

Message from the Chair

Dear Mechanics Division Members,

I hope that your summer is off to a good start. In just a short time we'll be together in Portland, Oregon at the 2024 ASEE Annual Conference. The conference is always a great time to discuss teaching and learning in Mechanics, which, as you all know, is the best field in engineering. The conference is always a great place to hear the projects everyone has been working on. I always leave the conference with a few teaching tips or innovations to try in my classroom the next year.

As always, we love seeing new members. If you have a colleague coming to the conference this summer, be sure to invite them to visit our division. You can walk them over to our table at the Division Mixer on Sunday afternoon, bring them to the hands-on mechanics session on Tuesday, invite them to the banquet, or interest them in one of our many technical sessions. Most of all, be sure to introduce them to someone else in the division!

The best way to get to know people at ASEE is to get involved. To that end, I'd invite everyone to consider volunteering for a position or committee in the Mechanics Division. We elect division officers and appoint committees at the annual business meeting on Wednesday (Session W139). The fall newsletter has contact information for members currently serving in these roles. Feel free to reach out to them or myself if you have questions about a particular role.

Speaking of members serving in various roles, the mechanics of running our division (pun intended) succeed because of our many dedicated and capable volunteers. Our Program Chair, Chris Venters, has done a great job organizing our sessions for this year. Our Program Chair Elect, Dan Baker, has planned an enriching Awards Banquet at the Gemini. Special shout-outs to Sahithya Reddivari for managing our finances, Jean Batista Abreu for these great newsletters and more, Devin Berg keeping our website running, Jennifer Kadlowec for chairing our membership committee, Christine Masters for chairing the Awards committee, Chris Papadopoulos for representing Mechanics on ASEE committees, and our directors who have

JOIN US IN PORTLAND June 23-26, 2024

The ASEE Annual Conference & Exposition will be held at the Oregon Convention Center in Portland, OR. For more information on the conference, visit: <https://www.asee.org/events/Conferences-and-Meetings/2024-Annual-Conference>

always stepped in to meet a need. Thank you. We appreciate all you have done for the division.

Looking forward to seeing you in Portland.

Geoff Recktenwald

2023-2024 ASEE Mechanic Division Chair

Associate Chair for Undergraduate Studies, Michigan State University

gdr@msu.edu

Message from the Program Chair

Dear Mechanics Division Members,

It is hard to believe that the 2024 ASEE Annual Conference is upon us! We have another excellent lineup for this year's conference in the Mechanics Division – 32 papers spread across seven technical sessions, plus our “Hands-on Mechanics” special session, business meeting, and awards banquet social.

None of this would be possible without the many who volunteer their time and talent within the division – officers, committee members, session moderators, and peer reviewers. A big THANK YOU to all of you. And, of course, thank you to the authors and other presenters who come to share their ideas for how we can continue to improve mechanics education.

I hope to see many of you in Portland to share in the scholarship (and fellowship) of this division.

Best,

Chris Venters

2023-2024 ASEE Mechanics Division Program Chair

Associate Professor

Department of Engineering

East Carolina University

ventersc@ecu.edu

2024 Mechanics Division Annual Conference Program

Program Chair, Chris Venters
Program Chair-Elect, Dan Baker

ASEE Division Mixer

Sunday, June 23, 2024, 3:30 PM to 5:00 PM, Oregon Ballroom 201-204. This is a great opportunity to catch up with old friends and meet new colleagues from our division and from the entire ASEE community.

Technical Sessions

Monday, June 24, 2024

11:00 AM to 12:30 PM – D135: M339 – Learning Mechanics through Visual and Tactile Modalities

1:30 PM to 3:00 PM – B116: M439 – Understanding the Student Experience in Mechanics Courses

3:15 PM to 4:45 PM – B116: M539 – Applications and Computational Tools for Mechanics Education

Tuesday, June 25, 2024

9:15 AM to 10:45 AM – B116: T239 – Assessing Conceptual Thinking about Engineering Mechanics

11:00 AM to 12:30 PM – B116: T339 – Problem- and Project-based Learning in Engineering Mechanics

1:30 PM to 3:00 PM – B116: T439 - Unique Pedagogies for Mechanics Education

3:15 PM to 4:45 PM – Portland Ballroom B - SGS: T539 – Hands-On Mechanics

7:00 PM to 9:00 PM – The Gemini: T739 – Mechanics Division Awards Banquet [Ticketed]

