
Kristin Zimmerman (SEM President 2008-2009)
Peter Ifju (SEM President 2011-2012)

The second activity is to enjoy an annual Past Presidents Dinner with friends and colleagues, old and new. We enjoyed a lovely dinner with 10 of our past presidents at the hotel.

I am happy to report that the 2022 International Student Papers Competition was successfully completed.

FELLOWS COMMITTEE
Secretary: Ken Liechti

COMMITTEE OF FELLOWS REPORT 2022
The meeting was held at 5:00pm (EDT) on June 12, 2022 in Pittsburg. It was called to order by Ghatu Subash (Chair). Also, committee members in attendance were Jon Rogers, Arun Shukla, Kristin Zimmerman, Ioannis Chasiotis, Chuck Farrar, Francois Hild, Michael Prime and Kenneth Liechti. Douglas Adams was unable to attend but voted by proxy. Minutes of the 2021 meeting were reviewed and approved.

The committee considered a pool of 6 nominees for Fellow status. The case for each nominee was discussed separately. The Committee unanimously decided to recommend Professor Yong Zhu of North Carolina State University and Dr. Bo Song of Sandia National Laboratory. Both were subsequently approved by Executive Board of SEM.

Following the meeting, Ghatu Subash stepped down as Chair of the Committee of Fellows. He has been succeeded by Ioannis Chasiotis. François Hild agreed to be the new Vice Chair. There was discussion of potential new members of the Committee in view of the pending departures of Ghatu Subash, Jon Rogers and Arun Shukla after the 2022 meeting. Vikas Prakash, Peter Ifju and Gary Schajer were approached and agreed to serve in the class of 2023-2025. These developments are summarized in the table below.

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>Tenure</th>
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<tbody>
<tr>
<td>Chair</td>
<td>Ioannis Chasiotis</td>
<td>2021-2023</td>
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<tr>
<td>Vice Chair</td>
<td>François Hild</td>
<td>2022-2024</td>
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<tr>
<td>Secretary</td>
<td>Kenneth Liechti</td>
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<td>Kristin Zimmerman</td>
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<td>Chuck Farrar</td>
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<td>Member</td>
<td>Mike Prime</td>
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<tr>
<td>Member</td>
<td>Doug Adams</td>
<td>2022-2024</td>
</tr>
<tr>
<td>Member</td>
<td>Vikas Prakash</td>
<td>2023-2025</td>
</tr>
<tr>
<td>Member</td>
<td>Peter Ifju</td>
<td>2023-2025</td>
</tr>
<tr>
<td>Member</td>
<td>Gary Schajer</td>
<td>2023-2025</td>
</tr>
</tbody>
</table>

SEM HISTORIAN
Professor Cesar Sciammarella

Professor Sciammarella’s page on the SEM website can be found here: https://sem.org/history

Please let professor Sciammarella or SEM know if you have any items that you would like to contribute to the SEM Historian site.
SEM EDUCATION FOUNDATION (SEMEF)
Jeffrey Helm, Chair (2021-2023)
William Fourney, Vice-Chair (2021-2023)
Jon Rogers, Treasurer (2021-2023)
Michael Sutton, Secretary (2021-2023)

ATTENDEES
Eric Brown, Jim De Clerck, Jason Blough, Nuno Lopes, Meg Grady, Jamie Kimberley, Jose Freire, Janice Barton, Kimberley Mac Donald, David Epp, Sarah Bentil, Jon Rogers, Peter Ifju, Arun Shukla

SEM EF MEETING
Sunday, June 12, 2022 - 10:30 AM

10:33 CALL TO ORDER
Kristin Zimmerman provided a SEM EF budget update.
1. Overall things are looking good.
2. With the pandemic there were some 2020 funds rolled forward to support student symposia that were delayed.
3. Current budget looks to support 2-3 student symposia per year

NE REGIONAL STUDENT SYMPOSIUM REPORT
1. Vijay C. at U Mass Dartmouth organized and hosted NE regional Student Symposium on April 16, 2022
2. 7 Sessions, ~30 presentations
3. Each presentation also required a poster
4. Arun Shukla commented on the quality of the event suggested that there is great value in running these events

NE regional plans to host another Symposium in May 2023 @ URI. Carl-Ernst Rousseau is organizing.

Proposals for other regional symposia are encouraged

Organizers should be encouraged (required?) to provide PR materials to SEM for writeup in Exp. Speaking and other SEM media outlets.

DISCUSSION OF SEM EF GRADUATE SYMPOSIA SUB-COMMITTEE
1. 7 regional leads have been identified
2. Jon Rogers suggested that the description/charge of the committee be broad enough to encourage “non-traditional” research activities, e.g. research conducted at internships etc.
3. It was also suggested that the term “Graduate” be dropped from the symposia and subcommittee names to promote inclusivity, which was met with broad approval.
4. Team building, networking, career panels, workshop talks on manuscript prep, etc. should be encouraged at these meetings
5. The sub-committee should serve to collect feedback and provide useful guidance to potential organizers
6. Explore keynote presenters and vendors to sponsor/participate in the event
7. Guidance should be a la carte as opposed to a list of requirements
8. The subcommittee should draft standard language that can be used to reach out to potential organizers.

NEW BUSINESS:
1. Jeff Helm noted that if the number of student symposia increases we may run into budgetary constraints.
2. Broad discussion lead to the understanding that if/when this is an issue we will have good justification for seeking additional funding.

ACTION ITEMS:
1. Draft mission statement/charge of the EF sub-committee on student symposia.
2. Sub-committee on Student symposia to draft standard language for soliciting organizers.

Summary Prepared by Jamie Kimberley
The U.S. National Committee of Theoretical and Applied Mechanics (USNC/TAM) represents the interests of the United States in international scientific activities relating to the broad field of mechanics. USNC/TAM activities include representing the U.S. at the International Union of Theoretical and Applied Mechanics (IUTAM).

ICTAM 2020+1, the 25th International Congress originally scheduled for Milan, Italy for August 23-28, 2020 was held virtually in 2021. More information can be found at: www.ictam2020.org. The UNSC/TAM supported 57 fellows to attend and present at the Congress with support from the National Science Foundation. Additionally, five Thomas J. R. Hughes Fellowships were also awarded, a prestigious fellowship for leading early career researchers in the field of mechanical science and engineering.

The most recent meeting of the USNC/TAM was held online as a special meeting on April 19, 2022 with Society for Experimental Mechanics representative Wendy Crone in attendance. Other SEM members serve on the committee in other roles and were present, notably Horacio Espinosa, who is currently serving as Vice Chair of USNC/TAM. The main points of discussion focused on efforts to reach and represent the entire community working in mechanics.

The Distinguished Lecture was presented by Prof. Peko Hosoi on “Mechanics of Sport” on April 19, 2022. It will be available for viewing on the USNC/TAM website.

The U.S. National Congress on Theoretical and Applied Mechanics will be held at the University of Texas at Austin in June 19-26, 2022. More information at: www.usnctam2022.org. The USNC/TAM Annual Meeting will be held in June before the Congress.

Note that Wendy Crone’s term as SEM representative to the USNC/TAM expires in October of 2022 and nominations for the position will be sought.

Submitted by Wendy Crone
April 19, 2022
MISSION STATEMENT
The Society for Experimental Mechanics is a member-led society that acknowledges and respects the value of a diverse community. We recognize that the scope of diversity includes race/ethnicity, religion, family status, age, physical abilities, sexual and affectional orientation, actual or perceived gender, gender identity and expression, socio-economic status and occupational focus. Our society will maintain an environment that is supportive of these elements, and we will promote inclusion within our organization and the engineering community.

We will ensure that all bylaws, policies, and charters support the Society’s commitment to diversity. We will align with and participate in those activities and organizations that encourage all dimensions of diversity.

Consideration of these and other elements of diversity will guide the statements and activities of the Society. Nothing in this statement is intended or shall be construed to unlawfully deprive any person of his or her educational and employment opportunities, compensation and/or benefits.¹

MEETING HIGHLIGHTS FROM 2022
ATTEDEES
Sarah Bentil, Jason Blough, Eric Brown, James De Clerck, David Epp, Sharlotte Kramer, Kimberley Mac Donald, and Shari Matthews, Nuno Lopes, Kristin Zimmerman (SEM)

During SEM Annual 2022, the Membership Committee met with a focus on data management and outreach to the members and conference attendees highlighting the benefits of SEM membership. The committee presented a motion to the Executive Board in 2021 for approving the use of strategic funds to hire an outside consultant to assist SEM with developing a member conference data mining system. The motion was approved and a date consultancy has been hired by SEM. The learning and data mining process will begin in July.

- We will need to define the requirements for the database in terms of what we want to mine
- How do we query the database and use the dashboard
- Can members have access to the dashboard

SEM will also focus on how best to leverage and content its social media platforms to allow our members to stay connected between conferences.

DISCUSSION:
- Which region of the US and of the globe has the most SEM participation?
- Members call SEM their professional home
- Membership conveys a commitment to the Society

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<th>DUES PAYING CONFERENCE ATTENDANCE</th>
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<td>Expired &amp; Non-Members</td>
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<td>IMAC &amp; ANNUAL TOTAL:</td>
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¹ Excerpt has been modified from the Society of Women Engineer’s Diversity Statement

* Please note that beginning with 2022, membership attendance has been broken out by conference
The Membership Committee meeting will meet again at the SEM 2023 Annual Conference and Exhibition. A large focus for the next two years will be learning how to manage the data in the database so we can quickly access, to drive well informed strategic business decisions, about member trends, interests, demographics, etc.

Current conference/membership statistics are as follows: Our conference attendance and membership declined due to COVID. Conference registration/attendance of students and first time attendees has remained strong. The first-time attendees are largely graduate students and individual members. Graduate students are not inclined to join SEM until they know that they will be working at a research laboratory or in academia after graduation. This lends insight to answering at least part of the question of declining membership while we continue to grow in conference participation and success.

STUDENT CHAPTERS
The current listing of active SEM Student Chapters include:
IIT Kharagpur, Kharagpur, India; CENIDET (Centro Nacional de Investigación y Desarrollo Tecnológico), Cuernavaca, Mexico; Catholic University of Rio de Janeiro – PUC-Rio, Brazil, College of Electrical and Mechanical Engineering, National University of Sciences and Technology, Pakistan; University of Maryland, College Park, Maryland; Delhi College of Engineering, New Delhi, India; University Rhode Island, Kingston, Rhode Island; Michigan Technological University, Houghton, Michigan; University of South Carolina, Columbia, South Carolina; Texas A&M University, College Station, Texas; Ward College of Technology, University of Hartford, West Hartford, Connecticut. The SEM added a new student Chapter in 2016. Our newest Chapter is at the University of Alabama at Tuscaloosa (started in 2016).

PERCENTAGE FEMALE REPRESENTATION IN 2020

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<tr>
<th>MEMBERSHIP (INCL CONFERENCE PARTICIPANTS)</th>
<th>EXECUTIVE BOARD</th>
<th>LEADERSHIP OF TECHNICAL DIVISIONS, COMMITTEES &amp; FOCUS GROUPS</th>
<th>SEM JOURNAL LEADERSHIP</th>
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<td>15%</td>
<td>31%</td>
<td>20%</td>
<td>67%</td>
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AGENDA
Tuesday, June 6, 2023 | 10:00 a.m. - 11:00 a.m. | Room: Salon 5
Rosen Plaza Hotel, Orlando, FL

APPROVAL OF AGENDA

APPROVAL OF MINUTES OF JUNE 2022

OLD BUSINESS

NEW BUSINESS

ADJOURNMENT
AGENDA
Tuesday, June 6, 2023 | 2:00 p.m. - 3:30 p.m. | Room: Salon 5
Rosen Plaza Hotel, Orlando, FL

MEMBERS OF COUNCIL:
Daniel Rixen, Gordon Shaw, Jennifer Jordan (EIC-JDBM), Alan
Zehnder (EIC-EM), Bonnie Antoun (EIC-ET), Hareesh Tippur (Chair
EM-IAB), Eric Brown (Chair JDBM-IAB and Chair TAC), Kristin
Zimmerman (Chair ET-IAB), Nuno Lopes (SEM)

APPROVAL OF AGENDA (D. RIXEN)
APPROVAL OF MINUTES OF JUNE,
2022 EDITORIAL COUNCIL MEETING

EXPERIMENTAL MECHANICS (A. ZEHNDER)
• Status and any outstanding issues

EXPERIMENTAL TECHNIQUES (B. ANTOUN)
• Status and any outstanding issues

JOURNAL OF DYNAMIC BEHAVIOR OF MATERIALS
(J. JORDAN)
• Status and any outstanding issues

OLD BUSINESS
a. Updates on SEM Conference Proceedings
b. Updates on SEM Synthesis Lecture Series/
Synthesis SEM Handbooks Series
c. Other SEM publications

NEW BUSINESS

ADJOURNMENT
Prepared by Nuno Lopes, Secretary
with the approval of Daniel Rixen, Chair

MINUTES/DISCUSSION
Tuesday, June 14, 2022 | Oakmont

MEMBERS OF COUNCIL
Daniel Rixen, Janice Barton, Jennifer Jordan (EIC-JDBM), Alan
Zehnder (EIC-EM), Bonnie Antoun (EIC-ET), Hareesh Tippur (Chair
EM-IAB), Eric Brown (Chair JDBM-IAB and Chair TAC), Kristin
Zimmerman (Chair ET-IAB), Nuno Lopes (SEM)

ATTENDEES
Bonnie Antoun, Janice Barton, Eric Brown, James De Clerck, David
Epp, Jennifer Jordan, Anita Lehkwani, Eric Brown, G. Shaw, Alan
Zehnder, Nuno Lopes, Nicole Trombetto, Kristin Zimmerman (SEM)

APPROVAL OF AGENDA
(K. ZIMMERMAN ON BEHALF OF D. RIXEN)

APPROVAL OF MINUTES OF JUNE 2021 EDITORIAL COUNCIL
MEETING – APPROVED AS IS WRITTEN

EXPERIMENTAL MECHANICS
• Alan Zehnder, Cornell University, EIC since January 2021.
• Flat rate 5 year Springer contract (started 1/1/21): $220,000
  per year assuming ~1 10 papers published/year
• 2022 looks on track to reach publication target.
• Hareesh Tippur, EM–IAB Chair
• Impact Factor 2.960 (5 yr IF) steadily increasing.
• 9 issues/year: 489/439/360 (2019/2020/2021)
  submissions, 31 manuscripts in online first, target 13
  manuscripts per issue, 2 special issues in 2021.
• Anita from Springer encouraged collections per issue
• Editorial Board member terms need to be updated

