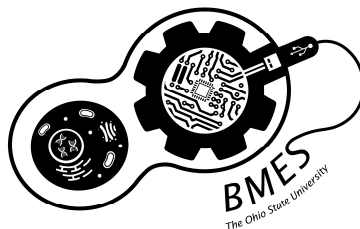


The Biomedical Engineering Society at The Ohio State University

Chapter Development Report
2020-2021



The Ohio State University's Chapter of the Biomedical Engineering Society has grown significantly over the past few years and has become more diverse in the types of opportunities that we pursue for the benefit of our members. As a society, we have provided events and opportunities for professional, academic, and personal growth for our members through the following areas: mentorship, professional development, outreach, social events, community service, and hands-on projects. One of our continuous goals as a chapter is to improve upon the previous year's accomplishments and create new initiatives for our members. Over the past few years, the society has doubled attendance rates at professional development events, grown mentorship programs, and expanded community outreach through new relations with the Columbus Metropolitan Library. Last year was especially challenging due to the COVID-19 pandemic and the restrictions surrounding it. However, we were able to seamlessly transition all our events to a safe virtual environment while also launching new initiatives. Building upon our Engineering in Healthcare Industry and Research Symposium (EHIRS), the virtual environment enabled the event to grow into a Midwest regional event by inviting eight other universities such as Carnegie Mellon University and Washington University of St. Louis. We also initiated the Community Interns Program and reinstated Sculpting Your Future, an event for Women in STEM. Community Interns paved a way for BMES members to virtually network with company representatives and receive project opportunities throughout the year. Sculpting Your Future took advantage of the virtual setting by attracting speakers from all locations and backgrounds for their unique perspectives on empowerment. All of our current and past initiatives serve our ultimate goal for the upcoming year which is to provide events that support our members and their development during COVID-19.

Please direct all questions about The Biomedical Engineering Society at Ohio State's Chapter Development Report to **Arnav Divekar** and **Aneesh Zutshi**.

Primary Authors:

Arnav Divekar	President	(513) 476-3200	Divekar.6@osu.edu
Aneesh Zutshi	President	(513) 283-9294	Zutshi.4@osu.edu
Ellie Guilfoyle	Internal Vice President	(440) 360-0462	Guilfoyle.16@osu.edu
Kate Mallek	External Vice President	(847) 418-6314	Mallek.6@osu.edu



Dear Student Chapter Award Committee Members,

The Biomedical Engineering Society at Ohio State has continued to create an environment in which members are able to say that they have expanded their network, learned something new, or made a friend. This past year, our chapter focused on increasing engagement in the virtual setting by creating a more dedicated community in our mentorship program and social interactions, premiering the first Community Interns Event, improving upon the outreach in the Columbus community, and transforming EHRS into a regional symposium.

Our chapter has been working to increase our partnership with industry as it continues to be heavily demanded by our members. This year, our partnerships were furthered by the new Community Interns Program. These events featured direct networking with biomedical companies including Nuvasive Manufacturing and Medforall. Representatives presented about their respective companies and projects before receiving one-to-one interview time for each candidate. Selected candidates were offered the opportunity to work on projects of various lengths for the company during the year. Our society also offered another event for our members' professional development. This past February, The Engineering in Healthcare: Industry and Research Symposium grew into a Midwest symposium with students attending from eight other universities. The event featured the Cleveland Clinic BME Department Chair, representatives from seven companies including Battelle, and over forty students presenting their research.

One focus for our chapter this year was to increase the community service opportunities for our members to support the Columbus area during COVID-19. New outreach co-chair positions were created to focus on addressing community outreach. Despite in-person events being suspended, our members were still able to create an impact through collaborations with the Graham Elementary and Middle Schools (tutored 50 students), Metro Early College High School Tutoring, and the Columbus Metropolitan Library (CML). For the Columbus Metropolitan Library, society members created an asynchronous, online engineering design challenge for middle and high school students. During STEM Month, this activity was crucial for younger students to gain interests in the creative STEM opportunities ahead of them, and we look forward to working with CML in the future as well.