Wednesday, June 26, 2024

8:00 AM to 9:30 AM – Hyatt Columbia 1: W139 –Mechanics Division Business Meeting

11:30 AM to 1:00 PM – A105: W339 – Student Self-assessment in Mechanics Courses

Hands-On Mechanics

(Mechanics Division – co-sponsored by other divisions)

Tuesday, June 25, 2024

3:15 PM to 4:45 PM, Portland Ballroom B - SGS, Oregon Convention Center

This session features brief presentations by mechanics instructors of some of the toys and demonstrations that they use to illustrate concepts and energize their classes. Presenters will be asked to upload documentation of their demonstrations to the Division's Hands-On Mechanics website (<http://www.handsonmechanics.org/>).

Mechanics Division Awards Banquet

(Ticketed event: \$75.00 advanced registration and \$80.00 on-site registration)

Tuesday, June 25, 2024

7:00 PM to 9:00 PM, The Gemini, 456 N State St, Lake Oswego, OR 97034

Please join fellow mechanics division colleagues for an evening of socializing and celebration. We will present our division award winners for best paper, best presentation, and others. New members are welcome!

Your ticket includes a delicious dinner and private shuttle transportation to and from The Gemini, which is just nine miles south of the Convention Center in beautiful Lake Oswego, OR. Drinks will be available for purchase. We also have an opportunity to stagger the return shuttles if some would like to stay for live music after 9 pm. Reach out to Dan Baker at dan.baker@colostate.edu with any questions.

Mechanics Division Business Meeting

Wednesday, June 26, 2024

8:00 AM to 9:30 AM, Columbia 1, Hyatt Regency Portland (HQ Hotel)

The Mechanics Division executive committee will report on their work in the past year. In addition, elections will be held for positions on the executive committee and various other committees. Come and get involved! Become a member and join the fun in the Mechanics Division!

2023–2024 Mechanics Division Awards

Archie Higdon Distinguished Educator Award:

- **Timothy Wood**, Associate Professor of Civil & Environmental Engineering at The Citadel

Ferdinand P. Beer and E. Russell Johnston, Jr., Outstanding New Mechanics Educator Award:

- **Matthew Ford**, Assistant Teaching Professor of Engineering & Technology at University of Washington Tacoma

2023 Best Presentation Award:

Paper: A WIP: Toward a Free-Body Diagram Mobile Application

- **Andrew R. Sloboda**, Bucknell University
- **Kimberly LeChasseur**, Worcester Polytechnic Institute
- **Sarah Wodin-Schwartz**, Worcester Polytechnic Institute
- **Jennifer DeWinter**, Worcester Polytechnic Institute

2024 Best Paper Award:

Paper: Impacts of a Free-body Diagram Mobile App on Content Mastery and Women's Self-Efficacy

- **Andrew R. Sloboda**, Bucknell University
- **Kimberly LeChasseur**, Worcester Polytechnic Institute
- **Sarah Wodin-Schwartz**, Worcester Polytechnic Institute

Mechanics Division News and Announcements

Free Online Statics Textbook: Engineering Statics: Open and Interactive

Contributed by Daniel W Baker

Are you looking for a high-quality, no-cost textbook to teach Engineering Mechanics: Statics? Engineering Statics: Open and Interactive (<https://engineeringstatics.org>) is an open educational resources (OER) book collectively authored and reviewed by many of our Mechanics Division members. Over 10 institutions have adopted the book. Globally, 20,000+ users are viewing 110,000+ pages per month. Check it out and email Dan Baker dan.baker@colostate.edu with any questions.

Additional News Items

If you have any news items or announcements for the Fall 2024 newsletter, please send them to Jean Batista Abreu (batistajc@etown.edu) by September 30, 2024.

Archival Materials

Got any interesting Division materials from past decades? Specific materials might include articles, photographs, Readiness Test results, role of the Mechanics Division in developing the mechanics curriculum, etc. Please contact Devin Berg at (715) 232-1133, bergdev@uwstout.edu.

2023 ASEE Mechanics Division Annual Business Meeting Minutes (DRAFT)

Note: A final version will be approved at the 2024 Mechanics Division Business Meeting. Please forward any needed corrections via email to batistajc@etown.edu.