EXPERIMENTAL TECHNIQUES
• Bonnie Antoun, Sandia National
  Laboratories, EIC since June 2020.
• A royalty (30% of net revenue plus stipend) 10-year
• Kristin Zimmerman, ET-IAB Chair
• Impact Factor 1.122 (5 yr IF) steadily increasing.
• 6 issues/year: 384/372 (2020/2021) submissions, 67
  articles in online first, 10 articles per issue, 1 special issue.
  Royalties Estimate: $28,000; Editorial Stipend: $24,311.
JOURNAL OF DYNAMIC BEHAVIOR OF MATERIALS

• A royalty (30% of net revenue plus stipend) 10 year Springer contract. Contract started Jan 1, 2015
• Eric Brown, DBM IAB Chair
• 4 issues per year: 79/84 (2020/2021) submissions, ZERO manuscripts in online first, 10 articles per issue, 2 special issues. Royalties Estimate:$18,000; Editorial Stipend: $6,991.
• Awaiting Impact Factor in mid 2023.
• Request for assistance from all to build quality submissions ASAP.
• Looking to invite papers

DISCUSSION ON EM (A. ZEHNDER), ET (B. ANTOUN), DBM (J. JORDAN)

• Need to revive submissions, focusing on high quality submissions. Topics discussed includes: special issues, opportunity for smaller topical collections, solicit review articles, continue encouraging associate/technical letters editors to submit to the journal that they’re working with, making specific invitations to top researchers in the field, continue working with TDs and Focus Groups, partnering beyond SEM and IMAC communities where appropriate.
• EICs are meeting monthly and plan to continue this practice moving forward. This has been very valuable to all.
• All journals want to use cover art. Bonnie will work with Nicole to make this happen for ET. Cover art will be managed by Nicole and Dan will do the graphics editing. Springer will advertise the cover art for 6 weeks through Springer Link.
• Reviewer lists need to be pulled and updated on an annual basis.
• The EIC panel was well attended and will likely be planned for Annual 2023.
• Springer should highlight best paper winners per journal
• Need to ask Sarah Bentil if she wants to submit her talk to one of our journals. Likely EM.

OLD BUSINESS

Updates on SEM Conference Proceedings

• New 2-year contract in place 2021-22.
• New remuneration: $2,000/volume vs the previous $500/volume.
• 2022: SEM will publish 9 volumes for IMAC and 6 Volumes for Annual.
• Discussion of diminishing interest in proceedings publications among many members. Need to continue to monitor diminishing interest in proceedings publications for both Annual and IMAC conference participants.

Updates on The Society for Experimental Mechanics Handbooks Series

• Editors-IN-Chief: Eric Brown, Wendy Crone, Kristin Zimmerman
• We are in the process of signing contracts with the Series Editors representing the technical divisions/areas covered and programmed during our Annual Conference.
• The series is now owned by SpringerNature

NEW BUSINESS

• We need to recognize the work by a few outstanding reviewers
• SEM may wish to hire a part time social media manager

ADJOURNMENT

Minutes Prepared by Kristin Zimmerman
on behalf of Daniel Rixen, Chair
EXPERIMENTAL TECHNIQUES
EDITOR IN CHIEF: BONNIE ANTOUN–SANDIA NATIONAL LABORATORIES (2025)

TECHNICAL EDITORS
Matt Allen – Brigham Young University, USA (2022)
Javad Baqersad – Kettering University, USA (2022)
Allison Beese - Pennsylvania State University, USA (2023)
Yuanchang Chen - University of Texas at Dallas, USA (2022)
Alfredo Cigada – Politecnico di Milano, Italy (2024)
Aaron Forster – National Institute of Standards and Technology, USA (2023)
Jeff Helm – Lafayette College (2022)
Luciano Lamberti – Politecnico di Bari, Italy (2022)
Zhu Mao - Worcester Polytechnic Institute, USA (2023)
Ricardo Mejia-Alvarez – Michigan State University (2022)
Brian Owens – Sandia National Laboratories, USA (2022)
Paul Reynolds - University of Exeter, UK (2023)
Wei-Chung Wang – National Tsing Hua University, Taiwan (2022)
Justin Wilbanks - Sandia National Laboratories, USA (2023)
Caroline Winters - Sandia National Laboratories, USA (2023)
Yongfeng Xu – University of Cincinnati, USA (2022)
Hao Yi - Chongqing University, China (2023)
Xing Zhang – Institute of Metal Research, Chinese Academy of Sciences, China (2023)
Kristin B. Zimmerman – MedFor: Inc., USA (2024)

INTERNATIONAL ADVISORY BOARD
Kristin B. Zimmerman (Chair) – MedFor: Inc., USA
Bonnie Antoun - E.T Editor-in-Chief, Sandia National Laboratories, USA
Jonathan D. Rogers – Sandia National Laboratory, USA
José Freire – Pontifical Catholic University of Rio de Janeiro, PUC-Rio
Nancy Sottos – University of Illinois, Urbana-Champaign, USA
Jeff Helm – Lafayette College, USA
Raman Singh – Oklahoma State University, USA
Wei-Chung Wang – National Tsing Hua University, Taiwan
Sven Bossuyt - Aalto University, Finland
Wayne Chen - Purdue University, USA
Cosme Furlong – Worcester Polytechnic Institute, USA
MESSAGE FROM THE EDITOR:
I am very happy to report that 2022 was another strong year for our Experimental Techniques (ET) journal. Our manuscript submission rate continues to increase after a brief and minor pandemic related contraction in 2020. We had 452 submissions in 2022, an increase of 21% from 2021. We published 73 original papers in six issues, covering a broad range of techniques, measurements and applications in experimental mechanics and dynamics. The Special Issue on Computations & Experiments on Dynamics of Complex Fluid & Structure, by Guest Editors Professors Fatih Selimefendigil and Morteza Khoshvaght-Alibadi was completed in 2022 and was the first issue in 2023. Our journal impact factor continues to steadily increase to 1.700 for 2021, up from 1.167 in 2020. All papers are available online at www.springer.com/journal/40799.

We have increased the number of papers published per issue from 10 to 12 to address the increase in submissions and decrease the backlog. Our editorial metrics continue to improve by reducing the days to decision, etc. In 2022 we made an exciting change to the journal by updating/redesigning the journal cover and adding cover art from a selected paper in each issue to make each cover unique and interesting. 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. Our Editorial Board does encounter challenges finding an adequate number of technical reviewers for manuscripts; we encourage all SEM members to sign up to become reviewers and accept reviewer invitations whenever feasible.

I would like to thank Javad Baqersad and Allison Beese who concluded tenures as Technical Editors, their efforts will be missed. We welcomed a new International Advisory Board member in 2022: Janice Barton from the University of Briston, UK. We have recently added more technical editors that I will highlight in our 2023 update. 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, 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. Yuanchang Chen was awarded the 2022 Susan K. Foss Outstanding Editor Award for Experimental Techniques. We also congratulate Zhu Mao and Matt Allen for their 2022 SEM awards. We are very grateful to our International Advisory Board members, technical reviewers, authors and SEM staff for making everything come together to publish Experimental Techniques.
EXPERIMENTAL TECHNIQUES SUMMARY
The following shows statistics on submissions, reviewers and decisions made for *Experimental Techniques* for the last years. Number of submissions and Impact Factor show all historical data.

**OF NOTE**
The total number of submissions in 2022 was 452. This represents an increase of 20.9% over the 2021 total (374).

Accepted papers in 2022 were 99, a rate of 21.9% acceptance. This compares to 2021 (26.5%), 2020 (23.5%) and 2019 (14%).

In 2022 we published less articles than we accepted (78 vs. 99).

**STATUS (AS OF APRIL 19, 2023):**
- 60 papers in process
- 11 papers out for revision
- **64 papers published online**
- Issue 47:2 (March/April 2023) = most recent issue published online.

**NUMBER OF SUBMISSIONS**

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## ORIGINAL SUBMISSION DECISION SUMMARY

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## SUBMISSION STATISTICS (Continued)

## REVIEWERS (Continued)

## ORIGINAL SUBMISSION DECISION SUMMARY (Continued)
EXPERIMENTAL MECHANICS
EDITOR-IN-CHIEF: ALAN ZEHNDER–CORNELL UNIVERSITY, (2025)

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Antonio Baldi - Universita di Cagliari, Italy (2022)
Michael Brünig - Universität der Bundeswehr München, Germany (2023)
Janice Barton - University of Bristol, UK (2022)
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Weinong Chen - Purdue University, USA (2023)
Samantha Daly - University of California - Santa Barbara, USA (2022)
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Adrian DeWald - Hill Engineering, LLC, USA (2022)
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Francois Hild - ENS Cachan, France (2022)
Krishna Jonnalagadda - Indian Institute of Technology Bombay, India (2022)
Jamie Kimberley - New Mexico Institute of Mining and Technology, USA (2022)
Francesco Lanza di Scalea - University of California - San Diego, USA (2022)
Hongbing Lu - University of Texas at Dallas, USA (2023)
Michael Mello - California Institute of Technology, USA (2022)
Paul Reynolds - University of Exeter, UK (2023)
John Shaw - University of Michigan - Ann Arbor, USA (2024)
Raman Singh - Oklahoma State University, USA (2022)
Junlan Wang - University of Washington, USA (2024)
Hui Min Xie - Tsinghua University, People’s Republic of China (2023)
Luoyu (Roy) Xu - Ningbo University, China (2024)
Satoru Yoneyama - Aoyama Gakuin University, Japan (2024)
Yong Zhu - North Carolina State University, USA (2022)

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Hareesh Tippur, Chair - Auburn University, USA
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Guruswami Ravichandran - Caltech, USA
Nancy Sottos - University of Illinois, USA
Xiaoping Wu - University of Science and Technology, China
MESSAGE FROM THE EDITOR:
In 2022, Experimental Mechanics (EM) published 1230 original papers in nine issues, including 20 in a Special Issue on Advances in Residual Stress Technology in honor of Drew Nelson, edited by Adrian DeWald and Michael Hill. The number of papers submitted in 2022 rebounded to about 440390, up 205% from the year before. Submissions to date in 2023 are running 10% higher than 2022. The 2021 impact factor of EM (reported in June 2021) remained at 2.8. The journal continues to be highly international with articles over the past year from 23 nations and Technical Editors from nine nations.

I would like to thank the following outgoing Technical Editors who have provided many, many combined years of service to EXME and to SEM: Michel Grèdiac, François Hild, Raman Singh, Antonio Baldi and Yong Zhu. We will miss you all!

Many thanks to Janice Barton, Vijay Chalivendra, Samantha Daly, Frank Del Rio, Adrian DeWald, Krishna Jonnalagadda, Francesco Lanza di Scalea and Michael Mello for agreeing to stay on the Editorial board for another three years.

I’d am pleased to welcome seven new members of the Editorial Board: John Kolinski, Michael Keller, Kunal Misra, Julien Rethore, Shelby Hutchins, Bojana Rosic and Garrett Pataky. Our new board members increase the international presence of the journal and add needed expertise in soft materials, fracture, DIC, machine learning, additive manufacturing and other topics to the editorial board.

Challenges for the journal are to attract more high-quality submissions and to continue to work to respond promptly and with fairness to authors even as we are in a situation to reject more than two out of every three papers.

Plans for the remainder of 2023 will 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, in particular from SEM members. 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 MECHANICS SUMMARY

The following shows statistics on submissions, reviewers and decisions made for Experimental Mechanics for the last years. Number of submissions and Impact Factor show all historical data.

OF NOTE

The total number of submissions in 2022 was 441. This represents an increase of 21.5% over the 2021 total (363).

Accepted papers in 2022 were 107, a rate of 24.3% acceptance. This compares to 2021 (31.7%), 2020 (20.9%), 2019 (19.8%), 2018 (18%).

In 2022 we published more articles than we accepted (134 vs. 107).

STATUS (AS OF APRIL 25, 2023):

56 papers in process
22 papers out for revision
**21 papers published online**
Issue 63:3 (March 2023) = most recent issue published online.

NUMBER OF SUBMISSIONS

![](NUMBER_OF_SUBMISSIONS.png)

IMPACT FACTOR

![](IMPACT_FACTOR.png)
### MANUSCRIPT PUBLICATION

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TECHNICAL EDITORS
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Nadia Bahlouli - University of Strasbourg (2022)
Nicola Bonora - University of Cassino and Southern Lazio, Italy (2023)
Duane Cronin - University of Waterloo (2024)
Daniel Eakins - University of Oxford (2022)
Veronica Eliasson - University of California San Diego (2023)
Juan Escobedo-Diaz - UNSW Canberra at the Australian Defence Force Academy (2022)
Pascal Forquin - Universite Joseph Fourier - Grenoble Alpes University, France (2023)
Leslie Lamberson - Colorado School of Mines (2024)
Yulong Li - Northwestern Polytechnical University, China (2023)
James M LeBlanc - Naval Undersea Warfare Center (2024)
Michael May - Ernst-Mach-Institute (2025)
Xu Nie - Southern Methodist University (2022)
Prof. Brian Schuster - University of Texas at El Paso (2024)
Parameswaran Venkitanarayanan - Indian Institute of Technology Kanpur (2022)
David Williamson - University of Cambridge (2022)
Justin Wilkerson - Texas A&M University (2023)
Clarissa Yablinsky - Los Alamos National Laboratory (2022)

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Stefan Hiermaier - Albert-Ludwigs-University Freiburg
Suhithi M. Peiris (ST) - Air Force Research Lab – Munitions Directorate (Fellow APS, Member MRS)
Vikas Prakash - Washington State University (Fellow ASME)
K. T. Ramesh - Johns Hopkins University (Fellow SEM and ASME)
Hareesh Tippur - Auburn University (Fellow SEM and ASME)
Tracy Vogler - Sandia National Laboratories (Fellow APS)
MESSAGE FROM THE EDITOR:
I am pleased to share that 2022 was a successful year for the Journal of Dynamic Behavior of Materials. We published 34 outstanding papers. All papers can be found at www.link.springer.com/journal/40870 or as a free member benefit through the Society for Experimental Mechanics website (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 Nadia Bahlouli, whose term on the Editorial Board ended in December 2022, for her service. I would like to welcome Brian Jannotti to the Editorial Board. The success of the journal would not be possible without the authors, Technical Editors, and International Advisory Board.