Meeting Time: Wednesday, June 28, 2023, 11:00 am – 12:30 pm EST
Location: Calloway, Hilton Baltimore Inner Harbor, Baltimore, MD

Attendees: Jean Batista Abreu, Amie Baisley, Dan Baker, John Burkhardt, Phillip Cornwell, Lance Curtis, Julian L. Davis, Alex De Rosa, Maxine Fontaine, Michael Hennessey, Anna Howard, Jennifer Kadlowec, Steve Kuchnicki, James Lord, Christine Masters, Kevin McMullen, Jacob Moore, Masoud Rais-Rohani, Carisa Ramming, Geoffrey Recktenwald, Sahithya Reddivari, Hadas Ritz, Kristi Shryock, Andrew Sloboda, Chris Venters

Call to Order – 11:03 am EST

1. Welcome/Introductions (Phillip Cornwell – 2022-2023 Mechanics Division Chair)
2. Motion to approve 2023 business meeting minutes – minutes were approved unanimously
3. Membership updates
 - Membership numbers over time per division
4. Conference Updates (Geoff Recktenwald, – 2022-2023 Program Chair)
 - 26 abstracts submitted (down from 39 last year)
 - 23 final papers, the rest were rejected or withdrawn
 - 5 technical sessions, 2 special sessions (Hands-On Mechanics, Awards Banquet)
 - Two moderators and one backup assigned per session
 - New paper management system improvement
 - The challenges of decaying membership across divisions were discussed
5. Report from Division Officers
 - a. Treasurer's Report (Sahithya Reddivari)
 - Most up-to-date balance in BASS account: \$10,871.87 (as of 03/31/2023)
 - Need to contact Pearson to follow up on funds for award
 - Finances are normal
 - Total revenue YTD FY23: \$273.00
 - McGraw Hill Education support: \$2,000.00
 - Discussion: Banquet attendance potentially impacted by schedule conflicts
 - b. Nominating committee:
 - No updates to report
 - c. Awards committee (Christine Masters):
 - Shortage of nominations again (zero nominations for Distinguished Educator Award)
 - The committee requested the Division members to share the award opportunities with their colleagues and to be on the lookout for potential awardees
 - The in-person award banquet was well attended
 - d. Membership committee:
 - Committee plans to attract more people and increase visibility and engagement
 - The idea of waiving the membership fee for new members was discussed
 - e. Secretary (Jean Batista Abreu):
 - Encouraged members to send contributions for newsletters

6. Elections

- 2024-2025 Program Chair Elect
 - o Nominations: Dan Baker, Anna Howard
 - o Dan Baker elected
- Director (3 vacancies – 4-year terms until 2026-2027)
 - o Nominations: Amie Baisley, Jacob Moore, Huihui Qi, Kristi Shryock
 - o Amie Baisley, Jacob Moore and Kristi Shryock were elected
- Treasurer
 - o Sahithya Reddivari (reappointed)
- Secretary
 - o Jean Batista Abreu (reappointed)
- Webmaster
 - o Devin Berg (reappointed)
- Awards committee
 - o James Lord (chair), Huihui Qi, Jacob Moore, Hadas Ritz, Alex De Rosa, Christine Masters
- Membership
 - o Jul Davis (chair), Anna Howard, Kristi Shryock, and Lance Curtis

7. Other Discussions:

- a. Ad-hoc committee to seek/maintain sponsorships: Jul Davis, James Lord, Sahithya Reddivari
 - Contact Wiley for banquet and/or award sponsorship
 - Banquet cost (planned for attendance of 40, 30 paid, ~10 sponsored), target \$2250.00
 - Emphasize budgetary issues when contacting potential and current sponsors
 - Ask for additional support from McGraw Hill
- b. There might be a need for an Ad-hoc committee to update operations manual
 - Ask officers to help depicting tasks and deadlines for each role
 - Google Site with updated operations manual would be helpful
- c. Hands-on Mechanics
 - Session is popular – Can it be expanded or improved?
 - The name of the session excludes demos that are not physical

8. Leadership transition

Adjourn at 12:33 pm EST

2023-2024 Mechanics Division Officers and Standing Committees

Chair: Geoffrey Recktenwald
(517) 432-3658, gdr@egr.msu.edu

Program Chair: Chris Venters, East Carolina University
(252) 737-1028, ventersc@ecu.edu

Program Chair Elect: Dan Baker, Colorado State University
(970) 491-0261, dan.baker@colostate.edu

Past Chair: Phillip Cornwell, US Air Force Academy
(719) 333-4396, phil.cornwell@usafa.edu

Directors:

Anna Howard, North Carolina State University (2020-2024)
(919) 513-4019, annahoward@annahoward.com