It’s concerning that JDBM is having a difficult time maintaining a publication rate of 10 papers per issue. JDBM averages about 7.5 new submissions per month, of which approximately 50% are rejected due to quality or scope. As such, only about 45 new papers per year are acceptable for publication. So, we need to focus on increasing the number of high quality, in scope papers are submitted to JDBM.

In June 2023, the Journal of Dynamic Behavior of Materials will be assigned its first Impact Factor! Clarivate announced that all journals in the Emerging Sources Citation Index, where JDBM is tracked will earn an impact factor. The impact factor will be released in the Journal Citation Report to be released on June 30, 2023.

Plans for the remainder of 2023 focus on completing several of the in-process special issues and lining up special issues for the future. We will focus on promoting the submission of high-quality papers to the journal, in particular from SEM members. Please contact me or any of the Technical Editors with your proposals for special issues, review articles, and paper submissions. The Editorial Board invites all members of the SEM to submit your best and most exciting research to EM and to spread the word to your colleagues and students!
DYNAMIC BEHAVIOR OF MATERIALS SUMMARY
The following shows statistics on submissions, reviewers and decisions made for the Journal of Dynamic Behavior of Materials for the last years. Number of submissions and Impact Factor show all historical data.

OF NOTE
The total number of submissions in 2022 was 99. This represents an increase of 19.3% over the 2021 total (83).

Accepted papers in 2022 were 33, a rate of 33.3% acceptance. This compares to 2020 (48.5%) and 2019 (45.2%).

In 2022 we published more articles than we accepted (40 vs. 33).

STATUS (AS OF APRIL 25, 2023):
19 papers in process
10 papers out for revision
11 paper published online
Issue 9:1 (March 2023) = most recent issue published online.

NUMBER OF SUBMISSIONS

IMPACT FACTOR

Year

0.000
### MANUSCRIPT PUBLICATION

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<th>Manuscripts Published</th>
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### SUBMISSION STATISTICS

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### REVIEWERS

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<th>Uninvited Reviewers</th>
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<th>Reject Without Review</th>
<th>Reject After Review</th>
<th>Reject Encourage Resubmission</th>
<th>Reject Encourage Submission to Another Journal</th>
<th>Revise Before Review</th>
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Avg. Days: 8.25, 3.00, 10.25, 5.00, 0.00, 0.00, 0.00, 2.3, 17.5, 9.4, 11.1, 6.5

%: 24.8%, 4.5%, 20.3%, 11.3%, 0.0%, 0.0%, 0.0%, 1.5%, 36%, 10.5%, 6.14%, 100.0%

2023 Report of the Officers
TECHNICAL ACTIVITIES COUNCIL
CHAIR: RAMAN SINGH | VICE-CHAIR: JULIE HARVIE

AGENDA
Tuesday, June 6, 2023 | 4:00 p.m. - 5:30 p.m. | Room: Salon 5
Rosen Plaza Hotel, Orlando, FL

APPROVAL OF AGENDA

APPROVAL OF MINUTES OF JUNE 14, 2022 TECHNICAL ACTIVITIES COUNCIL MEETING

TECHNICAL DIVISION & FOCUS GROUPS ACTIVITY REPORTS
– to include both Conference Programming activities and any other matters.
  a. Applications Committee (hold until later in the week)
  b. Education Committee (hold until later in the week)
  c. Research Committee (hold until later in the week)
  d. Additive & Advanced Manufacturing
  e. Biological Systems and Materials
  f. Composite, Hybrid and Multifunctional Materials
  g. Computer Vision & Laser Vibrometry (IMAC)
  h. Data Science (IMAC)
  i. Dynamic Behavior of Materials
  j. Dynamics of Civil Structures (IMAC)
  k. Dynamic Substructures (IMAC)
  l. Dynamic Environments Testing (IMAC)
  m. Fracture & Fatigue
  n. Inverse Problem Methodologies
  o. Micro and Nanotechnology
  p. Modal Analysis/Dynamic Systems (IMAC)
  q. Model Validation and Quantification for Structural Dynamics (IMAC)
  r. Nonlinear Structures and Systems (IMAC)
  s. Optical Methods
  t. Residual Stress
  u. Sensors and Instrumentation (IMAC)
  v. Thermomechanics & Infrared Imaging,
  w. Time Dependent Materials
  x. WRSGC

OLD BUSINESS
  a. Reports for Annual TDs are from 2022 with updated leadership roles for 2022-24
  b. Reports for IMAC TDs are from 2023 with updated leadership roles for 2023-25

NEW BUSINESS

ADJOURNMENT

Prepared by Nuno Lopes, Secretary
With the approval of Raman Singh, Chair

MINUTES/DISCUSSION
Thursday, June 14, 2022 | 3:30 p.m. - 5:30 p.m. | Room: Oakmont
Chair: Raman Singh | Vice-Chair: Jason Blough

TAC committee Chair Singh called the meeting to order and thanked all of the TDs for holding virtual TD meeting the previous week and the hard work in planning meeting content for 2022.

VOTE TO APPROVE THE AGENDA
• Approved

VOTE TO APPROVE THE MINUTES FROM THE 2021 TAC
• Approved

TECHNICAL DIVISION INFORMATION
• SEE TD PAGES ON THE SEM WEBSITE: www.sem.org
• Report of the TD and Focus Area meetings by representative TD Chairs (see minutes on the following pages) Concluded Review of TD Reports

COMMITTEE REPORTS JUNE 2021
• SEM Research, Applications and Education Committees met together immediately after the TAC meeting. This is done to draw more of a strategic focus to the Committee meetings.

OLD BUSINESS
• None to report

NEW BUSINESS
• Student Ambassador program

ADJOURNMENT
• Meeting adjourned by 5:00 p.m. EST
Below, you will find a visual representation of the SEM Committee Structure with current chairs and representatives. It is important to remember that the process for Technical Divisions and Committees is as follows:

- Individual members are invited to participate in one or more committee
- Committees initiate action based upon thorough analysis and member input. If action impacts budget the Treasurer and Executive Director must be consulted
- Recommended action is brought to the appropriate Council for approval
- Council Chair proposes approved action to Executive Board for final approval

A PDF may be downloaded at sem.org
ATTENDEES
Evan Breedlove, Jennifer Tingets, Kristin Zimmerman, Eric Brown, Nuno Lopes, Jeff Helm, Jevan Furmanski, Sarah Fischer, Trey Leonard, Chris Laursen, Jim DeClerck

MINUTES/DISCUSSION
Wednesday, June 15, 2022 | 2022 SEM Annual

1. REVIEW MINUTES FROM 2021 MEETING

2. 2023 PLANNING:
   • (1) Session on ‘Technology Applications’:
     standard vendor-focused session
     a. Strong attendance (30-40) for 2022
     b. Talks remain focused on demonstrating applications and are not overly commercial
   • (2) Special session on ‘Application Challenges in Industry’
     a. 2022 session included invited keynotes, but two speakers were unavailable (one due to last-minute cancellation and other due to flight cancellation)
     b. Session well-attended (~13) with good discussion
     c. Hold session next year without invited speaker restriction, use normal 20 minute slots, and reserve final slot for end-of-session panel discussion. Aim to include one invited keynote (double time slot).
   • (3) Industry Panel
     a. Panel was hosted evening of June 15
     b. 13 attendees (mostly graduate students and postdocs) with a panel of four (Jeff Helm, Jevan Furmanski, Sarah Fischer, and Trey Leonard). Hosted by Evan Breedlove
     c. Discussion largely covered differences between industry and academia, career success in industry, and pursuing employment in industry. Attempt to add more discussion about industry/academic collaboration in future session
     d. Coordinated planning with Education Committee, plan to host as coffee hour during day in 2023. Education and Application Committees will alternate years for panel discussion and coffee hour. The alternating Education Committee event is “Let’s Talk Postdoc”

3. DISCUSSION ON NEW INITIATIVES FOR 2023:
   a. Reviewed 2021 strategic plan and compared planned activities to completed:
      • i. Complete
         » 1. Panel discussion
      • ii. Not Complete
         » 1. Consult with industrial/university consortiums on challenges in bridging between academia and industry
         » 2. Compile academic speaker list for industry seminars
   b. 2023 plans are continuation of 2022 strategy
   c. Special sessions focused on applications
      • i. 2023 programming described above
   d. Course content to attract industry
      • i. Focus on “Basics Of” course series from Education Committee with long-term goal of expanding short-course content based on feedback
      • ii. Following topics proposed to Educate Committee:
         » 1. DIC
         » 2. Cardinal sins in experimental mechanics
         » 3. Dynamic testing
         » 4. Machine learning in experimental mechanics
   e. Advertisement
      • i. Potential learning opportunities at Annual Conference may not be well-known to potential industry attendees
      • ii. Committee to create advertisement content to post to society website
      • iii. Possibility in future to advertise conference in other publications (e.g., ad in ASME’s Mechanical Engineering publication)
         » 1. This has not been done before, needs to be discussed further with executive leadership
   f. Awards
      • i. President encouraged committee to nominate industry members for awards and raise awareness of application-focused awards
      • ii. Awards can be an attraction for industry participation
   g. E/T
      • i. Committee resolved to not pursue editorship of Application Committee leadership (which is in current bylaws)
      • ii. Committee will encourage applications-focused publication in E/T, including for sponsored sessions. Emphasis on publications which evaluate measurement applications, relative performance of test methods, useability research, and economics of testing

4. APPOINTMENTS BY PRESIDENT-ELECT AND COMMITTEE CHAIR
   a. Chair (Piyush Thakre) finished term and Vice-Chair (Evan Breedlove) transitions to Chair according to Bylaws
   b. First Vice Chair: Sarah Fischer for term of two years
   c. Second Vice Chair/Secretary: Trey Leonard for term of two years
EDUCATION COMMITTEE
Chair: Martha Grady—University of Kentucky, KY, USA
Secretary: Kimberley Mac Donald—Caltech, CA, USA

ATTENDEES
Martha Grady, Kimberley Mac Donald, Isabella Mendoza, Emily Retzlaff, Jeff helm, Jennifer Jordan, Eric Brown, Kristin Zimmerman, Evan Breedlove, Paul Allison, Jim DeClerck, Nuno Lopes, Jamie Kimberley, Michael Mello, Raman Singh, Vijendra Gupta, Michael Keller

MINUTES/DISCUSSION
Wednesday, June 15, 2022 | 2022 SEM Annual

APPROVE MINUTES FROM 2021 MEETING
Minutes approved by unanimous voice vote.

SUMMARY OF THIS YEAR’S PROGRAM
“Basics of” talks, 3 at 30 min each
• Optical Interferometry in Experimental Solid Mechanics by Mike Mello
• Basics of Additive Manufacturing of Metallic Materials by Allison Beese
• Basics of Dynamic Testing by Daniel Casem
• Excellent attendance in general. Will repeat next year.

2 Coffee Sessions
• Tactical Tenure attendance was low – about 5 faculty
• Let’s Talk Postdoc – will occur after the EC meeting.

SEM Student Ambassadors Program
• First year of the program
• Two students: Vijendra Gupta and Isabella Mendoza
• Can Whova discriminate somehow between attendee lists to help target messages? SEM staff can make something like this happen.
• Strong positive response to the program with several people asking how to be an ambassador next year.
Possible improvements – improve the student ambassador orientation by including a list of events to be highlighted by the ambassadors. During the preconference orientation for the mentors, make sure that they understand how students can participate in the operation of the society, such as organizing sessions, etc. Good turnout at Editorial Committee meeting of students after the Ambassadors suggest that the students attend. Yellow name tags to ID students was a positive for making connections. “Student only” happy hour was a success, but will need to suggest that next year’s ambassadors do a little reconnaissance to figure out what places might work. The event (informally organized) this year had about 30 people, but local restaurants had an issue with needing reservations. There were some issues with organizing events using the Whova app as it apparently limits the number of invites to 20. Scavenger hunt worked well. Probably do a point system for the scavenger hunt next year.

OFFICERS ELECTED IN 2021 – NEXT ELECTION 2023

NEXT YEAR’S PROGRAM
• Basics of sessions
• Keller – chair, Co-chair will be selected.
• Make sure we have pre-printed comment cards/suggestion cards
• Plan to keep on Monday (if possible)
• Possible topics/speakers for next year
• Shock Physics– Brian Jensesn LANL
• Shock Testing – Sarah Bentil – Iowa State
• DIC – Elizabeth Jones - Sandia
• Machine Learning – Charlotte Kramer - Sandia
• Suggestions from applications – DIC, Common errors in experiments (experiment design?), More dynamic testing, Machine learning in exp. Mechanics.
• High temp testing - ? (Ryan Berke?)
• Strain gages and strain gage-based transducers – Michael Mello - Caltech
• Coffee sessions
• Tactical Tenure – lower attendance? – skip for 2023
• Would it be a good idea to rotate the careers panels with coffee breaks? For example, hold junior faculty panel one year and then have an industrial careers coffee break. Switching them for the next year.
• EIC coffee break?
• 2023 Coffee break Plans
  » Apps plans to do the industrial careers panel
  » Let’s talk Post-doc?
• SEM Ambassadors Program
• Possibly consider past ambassador printed on name tag or some other indicator for continuity.
• Perhaps have a 30 min planning meeting each day to coordinate the ambassador activities (ambassadors only)
• Initiate an early ambassador orientation with past ambassadors for 2023, maybe a month or so out from the conference.
• Possible student contests organized by the ambassadors as ice-breakers/community builders –bridge contests, best DIC pattern, strain gage contest, perhaps in first timer reception (FTR) or place contest or something in the 1 hour gap between the FTR and the Welcome Reception

continued on next page
ATTENDEES
Cosme Furlong, Meredith Silberstein, Alirezi Amirkhizi, Jamie Kimberley, Raman Singh, Jim De Clerk, Steve Mates, Nuno Lopes, Jennifer Jordan, Eric Brown, Kristin Zimmerman, Jen Tingets

MINUTES/DISCUSSION
Wednesday, June 15, 2022 | 2022 SEM Annual

1. APPROVE MINUTES FROM 2021 MEETING (2022 ANNUAL REPORT PAGE 38) - APPROVED

2. TECHNICAL SESSIONS
a. Data Science and Machine Learning for Mechanics
   i. 2022 – 3 sessions/10 talks
b. Research Sessions
   i. 2022 – 1 session/4 talks
c. Framework for co-sponsored new topics
   i. How to ensure they go somewhere
   ii. Chair to chair contacts are only sometimes successful
   iii. Program is put together in discrete units and not reviewed as a whole
   iv. How to foster more interaction between TDs?
      » 1. More interactive spreadsheet and virtual interaction (1 hour to ½ day)
      » 2. Help build future directions and community

d. 2023 Track and Session Ideas
   i. Data Science and Machine Learning for Mechanics
      » 1. Joint with Inverse Problem Methodologies, Biological Systems and Materials, Time Dependent Materials, Dynamic Behavior of Materials (Jamie Kimberley)?
      » 2. High throughput methods for evaluation and design
      » 3. High throughput analysis of large data sets
   ii. Sustainability Science – Piyush Thakre
      » 1. Research on recycling and upcycling of polymers/metals, progress on experimental techniques/methods on biodegradation/composting, testing recycled materials, progress on biodegradable polymers, mechanics of biodegradable polymers, etc. Hope to provide detailed description of session when we start planning 2023
   iii. Other topics?
   iv. Engineered Living Materials – Meredith Silberstein
      » 1. Joint with Biological Systems and Materials?
   v. Full-Field Methods - Cosme
      » 1. Joint with Optical?
   vi. Standards and Metrology – Jen reach out to other TDs to see if interest;
      » 1. Joint with DBM? Others?
      » 2. DIC best practice guide

3. PRE-CONFERENCE COURSES
   a. Machine Learning for Mechanics and Materials
      i. Jen reach out to Sharlotte and Helena to make contact with SNL instructors
   b. Machine Vision and Learning – reach out to IMAC TD lead
      i. Company? Sam Daly?

4. JOURNAL SPECIAL ISSUES AND TOPICAL COLLECTIONS
   a. New standing item on agenda – review topics from conference and discuss potential special issues
   b. JDBM – Standards and Metrology in High Rate Mechanics

5. NEW BUSINESS
   a. None

6. ADJOURN

EDUCATION COMMITTEE (CONT)

• Faculty career panel
  • Will Hold panel in 2023. Martha Grady to organize. Possible panelists:
  • Jason Blough – Michigan Tech
  • Mike Keller – TU
  • Jeff Helm – Lafayette
  • Sam Daly – UCSB
  • Veronica Eliasson – CSM
  • Emily Retzlaff – Navy
  • Sadie Beck – UWA
  • Kevin Hart – Milwaukee School of Engineering
  • Will Lepage – TU
  • Jon Estrada - Michigan

• First timer reception again for next year

NEW BUSINESS
• JDBM and EM is considering a special issue in diversity in mechanics, have issues available at the FTR or similar.
• IMAC/SEM integration at education committee level. IMAC does not have the same committee structure, so will need to establish some structure at IMAC. Possibly institute a co-chair meeting or something similar, in order to coordinate and cross pollinate ideas between conferences.
MINUTES/DISCUSSION
Tuesday, June 14, 2022 | 2022 SEM Annual

AGENDA
1. Attendance List
2. Review Minutes from Last Focus Group Meeting in 2021
3. Review Conversion of Focus Group to TD in 2021
4. Link to ByLaws: https://sem.org/tdaddadvman
5. Old Business?
6. New Business
   • a. Request for submissions to SEM journals
   • b. Submissions for SEM awards by April 15, 2023
   • c. Current AAM sessions at 2022 SEM Annual Meeting
   • d. Potential AAM sessions for 2023 SEM Annual Meeting

DISCUSSION:
• Sharlotte welcomed the group and introduced TD leadership.

• Attendance List
  • Paper passed around

• Review Minutes from last focus group meeting in 2021
  • Sharlotte walked through the minutes and a motion to accept the minutes was seconded and approved.

• Review conversion of focus group to TD in 2021
  • Sharlotte explained the thought process behind transition to focus group: longevity of subject matter and past history of strong desire for sessions including unique and joint sessions with other TDs.
  • The transition was approved without any concern and here we are!
  • Link to ByLaws: https://sem.org/tdaddadvman
  • Sharlotte explained the chair, vice-chair, and secretary responsibilities and election process.

• New Business?
  • No old business to discuss
  • Request for submissions to SEM journals
    • Sharlotte echoed President Eric Brown’s call for submission to SEM journals. Emphasizing the benefit of bringing mechanics into AAM studies, making them excellent papers for SEM journals.
    • She encouraged consideration of taking talks/proceedings from this conference and considering expanded them to journal articles.
  • Submission for SEM award by April 15, 2023
    • Sharlotte encouraged submission of awards, highlighting the Durelli award as a possible relevant award for AAM researchers.
  • Current AAM sessions at 2022 SEM Annual Meeting: Total 6 unique, 7 joints
    • Effect of Post-Processing of AM Metals
    • In Situ Monitoring and Defect Detection for AM
    • Advanced Metal Processing
    • AM Polymers
    • AM Lattice and Foams
    • AM Composites (1 session) joint session with the Mechanics of Composite and Multifunctional Materials Track
    • Dynamic Behavior of AM Materials (3 sessions) joint sessions with the Dynamic Behavior of Materials Track
    • Fracture & Fatigue in Additive Manufacturing (3 sessions) joint sessions with the Fracture and Fatigue Track
    • Keynote: Sharlotte explained that we can have 1 keynote per day which meant we could have had two but ended up with one likely due to COVID related commitment hesitations.

continued on next page
- Potential AAM sessions for 2023 SEM Annual Meeting
  - Keynote: Hope to get two for next year.
    - Sharlotte explained our goals for keynotes and the types of speakers we would like to have including representation (industry, national labs, academia) and especially those that don’t typically come to SEM.
    - A question was asked if they keynote should have a mechanics focus and Sharlotte confirmed there should be a mechanics aspect but it doesn’t have to be the main focus.
  - Plan to keep shared sessions with DBM and F&F TDs
  - Residual Stress AM related session was suggested. Sharlotte explained that the residual stress community has another conference that occurs every 2 years at the same time as SEM so the attendance has high and low years. We will need to check the schedule for next year but having one on a high year is something we have done in the past. This year’s submissions of residual stress did not warrant a full session.
  - Additive Manufacturing repair suggestion (especially comparing to wrought materials).
  - Microstructure and Mechanical properties session. There have been papers this conference leaning this way that would fit there. PSP (process structure property) session could be a suggested name of the session.
  - Functionally graded materials (approaches) was suggested. Might open the door to “advanced” manufacturing that’s not additive.
  - Topology or structure based session was suggested. Possibly considered architecture type materials. Is it possible to have an Applications committee overlap if discussing parts and mechanics of parts within industry (could include scaling aspects). This could also include advanced diagnostics of parts.
  - Could there be overlaps with AM and machine learning with qualification?
  - Microscale advanced/additive manufacturing with micron-level structures (small scale structures). Could include MEMs devices and possible overlap with that TD.
  - Make sure to call for polymer, composite, ceramic, and biomaterial (or biocompatible) sessions. Keep with polymer and composite tracks and see if we have enough to pull specific sessions or leave as to TBD named sessions for these interesting materials (beyond typical metal or polymers). Reactive/energetic materials, etc. Could be called novel materials.
  - Sharlotte plans to email all around July to request ideas for keynote speakers and volunteers to chair sessions.
ATTENDEES

MINUTES/DISCUSSION
Tuesday, June 14, 2022 | 2022 SEM Annual

AGENDA
1. [10 min] Introductions by TD officers and attendees

2. [15 min] Summary of this year’s program and planning for next year
   • List of topics used to advertise our symposia in prior years. Suggestion for new topics.
     » We typically advertise a list of topics and then form sessions by grouping similar topics.
     • Potential new areas: Machine Learning
   • Damage and Fracture in Biological Tissues
   • 3D/4D Bioprinting
   • Cell mechanics and mechanotransduction
   • Human/Locomotion/Exoskeleton Biomechanics
   • Wearables and biosensors
   • Biomicrofluidics
   • Additive Manufacturing/Bioprinting (co-sponsored with AM? contact Sharlotte Kramer)/2D and 3D bioprinting, other ideas send to cfranck@wisc.edu

   • Solicit names for keynote presentations (email any of us for suggestions). Ranked choice voting to go out ~late June, invitations to go out in July
     » Location: Orlando, FL
     » Consider e.g. UF, FSU, GaTech

   • Names of people willing to chair, co-chair sessions. Note: trainees are encouraged as chairs!
     » Jon Estrada
     » Meg Grady
     » Karen Kasza
     » Jacob Notbohm
     » Christian Franck
     » Alex McGhee
     » Alex Landauer
     » Jin Jany
     » Vikas Srivastava
     » Archana Lamsal
     » Fatemeh Azari
     » Sarah Bentil

   • Open question about whether anyone wants to co-host with another TD

continued on next page
3. [15 min] Regarding published works
   • Submit to SEM Journals such as Experimental Mechanics and Experimental Techniques
   • Handbook series in experimental mechanics
     » Short book collection (handbook series) such that each piece can be published as it is ready
     » TDS suggest topic areas (50-150 pages for a topic area for the worldwide mechanics community)
     » Good for publications, are cited often
     » Welcoming nominations for some series editors in our TD (or external, doesn’t have to be an SEM author)
     » Both techniques and as they’re applied to different systems (e.g. DIC considerations for bioapplications)
     » Aim would be to complement a more basic resource that’s general
     » Handbook should be utilizable for porting techniques to research (some background, some protocol/procedures)
     » Should be relevant, but need not be all-encompassing for the TD community
     » Could be across TDs as well
   • Some suggestions for handbook topics (books happen on a rolling cycle, so doesn’t have to be this year per se)
     » Microcavitation rheometry
     » MRI-related strain measurements
     » Interferometric techniques for biomaterials
     » Micropatterning/microcontact printing of soft materials
     » High-rate techniques for biomaterial characterization (or full-field measurement)

4. [5 min] Regarding Awards
   • Plan on nominating your colleagues for awards (particularly JFac, who might benefit before tenure)
   • It’s encouraged to consider yourself for award. Nudge your colleagues about rec letters!
   • Midcareer awards sometimes have fewer nominees; do nominate them too.
ATTENDEES
Frank Gardea, Kunal Mishra, Mike Keller, Raman Singh, Emin Bayraktar, Peter Ifju, Sushrut Karmarkar, Iman Naseri

MINUTES/DISCUSSION
Tuesday, June 14, 2022 | 2022 SEM Annual

AGENDA
• Committee election, topic discussion and idea on co-sponsorship with other TD

DISCUSSED TOPIC
• Frank welcomed everyone in TD meeting.
• Raman chaired the election for new committee for next two year. Decision is below –
  • Frank Gardea (Chair)
  • Kunal Mishra (Vice-Chair)
  • Mike Keller (Secretary)
• We had less submission this year (and it is reducing from last two year). The reason may be 1) International travel restriction, 2) May be extended abstract can increase the number of presentation.
• Next year we are going to have two new session on computational mechanics for recycled composites. (We might have one keynote speaker from France).
• Mike will talk to Gina Miller regarding co-sponsorship with Fracture and Fatigue TD.
• We have to work on teaching fundamentals of composites – education committee
• Frank will continue developing reconfigurable composites
• Talk to AM TD regarding joint session as topics are overlapping a lot – check with other TD also
• Start bio-composite session or co-sponsor with Biomaterials team.
• We have to give nomination from TD.
• We have to nominate paper for best paper award from TD.

MEETING ADJOURNED AT 1:30 P.M.
ATTENDEES
34 attendees

MINUTES/DISCUSSION
Tuesday, February 14, 2023 | IMAC-XLI

IMAC XL SESSIONS

BEST PAPER COMPETITION
• This year, the best paper competition was based on the paper alone, without consideration of the presentation. The evaluation process was done by Dan Rohe, Marc Eitner, and Vikrant Palan. Papers were ranked using four equally-weighted criteria: Clarity, Context, Novelty, and Impact. Polytec and Correlated Solutions sponsored the prizes. Three papers were selected as the best papers. Congratulations to these teams!

  • 14966– Modal Identification of a Turbine Blade with a Curved Surface under Random Excitation by a 3D CSLDV System and the Extended Demodulation Method. Authors: Ke Yuan and Weidong Zhu, University of Maryland Baltimore County
  • 14738– Measurement of Airborne Ultrasound Using Laser Doppler Vibrometry. Authors: Zihuan Liu, Xiaoyu Niu, Yuqi Meng, Ehsan Vatankhah, Donghwan Kim, and Neal Hall, University of Texas at Austin
  • 14994– Operational Modal Analysis of a Rotating Structure Using Tracking Continuously Scanning Laser Doppler Vibrometry via a Novel Edge Detection Method. Authors: Linfeng Lyu, Garrett D. Higgins, and Weidong Zhu, University of Maryland, Baltimore County

PLANNING FOR IMAC XLI
• Session Organizers. The following sessions were proposed for IMAC XLI:
  • Janko Slavic – Experimental Modal Analysis
  • Dan Rohe – Phase-based Processing/Motion Magnification
  • Additive Manufacturing NDE – Pawel Makliowski
  • Tengjiao Jiang – Computer Vision in Structural Health Monitoring
  • Nitin Kulkani – AI-based Computer Vision

• Session Chairs. We will solicit session chairs using the list of attendees from the TD meeting.

  • Best Paper Competition Chair. Vikrant, Sean, and Marc will form a committee for the best paper competition. Some lessons learned were discussed during the meeting:

continued on next page
• Papers were obtained by the committee very shortly before the winter holiday season and required back shortly after the holiday season, leaving only a few weeks to review ~20 papers. In the future, we should avoid reviewing over the holidays, and be more proactive about obtaining the papers earlier. If this is not possible, it was discussed to have more reviewers to share the load and lessen the burden.

• Simplified metric of four criteria was helpful. It was suggested that the criteria should be put on the webpage so authors know the criteria on which they would be judged.

• It was discussed that the best paper contenders should be full papers, not powerpoint slides or extended abstracts.

• It was decided that at least one of the three papers should be from the laser vibrometry portion of the TD and at least one should be from the computer vision portion of the TD since there are sponsors from each.

• There was also a discussion about postponing the award in the unlikely event that there are not enough papers; ideally we'd have 3 papers in each topic.