Andrew Sloboda, Bucknell University (2021-2025)
(570) 577-1861, andrew.sloboda@bucknell.edu

Nicolas Libre, Missouri University of Science and Technology (2022-2026)
(573) 341-7069, libren@mst.edu

Amir Danesh-Yazdi, Rose-Hulman Institute of Technology (2022-2026)
(812) 877-8305, daneshya@rose-hulman.edu

Amie Baisley, University of Florida (2023-2027)
(352) 392-4523, amie.baisley@eng.ufl.edu

Jacob Moore, Penn State Mont Alto (2023-2027)
(717) 749-6209, jmoore@psu.edu

Kristi Shryock, Texas A&M University (2023-2027)
(979) 458-6842, kshryock@tamu.edu

Secretary: Jean Batista Abreu, Elizabethtown College,
(717) 361-4770, batistajc@etown.edu

Treasurer: Sahithya Reddivari, Georgia State University - Perimeter College
(678) 891-3735, sreddivari@gsu.edu

Webmaster: Devin Berg, University of Wisconsin-Stout
(715) 232-1133, bergdev@uwstout.edu

Archivist: Devin Berg, University of Wisconsin-Stout
(715) 232-1133, bergdev@uwstout.edu

Nominating Committee: Phil Cornwell (Chair, phil.cornwell@usafa.edu), Jul Davis (julian.ly.davis@usi.edu), Masoud Rais-Rohani (masoud.raisrohani@maine.edu)

Membership Committee: Jul Davis (Chair, jldavis2@usi.edu), Anna Howard (anna_howard@ncsu.edu), Kristi Shryock (kshryock@tamu.edu), and Lance Curtis (lrcurtis@umd.edu)

Awards Committee: James Lord (Chair, jlford@vt.edu), Huihui Qi (huqi@ucsd.edu), Jacob Moore (jmoore@psu.edu), Hadas Ritz (hr32@cornell.edu), Alex De Rosa (derosa@udel.edu), Christine Masters (cbm100@psu.edu), Chris Papadopoulos (for plaques, christopher.papadopoulos@upr.edu)

Notes: Two Directors are elected at each annual Business Meeting for terms of four years. Directors who have served for at least one year are eligible to be elected as Program Chair Elect (and to serve consecutively as Program Chair and Chair). Secretary and Treasurer are ex-officio (non-voting) elected at each annual Business Meeting for terms of one year. Webmaster and Archivist are ex-officio (non-voting) and are elected for terms of one year. The Nominating Committee is specified to consist of the three most recent Past Chairs. The Membership and Awards Committee are appointed to serve for terms of one year.

Mechanics Division - Opportunities for Involvement

All members and prospective members of the Mechanics Division are invited to the Mechanics Division Annual Business Meeting, held each year in June at the ASEE Annual Conference. One of the primary activities of the division business meeting is to elect new officers and fill available committee positions.

Some of the offices are described below. For a full list of positions, see “2023-2024 Mechanics Division Officers and Standing Committees”, provided earlier in this newsletter.

Director: A director is a voting member of the Executive Committee. Main duties: attend the Executive and Business Meetings at the Annual Conference, elect the Program Chair Elect, and participate in decision making as issues arise. Directors must also be willing to accept a nomination for Program Chair Elect, which succeeds consecutively to Program Chair, Chair, and Immediate Past Chair. Term: 4 years.

Secretary: Main duties: Attend Executive and Business Meetings at the Annual Conference and record minutes; prepare ballots for elections of officers; prepare and distribute Newsletter (twice per year); assist Chair with ensuring that Division agenda is executed. Term: 1 year.

Treasurer: Main duties: Keep records of accounts; issue checks to award winners; pay and process other items as necessary. Term: 1 year.

Officer Nominations:

You are welcome to submit nominations before or during the 2024 Mechanics Division Annual Business Meeting. Self-nominations and/or multiple nominations are permitted. Nominations may be submitted via email in advance of the meeting to Geoff Recktenwald (gdr@msu.edu). Include a brief statement of the nominee’s current/past involvement in the Mechanics Division and nominee’s interest in serving in the specific office. If a person is being nominated for more than one position, please state preference.

2024 Annual Division Business Meeting Agenda Items:

If you have any items that you would like included on the agenda for the Annual Division Business Meeting, please contact Division Secretary, Jean Batista Abreu (batistajc@etown.edu) or Division Chair, Geoff Recktenwald (gdr@msu.edu), before the 2024 Annual Business Meeting.