• Tutorials and Short Courses. The following tutorials were proposed for IMAC XLI:
  • There was discussion on putting together a continuous scanning laser vibrometry tutorial
  • Janko volunteered to do an optical tutorial.

• Given the proposed theme for next IMAC, Dan Rohe suggested giving the optical techniques for modal analysis short course again. Janko volunteered to help. There was discussion of including laser vibrometry in this short course as well.

• Reminder to everyone that the tutorials still require abstracts to be submitted.

OTHER TD INITIATIVES

• Keynote. The proposed IMAC theme was “Lights, Camera, IMAC” to feature optical techniques. If members of this TD are aware of potentially interesting keynote speakers, they should forward their suggestions to the TD leadership or SEM.

• Review Paper. Roya Nasimi volunteered to put together a review paper. There was also a suggestion of putting together a review paper on motion magnification, as it has become a relatively mature technique.

• Other announcements: 15th AIVELA laser and noncontact techniques & short course will take place this year. See: http://www.aivela.org/15th_Conference/index.html if interested.

• The first Open Source Scientific Computing in Structural Dynamics will take place this year. See: http://lab.fs.uni-lj.si/ladisk/OpenSDconference.php if interested.
ATTENDEES
20 attendees

MINUTES/DISCUSSION
Tuesday, February 14, 2023 | IMAC-XLI

ANNOUNCEMENTS:
• SEM IMAC finances are doing well
• The TD is growing

MINUTES FOR THE 2023 TD MEETING
• Member introduction
• Voting on positions.
  • Thomas Matarazzo nominated himself for chair and passed.
  • Francois Hemez was nominated by Ramin for vice-chair.
  • Austin nominated Eleonora as security.
  • Ramin nominated Austin as a historian.
  • Austin nominated Amir as Technical Advisor
  • Ramin will stay on post-chair.
• Potential topic to offer next year.
  • 45: Deep Learning for Condition Monitoring
  • 52: Machine Learning Algorithms in Damage Detection

• 59: Transfer Learning and Population-based SHM
• 66: High-Rate Structural Health Monitoring and Prognostics
• 73: Gaussian Process / Metamodeling
• 80: Data-driven and Physics-informed Modeling and Analysis
• 87: Data Science in Engineering
• Propose for 2024 physics-based and data-driven modeling (Eleonora)
• Propose for 2024 smart materials intergrade system (Thomas)
• Propose for 2024 panel: high-rate dynamics (Austin)
• Propose for 2024 real-time simulations (Vasilis)
• Propose for 2024 Data-driven optimization (Amir)
• Short course, Sheffield.
  • Mini-tourtourial, Eleonora + Austin
  • Mini Keynote: Thomas – Erik Blasch – 24934 citation - Air Force Research Lab
• Interests in joint sessions from other TD, with MVUQ, Non-linear Dynamics, and Civil Structures TD.
ATTENDEES
100+ attendees

MINUTES/DISCUSSION
Tuesday, June 14, 2022 | 2022 SEM Annual

1. The meeting began with brief introductions of the Chair (Steven Mates, NIST), Vice-Chair (Veronica Eliasson, Colorado School of Mines) and Secretary (Paul Allison, U. of Alabama), and the attendees were encouraged to update their information at https://tinyurl.com/DynamicTD2022 or, if they were new attendees, to enter their contact information and attendance at today’s meeting.

2. We had 100+ participants, including many first-time attendees. New participants were asked to introduce themselves to the rest of the TD.

3. Jennifer Jordan provided an update on the Journal of the Dynamic Behavior of Materials and on the SEM Research Committee. The main points were:
   - (A) Three upcoming special issues. Please contact Jennifer Jordan (jjordan@lanl.gov) if you’re interested in submitting to any of them or have questions.
   - (B) Dynamic Behavior of Brittle Materials – currently open for submission in Editorial Manager
   - (C) Energetic Materials Mechanics – currently open for submission in Editorial Manager
   - (D) Diversity in High Rate Mechanics – will open soon, please email Jen to be included on the announcement list
   - (E) JDBM is looking for a social media coordinator. This volunteer position will work closely with Jen to publicize the journal on LinkedIn and Twitter.
   - (F) We encourage submissions to JDBM.

4. Updates from the SEM Executive Board, Eric Brown (Los Alamos National Labs, incoming SEM President):
   - (A) SEM Update: Eric welcomed all the attendees to the first in-person meeting since the Reno meeting in 2019, and gave several updates on the state of SEM.
   - (B) SEM Handbook Series: Eric updated the TD on the new SEM Handbook Series to be published on short subjects electronically through Morgan and Claypool. The digital handbook series will be “living” meaning they can be updated as often as needed since it is primarily an electronic document, although print versions can be created if desired. Eric updated the TD on several ongoing projects and encouraged members to think about submission ideas.

5. TD Updates: Steven Mates, DBM Chair.
   - (A) The 99 abstract submissions came from 31 US Universities, 8 National Labs, 5 Companies, and 11 from international institutions. The top university was the Colorado School of Mines, while the top National Laboratory was the Army Research Labs. The submissions included coordination with the new Additive and Advanced Manufacturing TD, which was our largest session with 11 papers, followed by Geomaterials (10) and Low Impedance and Composites tied with 9. Session organizers were thanked for their efforts to program talks in their individual sessions.
   - (B) 2022 Dynamic TD Best Paper Award Recipient was announced at the meeting: “Mechanism of Improving Ballistic Performance of Kevlar through Impregnation of Nanoparticles,” by Muhammad Ali Bablu and James M. Manimala, Oklahoma State University.
   - (C) We have one keynote from Prof Subash, EPFL and MSU, scheduled for Thursday morning in the “Novel Techniques” session. Organizers were encouraged to keep in mind that Keynote speakers from outside SEM can have their registration fee waived with proper SEM permission which needs to be obtained by the abstract submission deadline.
   - (D) It was reported that some talks scheduled for Monday could not be delivered due to travel difficulties. The offer was made to reprogram any such talks to later in the technical program.
   - (E) TD members were reminded to consider both Experimental Mechanics and Experimental Techniques to publish their work.

continued on next page
6. ASTM Standard Update: Matthew Shaeffer, JHU
   • (A) The ASTM working group, E28.04.02 Dynamic Compression using the Kolsky Bar / SHPB, consisting of about 15 TD members, has made substantial progress in developing the draft standard, with a tentative target data for completing the draft by the end of 2022.

7. An election for the open TD Secretary position was held. Three candidates volunteered for consideration, and Philip Jannotti was elected by the members in attendance.

8. SEM DBM 2021 Session Planning
   • (A) DB of Additively Manufactured Materials, Organizer(s): Vijendra Gupta, Megan Shepherd, Kazi Zahir Uddin - Email: vijendra@email.sc.edu
   • (B) DB of Geomaterials, Organizer(s): George Vankirk and Brett Williams - Email: george.h.vankirk@erdc.dren.mil / Brett.A.Williams@erdc.dren.mil
   • (C) DB of Low Impedance Materials, Organizer(s): Evan Breedlove, Rowan Baird - Email: elbreedlove@mmm.com / baird10@llnl.gov
   • (D) Standardization of Dynamic Testing, Organizer(s): Matt Schaefer, Trey Leonard, Steve Mates - Email: mshaeff1@jhu.edu / trey@standardmechanics.com
   • (E) Shock and Blast, Organizer(s): Brady Aydelotte, Finnegan Wilson - Email: brady.aydelotte@gmail.com
   • (F) Material Response in Extreme Environments, Organizer(s): Drew Hackney - Email: drew.hackney@swri.org
   • (G) Quantitative Visualization of Dynamic Events, Organizer(s): Piyush Wanchoo, Andrew Matejunas - Email: piyush_wanchoo@uri.edu
   • (H) Inverse Methods in Dynamic Testing, Organizer(s): Marco Sasso, Alexander Westra
   • (I) Dynamic Fracture and Fragmentation, Organizer(s): Brady Aydelotte - Email: brady.aydelotte@gmail.com
   • (J) Numerical Analysis of Dynamic Experiments, Organizer(s): Homar Lopez-Hawa - Email: homar.hawa@gmail.com

9. New Business
   • (A) No new business was brought to the floor.

MEETING ADJOURNED AT 1:40 P.M.
ATTENDEES
Haeyoung Noh, Matthew Whelan, P. Scott Harvey, Kirk Grimmelsman, Anders Rønnquist, Knut Andreas Kvåle, Nicholas Wierschem, Babak Moaveni, Fernando Moreu, Stefano Derosa, Anno Dederichs, Nasim Parovi Mehr, Mena Abdelnour, Margaux Geuzaine, Kevin Theumissen, Aksel Fenerci, Bjorn Thomas Svedsen, Anika Sarkar, Jiayao Meng, Burak Duran, Alehandro Palacio, Yiwen Dong, Sigong Zhang, Milad Roohi

MINUTES/DISCUSSION
Tuesday, February 14, 2023 | IMAC-XLI

- Went around room and introduced ourselves

- New TD Leadership:
  - Current leadership has served for 2 years, which is the typical term of this TD
  - Matt Whelan moving up to Chair; Scott Harvey to Vice Chair
  - Fernando Moreu nominates himself for Secretary
    » Moreu leaves room for vote; unanimously approved
    » Moreu will serve as Secretary starting at end of IMAC XLI

- IMAC XLI sessions: Our TD had 1110 sessions comprising ~550 talks
  - Very strong turnout for the TD!
  - Encouraged to invite keynote given recent success
  - Jointly organized session with Computer Vision and Laser Vibrometry TD (#53 and 63)

- IMAC XLI Best Paper Competition:
  - Kirk led reviews; Njati and Øyvind Wiig Petersen (NTNU) helped review
  - 17 papers received, but there were quite a few with lead author not a student; preference to papers with student as first author
  - Winner was Jiayao Meng (paper no. 14678) from Oxford “A Simulink Model for the Dynamic Analysis of Floating Wind Turbines”
  - Tie for 2nd place: paper nos. 14731 (Yiwen Dong from Stanford “Structure-Agnostic Gait Cycle Segmentation for In-Home Gait Health Monitoring through Footstep-Induced Structural Vibrations”) and 14791 (Nimmy Mariam Abraham from University of Exter “Evaluating rhythmic jumping on vibrating platform using kinematic data”)

- IMAC XLII Best Paper Competition: Need to emphasize student papers only
- Critical Review article in Exp Tech:
  - Noh asked if there was any interest
  - Moreu requested additional information on what’s involved and what the benefits are
  - Grimmelsman said that with increased use/interest in vision, perhaps this would be a good topic
  - Moreu may be interested in submitting such a paper

- TD Video for Website:
  - Fernando Moreu offered to provide some content
  - Haeyoung Noh to send meeting minutes with links for people to submit content for the video. (TD website: https://sem.org/tdcivil)

- TD Keynote/Tutorials
  - A recommendation was made to invite Bill Spencer, who we believe has not attended IMAC in the past. Nick Wierschem noted that Bill Spencer is doing some work on optical methods for civil structures, which would suit the theme of next year’s IMAC well.
  - Anders Rønnquist recommended inviting Ole Øiseth from NTNU who has extensive experience in structural monitoring, system identification, model updating of bridge, marine, and wind infrastructure.
  - Potential Short Courses:
    - Something to replace Basics of Modal Analysis, which may not be offered again for five years
    - Sensing Short Course that was previously offered by Fernando Moreu was discussed as a good option.
    - Lack of course attendance is often a roadblock. Attendance targets are hard to meet. We could reach out to Universities, industry, and state engineers to increase short course attendance, but SEM would need to revise the registration process to allow people to register and attend only the short course rather than the short course and the conference. This can be discussed at the Program Planning Committee meeting for next year’s IMAC. (Haeyoung Noh and Matt Whelan brought it up at the Program Planning Committee meeting and the committee may consider it in the future).
DYNAMICS OF CIVIL STRUCTURES DIVISION (CONT)

• IMAC XLII Sessions:
  • Continue joint session on optical methods for civil structures with Computer Vision and Laser Vibrometry TD
  • Structural Vibration Mitigation and Structural Control – Scott Harvey and Nick Wierschem
  • System and Damage Identification of Offshore Structures (modified from the current wind energy session title in order to make the scope broader to more offshore structures)
  • Dynamics of Buildings
  • Dynamics of Bridges and Rail
  • Human Structure Interaction
  • Structural Health Monitoring
  • Robotic applications – to be organized by Fernando Moreu, who will provide a title for the session
  • Kirk Grimmelsman suggested that abstracts/descriptions for sessions be prepared so that authors can better see where their papers fit.
  • Matt Whelan suggested that if we cannot include the session abstracts in the submission portal, perhaps we could request that a link to the TD be added to direct authors to our TD website. This would also allow for us to clarify that our TD’s best paper award is a best student paper award.
  • (Haeyoung Noh and Matt Whelan brought it up at the Program Planning Committee meeting and the submission website will be updated to include session descriptions.)

• Other Conferences of Potential Interest to TD:
  • IWSHM – to be held at Stanford University in the Fall. Abstract window still open until March 1.
  • EMI – to be held at Georgia Tech (abstract submission window closed)
  • EMI International – to be held Palermo, Italy, abstract submission open until March 25
  • International Nonlinear Dynamics Conference (NODYCON) – to be held in Rome, Italy (abstract window closed)

• Suggestions for Improvements
  • TDs associated with each session should be clear to authors when they submit an abstract. Currently, it is not clear what TDs the sessions belong to.
  • Recommendation was made to include presentations in the printed materials (currently, the sessions are listed, but not associated with individual papers). Similarly, the Whova app does not clearly convey the TD organization of sessions (the papers are listed, but the schedule does not organize by session, so it is difficult for first time attendees/students to understand the organization of the sessions).
  • SEM should consider loosening the requirement that invited speakers need to be first time attendees for the conference registration fees to be waived. Perhaps there can be a special reduced registration fee for invited speakers that are not first time attendees.

MEETING ADJOURNED AT 1:58 P.M.

• Volunteers for Session Chairs:
  • Bjorn Thomas Svedsen
  • Milad Roohi
  • Student Co-Chair Volunteers:
    » Alehandro Palacio
    » Yiwen Dong
    » Margaux Geuzaine
    » Knut Andreas Kvåle
    » Anika Sarkar
ATTENDEES
25 attendees

MINUTES/DISCUSSION
Tuesday, February 14, 2023 | IMAC-XLI

INTRODUCTIONS

SEM TD VIDEOS
- Julie to look into videos available on Sandia site and see if we can use them
- Everyone to send relevant videos to Julie
- Keep video short, people have short attention spans

PLANNING FOR NEXT YEAR
- Poll from audience = 19 papers next year (+ some not present)
- No proposals for tutorials/courses at this time
- Officer elections
  - Terms are a bit unclear as we just transitioned from FG > TD, but we will hold officer elections next year
- Nice to have another mid-year meeting
  - Tyler to touch base with Alex

SEM WIKI (SEM.WIKI.ORG)
- Randy has started putting info into the environments section, but we should check/update it
- We should add a link to the SharePoint site (or potentially embed the data directly if it’s not too big)

TECHNICAL DISCUSSION
- Should we continue using BARC?
  - It still hasn’t fully been solved
  - There are several variants (glue the top joint, box w/ + w/out cut)
  - Still lots of good research occurring on this test structure
  - Will continue with this structure
  - Also consider using the new substructuring test bench (/combine with BARC components)
- There was a request for a tutorial on topology optimization
ATTENDEES
Matt Allen, Walter D’Ambrogio, Daniel Rixen, Francesco Trainotti, Dan Roettgen, Ben Davis, Jon Young, Randy Mayes, Andreas Linderholt, Annalisa Fregolent, Jacopo Brunetti, Matteo Di Manno, John Seymour, Steven Carter, Ben Moldenhouse, Maarten van der Seijs, Rafael Díaz, Alessandro Zucchini, Nimish Pandiya, Ron Reichart

MINUTES/DISCUSSION
Tuesday, February 14, 2023 | IMAC-XLI

AGENDA:
1. The meeting opens
2. Approval of the agenda
3. Introductions
4. Short course on Substructuring
5. IMAC 2024, Substructuring sessions/tutorials/keynote
6. The WIKI and the TD page
7. Benchmark/ round robin
8. Election of new TD Officers
9. The meeting closes (no later than 2 pm.)
10. Photo!

SESSIONS AT THE CURRENT IMAC XLI 2023
Wednesday
- 9:00 - 43. Substructuring & Interfaces or Joints
- 11:30 - 50. Tutorial on Joint Identification via FBS
- 2:20 - 57. Real-Time/Hybrid Substructuring
- 4:40PM - 64. Transfer Path Analysis / Frequency Based Substructuring
Thursday
- 9:00AM - 71. Substructuring Benchmark Challenge I
- 11:20AM - 78. Substructuring Benchmark Challenge II
- 2:00PM - 85. New Challenges & Approaches in Substructuring

SESSIONS PLANNED FOR NEXT IMAC (IMAC XLII 2023 IN ORLANDO, FL)
Pre-conference course on substructuring (given 2014, 2016 and 2020)
- Short Course on Dynamic Substructuring Theory – Matt Allen & Maarten van der Seijs
Tutorials
- 2023 – Nevzat Ozguven – Coupling nonlinear joints
- 2023 – Dan Roettgen & Francesco Trainotti – Tutorial on Experimental Methods for Substructuring and Interface Reduction

Keynote
- (none for 2023)

Sessions:
- Nonlinear Substructuring – (coordinate with NL) – Matt Allen & Nevzat Ozguven
- Benchmark Challenge (2 sessions) – Blind Predictions – Dan Roettgen & Andreas Linderholt
- Inverse Source Estimation / Force Estimation (coord with DET) – Steven Carter & Maarten (or Ryan Schultz)
- Experimental Dynamic Substructuring – John Seymour & Francesco Trainotti
- Real-Time/Hybrid Substructuring - Daniel Rixen & Chris Richardson

ADDITIONAL NOTES:
Wiki
- Invite contributions to the wiki
- Video:
  » Update from Dan Roettgen
Benchmark
- Bench mark structures (test objects and/or numerical examples)
- Round robin
Activities
- Should the division be active one week a year only?
  » Schedule for a meeting post-IMAC! When?
  » Matt organize a zoom meeting, May 2023
  » Dan Roettgen set up on Teams
- If not, what other activities do we want?
  » Best paper award or student paper award. (Matt, Daniel, Randy)
    • Do for 2023
Election of new TD Officers
- Previous
  » Chair: Matt Allen, Brigham Young University, USA
  » Vice Chair: Walter D’Ambrogio, Universita’ dell’Anquila, Italy
  » Past Chair: Andreas Linderholt, Linnaeus University
  » Secretary: Dan Roettgen, Sandia National Labs
  » Historian: Maarten van der Seijs, VIBES.technology
- Proposed
  » Chair: Walter D’Ambrogio, Universita’ dell’Aquila, Italy
  » Vice Chair: Dan Roettgen, Sandia National Labs
  » Past Chair: Matt Allen, Brigham Young University, USA
  » Secretary: Maarten van der Seijs, VIBES.technology
  » Historian: Ben Davis, University of Georgia
- Term (2 years) end of IMAC 2023 to end of IMAC 2025
- Group voted to confirm the proposed TD leadership
ATTENDEES
22 attendees

MINUTES/DISCUSSION
Tuesday, June 14, 2022 | 2022 SEM Annual

- Presented an overview of the meeting: Welcome, society announcements, elections, current conference sessions, proposed sessions, new business

- Everyone present introduced themselves and gave their affiliations.

1. Society Announcements
   - a. Award nominations solicited
   - b. Reminder to submit to society journals & sign up to be reviewer
     » i. Looking for special issue editors
   - c. SEM Handbook

2. Changing of Leadership & Elections
   - a. Explained about 2 years at each position
   - b. Self-nominations – John Kolinski, Philip Noell, Achyuth Thumbalam Guthai, Kyle Messer, Sivareddy Dondeti (last 3 self-nominations are students)
   - c. Created a new position – Student Assistant Abstract Chair – 1 year
   - d. Announcement of new committee leadership
     » i. New Abstract Chair – John Kolinski
     » ii. New Student Assistant Abstract Chair – Achyuth Thumbalam Guthai

3. Described current review session topics
   - a. Vibrations and High Cycle Fatigue
   - b. Brittle Material Failure
   - c. Damage and Fracture of Highly Deformable Solids
   - d. Temperature Effects in Failure
   - e. Interface-Mediated Damage and Failure
   - f. Fracture and Fatigue in Additive Manufacturing
   - g. In-situ Techniques and Microscale Effects on Fatigue and Failure Behavior
   - h. Failure of Energy Materials
   - i. Advances of Mechanics of Deformation, Plasticity, and Failure

4. New Sessions
   - a. Vibrations and High Cycle Fatigue – RB, LG
   - b. Brittle Material Failure – KMB & SG & ATG
   - c. Highly Deformable –
   - d. Temperature Effects in Failure – PN & MS
   - e. Interface-Mediated Damage and Failure – SG & JI
   - f. Fracture and Fatigue in AM – GP & AB & WLP
   - g. In-situ Techniques and Microscale Effects on F&F Behavior – BW & JI & JC
   - h. Failure of Energy Materials (~KMD)
   (potentially drop this one?)
   - i. Advances of Mechanics of Deformation, Plasticity, and Failure – PN, JC, KM
   - j. Integration of Models and Experiments – JK, KMD, JC

5. Call for volunteers of chairing sessions
   - No response

6. Vote on abstract-only presentations
   - Unanimous for Option 3 – oral only.

7. Call for new business
   - No new business
We propose to extend the “Inverse Methods” TD scope to “Inverse Methods and Machine Learning”, to incorporate the emerging topic of “Machine Learning” (pulled by Sharlotte Kramer). The reason is that we all (including Sharlotte) believe that there is a lot of overlap between Inverse Methods and Machine Learning:

- Both Inverse Methods and Machine Learning are general data analysis methods to extract material behavior from experimental mechanics measurements.
- Both data analysis methods can be applied to any kind of experimental mechanics measurements and materials/material systems, therefore it would be not logical to place Machine Learning inside a TD focusing on a specific measurements technique (such as DIC or optical measurements) or a specific material (e.g. dynamic or time-dependent materials).
- Both Inverse Methods and Machine Learning can be performed in a physics-informed manner, or in a non-informed manner.
- The same scientists that work or have worked on Inverse Methods are the ones that understand the numerical frameworks underlying Machine Learning and thus are mostly likely to adapt novel ML in their work.
- In general, scientists that have a data set and want to use an analysis method to unravel the material behavior will be confronted between a choice between Inverse Methods and Machine Learning.
- With this large overlap between Inverse Methods and Machine Learning it would be best to have both topics in one TD (instead of each having a separate TD):
  - i. to avoid parallel presentations in the SEM conference programme.
  - ii. to have more flexibility to group the submitted abstracts into relevant session topics for maximum interaction between attendees of a session.
- This extension of the TD also solves the problem the Inverse Method TD has steadily decreasing in size to the point that it is barely sustainable as a separate TD.

We propose that Sharlotte Kramer will come up with the most appropriate keynote speaker on the topic of Machine Learning; someone that can hopefully attract a broader audience to the SEM conference and the TD. Sharlotte agrees to this, and will think about the best option.

Course on Digital Twin by Marco Rossi. Marco wants to do it again next year. We will make more effort to publicize it more. (already two persons, Elizabeth Jones and Tim Miller, want to join the course).

Handbooks initiative: It is difficult to make a handbook on Inverse Methods, because it is integrated in so many different fields. So at this moment no initiatives.
ATTENDEES
Mohammad Naraghi, Frank Delrio, Rodrigo Bernal, Aditya Bhaskar, Nikhil Karanjgaokar, Gordon Shaw, Deepak Kumar, Md. Shariful Islam, LaVern Starman, Richard Weisenberger, Eric Brown, Lebo Molefa

MINUTES/DISCUSSION
Tuesday, June 14, 2022 | 2022 SEM Annual

1. OFFICER INTRODUCTIONS

2. TECHNICAL DIVISION PURPOSE
   • Dr. DelRio will briefly present the scope of ISMAN.

3. ATTENDANCE CALL
   • The participants will introduce themselves.
   Participants provide their name and emails.

4. PREVIOUS MEETING MINUTES (2021)
   • Dr. DelRio discussed the minutes of the last time. Eric Brown attended the meeting and discussed the SEM handbook (this is one of the items of 2021 agenda). He mentioned the number of pages (50-80 pages), and the intend is to serve as the hand book (i.e., a great resource for someone with no experience to start…).
   • The Experimental Mechanics was also discussed. Two main issues were: (1) volunteer to lead special issues and (2) volunteer yourself to review papers.

5. CURRENT SESSIONS (2022)
   • Frank discussed the current sessions, Two days is devoted to the symposium with two keynote speakers.
   • The current sessions was discussed. The keynote speakers were suggested to add to the TD website. The issue has to be raised to Jen Tingets.

6. FUTURE SESSIONS (2023)
   • Keynotes for next year. Two ways to think about it: People who are regular participants OR introduce new people. The next SEM will be in Orlando. The TD members will send nomination to the officers and the officers will go one by one.

   • Sessions:
     1. In situ nanomechanics, Rodrigo
     2. Mechanics of 1D and 2D nanomaterials, Chenglin and MN
     3. Nanoscale deformation mechanisms,
     4. Novel methods for micromechanics, Gordy (NIST)
     5. Adhesion and friction, Frank DelRio
     6. MEMS and NEMS, La Vern
     7. Nanomechanics of additive materials,
     8. Optical MEMS, Cosme Furlow
     9. Heterogeneous/Hybrid material integration, LaVern
     10. Microfluidic, Lebo and Gordy

7. OTHER BUSINESS
   • Next year we will have the vote for secretary. Frank said his last words.
ATTENDEES
26 Attendees

MINUTES/DISCUSSION
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• Since this technical division is an incubator of other focus groups and technical divisions – potential topics can be widespread and are any topics that don’t naturally fall under a specific TD area. Generally the focus is on modal experimental techniques and modal analytical methods. Expert authors could include James Akers, Joel Sills, Peter Avitabile, Jason Blough.

PLANS AND COMMENTS:
• This TD intends to ensure consistent naming of the TD and revise the bylaws. This activity was started in 2020 but was not completed.
• This TD intends to determine a path forward for the course “Modal Analysis: Theory and Application” that is currently offered by Peter Avitabile and Randy Alleman and was canceled last, but ran very successfully this year.
• This TD also intends to attempt to make a plan for offering pre-conference courses based on the SEM handbook.
• This TD intends to offer a “Past Holds Clues to the Future” session/track where it will be panels that you can ask questions/listen to lessons learned.
• This TD intends to have an oral only session on case studies.
• This TD is also looking into ways to have a “wiki” or other repository of documents that people can reference when they have questions.
ATTENDEES
30 attendees

MINUTES/DISCUSSION
Tuesday, February 14, 2023 | IMAC-XLI

1) INTRODUCTIONS
• a) Introduction of the TD committee members.
• b) Roughly 50% of meeting attendees are first-timers

2) TUTORIAL
• a) Duration
  • i) 40-minute or 60-minute tutorials are possible
• b) When
  • i) First talk of TD works well.
• c) Topic
  • i) Connection to applications makes presentation more tangible.
    » (1) NASA tutorial had 2 applications.
• d) Free registration for speakers
  • i) If we have multiple tutorials, we can’t get them all for free.
  • ii) Garrison: We can’t give free registration to a regular IMAC attendee. Only free for a newcomer. This is an IMAC rule.

3) PANEL DISCUSSION
• a) When
  • i) This could occur directly after the tutorial
  • ii) This could also occur later in the week
  • iii) End of IMAC with higher incentive to stay until the end of IMAC
• b) Topic – must limit the scope of the panel
  • i) Field general MVUQ questions
    » (1) Open the field to newcomers
  • ii) Concern – avoid debates between experienced attendees and the panel on nuanced details of MVUQ
• c) History
  • i) Babak: Panels started as very popular (Francois, Scott, prof from Israel).
• d) Logistics
  • i) Is there time in the schedule?
  • ii) We need buy-in from the IMAC management team

4) SESSIONS
• a) Proposed sessions for IMAC XLII:
  • i) Continuing Sessions:
    » (1) Model form uncertainty and selection incl. round robin challenge – Roland Platz; Alana Lund
    » (2) Introduction of Uncertainty Quantification – Joel Sills
    » (3) Uncertainty Quantification in Dynamics – Babak Moaveni
  • ii) New Sessions:
    » (1) MVUQ for Data Science – Garrison Flynn; Sez Atamturktur
    » (2) Recursive Bayesian System Identification – Eleni Chatzi; Yashar (Saeed) Eftekhar Azam; Nikolaos Dervilis
    » (3) Fusion of Test and Analysis – Ibrahim Sever

5) SEZ’S ADVISORY BOARD ANNOUNCEMENT
• a) Society is doing well
  • i) 2022 they broke even
  • ii) Record membership in 2023
• b) Upcoming locations:
  • i) 2024 - Florida
  • ii) 2025 - California.
• c) 5 openings on advisory board.
  • i) Want more Europeans and women.
• d) Handbook for IMAC
  • i) MVUQ will get 2 chapters. Sez and Francois are leading this.
• e) “Lights, camera, images…” is the theme next year
  • i) Plenary lecture
    » (1) Does anyone do MVUQ for image processing?
      • a) Zhu Mao suggested Prof. Michael Huhns from South Carolina.
        • i) They are more computer vision than MVUQ, though.
      • b) Zhu Mao was also suggested by Roland.

6) COLLABORATIVE PLATFORM
• a) Garrison cannot setup a platform with broader community given restrictions on use at LANL
  • i) Use something other than LinkedIn.
    » (1) MS Teams, Slack, etc. Something more collaborative.
• b) LinkedIn group
  • i) Sez would be happy to pass this over.
• (1) Garrison offered to take this over.

continued on next page
7) ROUND-ROBIN DISCUSSION

a) Overview
   i) Have a system that everyone can work on. 1 mass oscillator.
   ii) But not too simple so different approaches can be utilized.
   » (1) Rileigh’s method, for example, could be used.
   iii) Current efforts: Roland, Sez’s team, others are welcome.
   iv) Complete open book. Can even visit test setup in Germany.
   » (1) Roland has some GB of data and is happy to share.
   v) Test design is available
   » (1) Roland can take additional tests if requested
   » (2) Already there are a lot of scenarios considered in the dataset
   » (3) This may be in out years
   vi) Is there measurement error?
   » (1) Yes, several sources of measurement error. Including phase shift due to filtering.

b) Use for Best Paper Award?
   i) No. We can have a winner of the round robin that we announce that is different from MVUQ best paper award.
   ii) IMAC may have some pushback if we tried this.
   » (1) Better to keep the MVUQ Best Paper Award as is, especially given the current procedure for paper submissions on the website.

c) How broadly to share dataset?
   i) Roland wants to have an overview of who’s working on it.
   ii) Roland can share a presentation openly but require interested parties to email him for access to the actual data.

d) We could do a meta-paper where everyone collaborates, and we publish a single paper.
   i) Collaborative instead of competitive.
   ii) There was enthusiasm for this idea.

e) Next IMAC
   i) Have a special session where people present current results for the Challenge problem.
   » (1) We expect this to be a 3-year effort.

f) To-do: Roland email out information on the challenge problem to the email distribution.
   i) Not everyone was able to attend the talk.

8) SUMMARY OF MV&UQ RELATED CONTRIBUTIONS DURING IMAC XXXVIII

a) 12 sessions, 44 presentations/papers were organized*
MINUTES/DISCUSSION
Tuesday, February 14, 2023 | IMAC-XLI

- Good number/too many? 2 tutorials per day is too much. 3 tutorials instead of 4 could be good. 40 minutes instead of 60 minutes.
- Which tutorial? Alessandra, Paolo, K. Worden. Extra tutorial suggested by Ozguven (on nonlinear modal analysis/testing)
  - Special Activity: Can we do the nonlinear modal analysis after Linear Modal analysis
  - Special Activity: no other suggestions.
  - Existing sessions: nlrom, joints/friction, nl sys id, data-driven, nnms & interactions, experimental methods, approximate/numerical methods, energy harvesting/nes/NLTVA, industry applications.
  - New sessions:
    » Ozguven: Nonlinear substructures in combination with D. Rixen’s sessions
    » Alex Elliott: Specific session on data-driven ROM as special sub-session
    » Rob: Solicit papers on numerical, Rob Kuether and Dane Queen leading
    » Deby & Matt Allen: Session on nonlinear model updating
- New chairs: no volunteers
- Organizers: the usual.
- Pre-conference courses:
  - Malte: HBM, numerical methods. Doesn’t make sense to propose it again.
  - Ben: Experimental nonlinear modal analysis. Industrial methods, nonlinear modal modeling. Ozguven involved as well. 1 day. Matt Allen also on board.
  - Debby: Nonlinear modeling (friction, geometric nonlinearity, FEM and computational methods).
  - New: two-day course combining experimental (1 day) and numerical (1 day). Paolo suggest to keep them as separate entities as they can be booked individually.
  - Dane Quinn: What can be useful? 1-2 day course. If there are plenty of very complicated surfs, they not gonna learn more -> Lots of thoughts in the design, audience, speakers, objectives…
  - More interest in the two-day course, then experimental, 3) numerical.
- Leadership elections: next year.
- Reminder about paper competition and rules.
ATTENDEES
18 attendees

MINUTES/DISCUSSION
Tuesday, June 14th, 2022 | 2022 SEM Annual

• Cosme Furlong, only TD officer attending meeting, presented.
• Minutes recorded by Caltech PhD student, Amanda Toledo-Barrios.

1. Analysis of papers submitted for this year 2022
• Total number of papers presented counted 38; modern topics have been introduced, including:
  a. Combining novel imaging techniques and machine learning
  b. Machine learning in experimental mechanics
  c. Recent advances in optical techniques
  d. Unraveling deformations using advanced experimental techniques
  e. Revealing motion with optical techniques
  f. Unraveling the physics of objects via experimentation and simulation
  g. Multimodality experimental measurements
  h. Advances in displacement and strain mapping
  i. Application of modern optical techniques to materials and structures
  j. Spectroscopic and tomographic techniques
  k. Application of optical methods

2. Appreciation for the invited talks given by Horacio D. Espinosa and Sam Daly.

3. Acknowledged efforts of all participants to this conference.


5. Encouraged TD members to support Special Issues for the EXMECH and EXPTECH journals.

6. Encouraged TD attendees to submit review articles to the EXMECH and EXPTECH journals.

7. Discussions about procedures for selection of the new TD secretary election were discussed. Gordon A. Shaw, NIST, agreed to become the new secretary.

8. Students volunteered to be TD representatives:
   • a. Amanda Toledo-Barrios, Caltech PhD student
   • b. Prajwal Bharadwaj, WPI PhD student

9. Eric Brown—promoting the Society’s plan for publishing a new version of handbook; there were some discussions among attendees.


11. Announced that next SEM Annual Conference will be held in Orlando, FL, June 5-8, 2023.

PLANS AND COMMENTS:
• 1. Special emphasis to continue topics on machine learning for optical methods will be encouraged.
• 2. Coordination with other TD’s to offer machine learning sessions relevant to their specific areas of experimental mechanics will be promoted.
• 4. Considering the modern topics and sessions offered in 2022, parallel topics are planned for 2023, including
  a. Combining novel imaging techniques and machine learning
  b. Machine learning in experimental mechanics
  c. Recent advances in optical techniques
  d. Revealing motion with optical techniques
  e. Unraveling the physics of objects via experimentation and simulation
  f. Multimodality experimental measurements
  g. Application of modern optical techniques to materials and structures
  h. Spectroscopic and tomographic techniques
  i. Photoelasticity and interferometry applications (Y-Lo, T.Y. F. Chen, W-C. Wang)
  j. Optical methods for biomechanics and life sciences
  k. 3D printing of micro-optics and microscopic systems (C. Furlong)
  l. Advanced DIC/VDIC methods and applications (P. Reu)

• NOTE: A special technical session of vendors/ distributors of different optical methods & instrumentation is planned.
ATTENDEES
Daulton Isaac, Jens Gibmeier, Mark James, Teresa Wong, Michelle Such, Christopher Budrow, David Halabuk, Alessandro Tognan, Kyle Schneider, Joshua Dyer, Tommaso Grossi, Daniel Williams, Robert Reid, Diego Britez, Drew Nelson, Patrick Windsor, Matt Yagodich, Mike Hill, Gary Schajer, C. Can Aydiner Thomas Berfield, Mike Prime

MINUTES/DISCUSISON
Tuesday, June 14th, 2022 | 2022 SEM Annual

NOTES:
1) Officers introduced: Mike Prime (Chair), Tom Berfield (Vice Chair), Can Aydiner (Secretary)
   • Their term is noted as 2 years ending in 2023.
   Any willingness to assume one of these positions or to be another officer (such as treasurer) was probed in the room.

2) Recent society awards (G. Schajer elected SEM Fellow; M.R. Hill “Brewer award”) in the TD have been announced.
   The TD members were encouraged to contribute to the nomination process for future awards.

3) The short course on Residual Stresses that was held on 12th June 2022 has been noted.

4) Submissions of high-quality efforts to Experimental Mechanics (the leading journal of SEM) is encouraged.

5) The effort of Adrian Dewald and M.R. Hill’s effort into putting together the special issue on “residual stress techniques” has been acknowledged. M.R. Hill noted that the publication process in the special issue went smoother than a regular submission to the journal.

6) The significant future item discussed is the organization of RS-related sessions for the SEM. The Chair noted that taking the effort to invite participants really yields positive results and the need to be upfront with the invitees about the fact that SEM invited talks are not discounted or specifically noted in the Conference Program.

7) 2025 ICRS (that will be held in USA) has been mentioned with the side note that SEM RS sessions are not typically held in the same year as ICRS.

8) The Residual Stress Summit that has been organized with a very applied engineering focus has been mentioned to the group on the topic of other RS events.

9) Connections and collaboration with other societies like ASM and ASTM has been discussed (though on a vague basis). M.R. Hill is currently the chair of ASM residual stress technical committee and informed the group about the differences and collaboration areas of these groups. A collaboration on the Handbook is suggested.

10) The previous effort on the Residual Stress Handbook (led by G. Schajer) has been mentioned. Any effort to add over that material with novel techniques and/or approaches has been encouraged.

11) Finally, M.R. Hill suggested members to go physically visit research laboratories by establishing contacts in the conference and opened main takeaways of the group from the conference to discussion. A young member noted the encouragement taken away from seeing that his challenges are at times common to the field.
ATTENDEES
Chad Walber, Matt Stefanski, Steve Seilitz, Mike Mains, Eric Little, Maxine Norton

MINUTES/DISCUSSION
Tuesday, February 14, 2023 | IMAC-XLI

• At the time the theme for the next IMAC was going to be Optical methods. As such it was discussed that in our Non-traditional measurement Methods Session, I would do a 40 minute tutorial on the Basics of Photography, Matt would work on a piece with respect to Fiber Optic Accelerometers, and I had asked Pete Avitabile to do a comparison (40+ minutes) of Digital Image Correlation and Accelerometer Measurements. Additionally, we had spoken about 20 minute talks with respect to Acoustic Emissions Sensors, Thermocouples and Thermal Strain, and Force Calibration. We had also talked about the idea of writing a History of Accelerometers and a talk on "Sensors in General and Why Cell Phones Suck (With respect to being sensors)"
MINUTES/DISCUSSION
Tuesday, June 14th, 2022 | 2022 SEM Annual

- Nominations for awards encouraged for next year
  - Nominations still open for some awards for 2022

- EXME papers
  - Discussed recent special issues
  - Submissions encouraged
  - Encouraged attendees to register as reviewers

- Handbook
  - Change of publisher to springer
  - Currently authors are being asked to provide information for proposal
  - Proposal will be submitted and then move forward with publishing
  - Introduction is close to being finished
  - Harmonisation of notation required
  - English proof reading required
  - Chapter submission deadline 1 July 2022 but needs to be done by the end of the year

- Next SEM
  - Next year is 80th SEM, so perhaps special track?
  - 4 sessions approx 20 papers required
    » Advanced thermographic techniques for SHM
    » Thermomechanics
    » NDT and thermomechanical behaviour for SMART materials
    » Low cost thermography applications
    » High speed thermal imaging
    » Process monitoring with IR
    » IR based techniques to assess fatigue and fracture (link with TD fatigue, fracture and additive manufacturing)
  - Will need adequate promotion
    » Rosa to advertise at a conference in Italy AIAS (Italian conference for stress analysis)
    » Geir to promote and British Society for Strain Measurement (BSSM)
    » Flier required Rosa and Geir to prepare
    » Cross over with other TDs, Rosa and Geir to talk to AM and fatigue

- Chairs: Suhasini and Janice volunteered, ask again at the online meeting

- Website
  - There is a page but needs updating
  - Can help promote next SEM sessions
  - Create a mailing list
  - What needs to be done, who to speak to?
  - Sharing images and videos
  - Open calls to be shared to promote collaboration

- Short Course
  - Needs a reasonable attendance 10 plus
  - Thermography NDE
  - Advanced energy based methods for fatigue
  - One per year to avoid to competition between courses
  - Janice B. suggested that NDT course is ready to go

- AOB
  - Online meetings to keep in touch between conferences
  - Deadline for abstracts is october, would be good to have a meeting before the deadline to catch up (2 weeks before deadline i.e. end of Sept. 2022)
  - 5 min update presentations to be rolled into the online meeting from volunteers
  - Joint proposals and collaborations?
    » Agenda for online meeting to include collaborations, and make use of webpage for open calls
    » Wiki page for SEM, there is wiki page for thermography TD
    » Improving links with camera manufacturers?
      » Can we get more engagement, maybe to sponsor an image competition
      » Encourage to attended TD next year and present.

- 60th birthday special issue EXME proposal

- Chairs
  - Rosa nominated chair
  - Geir nominated vice chair
  - Suhasini Gururaja Auburn university Secretary
ATTENDEES
21 Attendees

MINUTES/DISCUSSION
Tuesday, June 14th, 2022 | SEM Annual

1. Introductions - Alireza

2. Attendance – 21 people. See list in SLACK channel (semtdm.slack.com)

3. Vote to approve minutes from 2021

4. Election of new TD Secretary

5. Secretary Note:
   • a. Keep track of the cross-programming next year, especially with the pre-TDM groups

6. Report on 2022 sessions and papers –
   • a. 43 (37 final program) papers over 10 sessions
       » i. How many were cross-programmed? Didn’t keep track. Let’s track cross-programming and withdraw/no-shows for future
   • b. Do we want to revisit paper requirement? Is this a significant barrier to participation?
       » i. Voted. Unanimous only short abstract will be required.
   • c. Is there a formal process for organizing TD/joint sessions?
       » i. Will work toward that for next year
   • d. Focus Session on Glassy Polymer Dynamics (2 keynotes)
       » i. Roughly 20 attendees at each session.
   • e. Research Committee meeting
       » i. Ali will attend.

7. Best Paper Award – Draft guidelines: Revitalize Pavan’s draft
   • a. No movement on this last year
   • b. Pavan will schedule a virtual meeting with Jevan, Ali, and Aaron
   • c. Discussion was to do a best presentation award – should they be encouraged to submit to an SEM journal?
   • d. Need to define the goals and parameters of award.

8. Topics and chairs – revision recommendations and rotate in new organizers - Alireza
   • a. We should focus the outreach flyer. Intended to be quick to read. The chairs and organizers are responsible for drumming up interest.
   • b. In two weeks send keynote suggestions for your area. Leadership will identify keynotes TDM will support and others will be encouraged to submit.
   • c. Possibly move to format where Vice-Chair suggests a special focus session for the year.
   • d. Topics and chairs for 2023
       » i. Polyelectrolytes and Ionomers Functionality: M Silberstein
       » ii. Composites and interfaces-time-dependence: Amy Engelbrecht-Wiggans
       » iii. Characterization (including high throughput) methods: Hongbing Lu Pavan Kolluru
       » iv. High temperature metals – time dependence: B Antoun
       » v. Damage, fatigue, fracture, durability: J Furmanski [reach out to Shelby Hutchinson for co-programming]
       » vi. Viscoelasticity/Viscoplasticity + Constitutive modeling: A Amirkhizi and Takenobu Saitai
       » vii. Data-driven methods in Time-Dependent Materials: Kshitiz Upadhyay
       » viii. Polymer physics/mechanics: Jevan Furmanski
       » ix. Time Dependence in Sustainable Materials: Aaron Forster and Jevan Furmanski
   • e. Need to get the dates and processes for inviting keynotes better distributed to the TDM organizers

9. Discussion on promoting SEM award nominations – done
   • a. Nominate people
   • b. Find young people
   • c. TDM leadership is happy to help, just let them know what you need.

10. Discussion on the focus books by the society - done

11. Discussion on encouraging industrial attendance and translation

12. Short courses and Basics of…
   • a. If you have an idea, make a suggestion.
WESTERN REGIONAL STRAIN GAGE COMMITTEE (WRSGC)
Vice Chair/Secretary: Aida Rahim

NO 2022 MINUTES TO SUBMIT
AGENDA
Wednesday, June 7, 2023 | 11:00 a.m. - 12:00 p.m.
Rosen Plaza Hotel, Orlando, FL | Room: Salon 5

APPROVAL OF AGENDA (JASON BLOUGH)

APPROVAL OF MINUTES OF JUNE 2022 NATIONAL MEETINGS COUNCIL

CHAIR’S REPORT (JASON BLOUGH)
• Preliminary report on 2023 Annual Conference

TECHNICAL ACTIVITIES COUNCIL’S REPORT FOR THE 2023 SEM ANNUAL CONFERENCE (RAMAN SINGH)

EXHIBITS COMMITTEE REPORT (JENNIFER TINGETS)

REPORT ON IMAC (NUNO LOPES)
• 2023: Feb 12-16, Renaissance Hotel, Austin, TX
• 2024: Jan 28-Feb 1, Rosen Plaza, Orlando, FL

REPORT ON CURRENT & FUTURE ANNUAL CONFERENCES (NUNO LOPES)
• 2024: June 3-6, Hilton Vancouver Washington, Vancouver, WA
• 2025: June 2-5, Hyatt Regency Milwaukee, Milwaukee, WI

REPORT ON CURRENT AND FUTURE IDICS CONFERENCES (IDICS REP TO THE NATIONAL MEETINGS COUNCIL)

OLD BUSINESS

NEW BUSINESS

ADJOURNMENT

Prepared by Nuno Lopes, Secretary
with the approval of Jason Blough, Chair
MINUTES
Wednesday, June 15, 2022 | 2:30 p.m. - 3:30 p.m. | Oakmont

APPROVAL OF THE AGENDA – APPROVED AS WRITTEN

APPROVAL OF MINUTES – APPROVED AS WRITTEN

CHAIR’S REPORT (JAMES DE CLERCK)
• Jim presented a table with the financials and conference metrics for IMAC 2022. The Annual conference looked great in terms of revenue, though conference participation was lower than expected.
• Great attendance at both conferences.
• Thank you to our Exhibitors for participating in both of our conferences. They did so knowing there would be very little return on investment. However, they very much liked participating in the conference technical program.

TECHNICAL ACTIVITIES COUNCIL REPORT (RAMAN SINGH)
• TD meetings that were held were very well attended.
• Almost all of the TD’s had a representative at the TAC meeting. There was a lot of idea sharing and contributions being planned for June 2023.

EXHIBITS COMMITTEE REPORT (JEN TINGETS)
• See comments above

REPORT ON IMAC (KRISTIN ZIMMERMAN/NUNO LOPES)
• 2023: Feb 13-16, Renaissance Hotel, Auston, TX
• 2024: Jan 29-Feb 1, Rosen Plaza, Orlando, FL

REPORT ON CURRENT & FUTURE ANNUAL CONFERENCES (KRISTIN ZIMMERMAN/NUNO LOPES)
• 2023: June 5-8, Rosen Plaza Hotel, Orlando, FL
• 2024: June 3-6, Hilton Vancouver Washington, Vancouver, WA
• 2025: June 2-5, Hyatt Regency Milwaukee, Milwaukee, WI

OLD BUSINESS
• Whova will be used again in 2023.

NEW BUSINESS
• None to report

ADJOURNMENT
• 3:30 p.m. ET
2023

IMAC-XLI: A CONFERENCE AND EXPOSITION ON STRUCTURAL DYNAMICS

February 11-12, 2023: Preconference Courses
- Saturday/Sunday: Modal Analysis: Theory and Application
  Randall J. Allemang—University of Cincinnati
  Peter Avitabile—University of Massachusetts Lowell
- Saturday/Sunday: Bayesian Estimation: A Tutorial from Batch to Sequential Methods
  Babak Moaveni—Tufts University
  Costas Papadimitriou—University of Thessaly, Greece
  Eleni Chatzi—Institute of Structural Engineering, ETH Zürich
  Eftekhar Azam—University of New Hampshire
  Vasilis Dertimanis—Chair of the Structural Mechanics in ETH Zurich

February 13-16, 2023: Conference
Renaissance Hotel, Austin TX
Some TD meetings occurred both in-person and following the conference

THEME:
Keeping IMAC Weird: Traditional and Non-traditional Applications of Structural Dynamics

KEYNOTE:
Prof. Oliver Giraldo-Londoño, University of Missouri


SEM ANNUAL CONFERENCE & EXPOSITION ON EXPERIMENTAL AND APPLIED MECHANICS

June 5-8, 2023: Conference
Rosen Plaza Hotel, Orlando, FL
2024

IMAC-XLII: A CONFERENCE AND EXPOSITION ON STRUCTURAL DYNAMICS

January 28, 2024: Preconference Courses
January 29 - February 1, 2024: Conference
Rosen Plaza Hotel, Orlando, FL

THEME:
Standing on the Shoulders of Giants

KEYNOTE:
Randall Mayes, Sandia National Laboratories (Retired)

SEM ANNUAL CONFERENCE & EXPOSITION ON EXPERIMENTAL AND APPLIED MECHANICS

June 2, 2024: Preconference Courses
June 3-6, 2024: Conference
Hilton Vancouver Washington, Vancouver, WA
## EXHIBITS COMMITTEE
Jennifer Tingets, Exhibit Manager

## SEM ANNUAL CONFERENCE

Exhibit Statistics for 1990-2023:

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### 2022 SEM ANNUAL CONFERENCE & EXPOSITION, PITTSBURGH, PA

SEM Annual Exhibiting companies participated in the conference because of the long standing partnership with SEM. The exhibitors were part of the technical program and were all offered an opportunity to present in the technical applications session.
IMAC

Exhibit Statistics for 1990-2023:

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<td>1994</td>
<td>13</td>
<td>(Hawaii Location)</td>
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<td>30</td>
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<tr>
<td>1991</td>
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2023 IMAC XLI - A CONFERENCE & EXPOSITION ON STRUCTURAL DYNAMICS, AUSTIN, TX

IMAC was very well attended. All exhibitors that participated, did so due to the long-standing partnership with SEM. Exhibitors were pleased with the attendance and the energy of the conference and many agreed to return in 2024.
AGENDA

Wednesday, June 7, 2023 | 2:30pm– 3:30 p.m. | Room: Salon 5

1. APPROVAL OF AGENDA (JAMES DE CLERCK)

2. APPROVAL OF MINUTES OF THE JUNE 2022 EXECUTIVE BOARD MEETING (JAMES DE CLERCK)

3. COMMENTS BY PRESIDENT (JAMES DE CLERCK)

4. REPORT OF THE EXECUTIVE DIRECTOR (NUNO LOPES)

5. REPORT OF THE TREASURER AND FINANCE COMMITTEE (JON ROGERS)

6. REPORT OF COUNCIL CHAIRS FOR THE STANDING COMMITTEES

   6.1 Administrative Council (Eric Brown) for the following committees: Honors, Nominating, Membership, Fellows, SEM Historian, SEM Past Presidents, USNC/TAM, and SEM Education Foundation.

   6.2 Editorial Council (Daniel Rixen) for the following committees: E/M Papers Review, E/M International Advisory Board, E/T Editorial Committee, E/T Advisory Group.

   6.3 National Meetings Council (Jason Blough) for the following committees: Exhibits and Technical Program Planning.


7. OLD BUSINESS

8. NEW BUSINESS

9. PRESIDENT’S CLOSING COMMENTS (JAMES DE CLERCK)

10. ADJOURNMENT

Prepared by Nuno Lopes, Secretary with the approval of James De Clerck, President
MINUTES
Wednesday, June 15, 2022 | 3:30 p.m. | Room: Oakmont

ATTENDANCE:

1. APPROVAL OF AGENDA
   Approved as written

2. APPROVAL OF MINUTES OF THE JUNE 2021 VIRTUAL OPEN EXECUTIVE BOARD MEETING
   Approved as written

3. COMMENTS BY THE PRESIDENT (ERIC BROWN)
   Thanked everyone for the excellent conference

4. REPORT OF THE EXECUTIVE DIRECTOR (KRISTIN ZIMMERMAN)
   1. Overall participation in the conference was excellent, though registrations are still lower than 2019.

5. REPORT OF THE TREASURER AND FINANCE COMMITTEE (KRISTIN ZIMMERMAN ON BEHALF OF JON ROGERS)
   1. No changes to the numbers presented during the Finance Committee meeting
   2. 2021 finished the year with a smaller than budgeted deficit and Q1 2022 financials are strong
   3. 2022 Q2-Q4 are estimated to break even. This closes a budgeted deficit of $163k.
   4. Strategic funds levels are strong with over $1.4 million in funds.

6. REPORT OF COUNCIL CHAIRS FOR THE STANDING COMMITTEES
   6.1 Administrative Council (John Lambros) for the following committees: Honors, Nominating, Membership, Fellows, SEM Historian, SEM Past Presidents, USNC/TAM, and SEM Education Foundation.
   » Honors and Nominating committee met and selected awardees and nominations for the Executive Board VP and Member at Large positions. Letters from SEM HQ will be sent immediately.
   » SEMEF:
     • Excellent SEMEF meeting in strong support of more Student Symposia.
   6.2 Editorial Council (Daniel Rixen) for the following committees: EM, ET, JDBM and publications.
   » Excellent in-depth meetings for all journals
   » Referred to Editorial Council Report in the Officer's Report.
   » Each EIC will continue to promote SEM members and conference attendees publishing in SEM journals.
   » SEM’s Springer Journal point of contact is Anita Lekhwani.
   » The Impact Factors for EM and ET continue to increase. JDBM has been indexed in the webs of science with a hope of an IF by 2023.
   » SEM has embarked on a new Handbook Series Springer publishing. The EICs of the series are Wendy Crone, Eric Brown and Kristin Zimmerman. The TD’s represented at Annual, are now actively engaged in the process for contributing to the series.
   6.3 National Meetings Council (James De Clerck) for the following committees: Exhibits and Technical Program Planning.
   » Jim referred the meeting attendees to the Officer’s Report.
   » The 2022 Annual Conference was a success in technical program and exhibits based on the metrics in the council report, the comments of the Executive Director and the conference participants.
   » iDICs in Boston, MA, November 6-10, 2022. SEM will be managing the conference. SEM is being asked to manage iDICs 2024.
   6.4 Technical Activities Council (Raman Singh) for the following committees: Applications, Education, Research, Focus Groups and Technical Divisions:

   continued on next page

» The TAC meeting was well attended and all were very engaged in learning how best to coordinate amongst themselves.

» This was the seventh year that we had the Committees (Education, Research and Applications) meet after the TAC meeting. It works very well. All committees will meet together after their respective meetings. All see this as a way to cross fertilize strategic growth ideas for the Society.

» There was a good discussion on how to bring in more industry involvement during the Applications Committee meeting. We may see an uptick in the 2023 technical program and conference attendance. A short course with an industry focus is also being proposed. Industry participants find it easier to come to a technical conference if an industry relevant course is being offered.

» TD chairs and session organizers encouraged to seek out outstanding papers presented, follow up with the authors, and coordinate the information with the journal EICs. We need more papers being published in our journals after conferences.

» TD chairs also encouraged to seek out outstanding SEM members to nominate for awards

» The SEM Handbooks series will continue to be a standing item on all TD and TAC agendas going forward.

7. OLD BUSINESS
None to Report

8. NEW BUSINESS
1. Michael Keller, outgoing chair of the Education Committee, introduced a proposal for SEM Student Ambassadors. The program will be managed by the Education Committee. Its purpose is to mentor student participation at both IMAC and Annual. We will launch the program at Annual 2022.

2. President Rixen’s ad hoc committee on future SEM conferences will meet again in August and in the fall to inform IMAC and Annual 2022 on those virtual elements that we want to maintain as we transition back to in-person conferences.

9. PRESIDENT’S CLOSING COMMENTS (ERIC BROWN)
Eric thanked all of us and handed the role of President over to Jim De Clerck.

10. ADJOURNMENT

Prepared by Kristin Zimmerman, Secretary
with the approval of Eric Brown, President