One area of improvement for the upcoming year is giving our members more hands-on project experience. We will be introducing monthly faculty-led workshops where technical skills such as surgery, CAD software, and circuitry will be taught through interactive experiences. Another area of improvement is providing our members with more professional connections and keeping graduates involved with the program. We will be developing an alumni database in partnership with our universities' BME department which will include positions, contact information, and availability for our members to access.

Although our chapter has areas of improvement, we have accomplished a lot to benefit our members in this unorthodox year. This document will showcase all of the details pertaining to our accomplishments in hosting the numerous events and improving on the quality set by the previous iterations of the event.

Sincerely,

Arnab Divekar
BMES Co-President
(513) 476-3200
Divekar.6@osu.edu

Aneesh Zutshi
BMES Co-President
(513) 283-9294
Zutshi.4@osu.edu

Alexis Ortiz-Rosario, PhD
Faculty Advisor for BMES
Associate Prof of Practice, BME
Ortiz-rosario.1@osu.edu

Mark A. Ruegsegger, PhD PE
Faculty Advisor for BMES
Professor of Practice, BME
Ruegsegger.1@osu.edu



Table of Contents

I. Administrative Report	4
I-A. Officers.....	4
I-B. Membership.....	5
I-C. General Body Meeting Information	5
I-D. Officer Meeting Information.....	6
II. Treasury Report	7
II-A. Sources of Funding	8
II-B. Expenses	9
III. Chapter Activities	10
III-A. Social Activities.....	10
III-B. Inter-chapter Activities	14
III-C. Outreach Activities	16
III-D. Mentorship Activities	18
III-E. Other Initiatives	23
III-F. Industry and Professional Development Activities.....	25
III-G. Societal Impact Activities	31
IV. National BMES Meeting	33
IV-A. Attendance.....	33
IV-B. Participation.....	34
V. Future Directions	35
V-A. New Officer Contact Information.....	35
V-B. Looking Ahead.....	36

I. Administrative Report

The BMES chapter at The Ohio State University (OSU) aims to increase attendance at professional development and mentorship events by 50% this next year. In order to reach this goal, we will focus on member engagement through expanding marketing and increasing company/speaker recruitment. We will increase member engagement through redesigning our website, newsletter, and Instagram so that our advertisements are more appealing to members. A LinkedIn account will also be utilized to create and maintain connections with companies involved with the biotechnology industry. To increase faculty and speaker recruitment, we plan to advertise speaker opportunities at our events through contact with the Ohio State Engineering Council and the Biomedical Engineering Department faculty. We will also acquire contacts and reach out through other established OSU engineering student organizations such as the Society of Women Engineers. Additionally, we aim to increase the quality of our monthly general body meetings by involving social interactive activities for part of each meeting. These activities will provide additional opportunities to develop comfort and relations between members which is necessary for our chapter to have continued success.

I-A. Officers

1. Mukul Govande: Co-President, Govande.1@osu.edu
 - a. Duties: Oversee Operations
2. Ian Rasquina: Co-President, Rasquina.3@osu.edu
 - a. Duties: Oversee Operations
3. Connor Neifert: Internal Vice President, Neifert.4@osu.edu
 - a. Duties: Mentorship, Outreach & Social Events
4. Ada Kanapskyte: External Vice President, Kanapskyte.1@osu.edu
 - a. Duties: Professional Development & Community Service
5. Connie Yuan: Secretary, Yuan.753@osu.edu
 - a. Duties: Meeting Notes & Member Communication
6. Michael Kaltman: Treasurer, Kaltman.3@osu.edu
 - a. Duties: Fiscal Responsibility
7. Teddy Renner: Projects Chair, renner.187@osu.edu
 - a. Duties: Oversee Project based events
8. Sreyas Pillai: Marketing Chair, Pillai.68@osu.edu
 - a. Duties: Oversee PR with BMES Community
9. Divyaam Satija: Professional Development Chair, Satija.6@osu.edu
 - a. Duties: Assist EVP in planning Professional Development events
10. Natalia Mendonca: Social Development Chair, Mendonca.10@osu.edu
 - a. Duties: Social Events
11. Kate Mallek: EHRS Chair, Mallek.6@osu.edu
 - a. Duties: Oversee EHRS Event
12. Aneesh Zutshi: EHRS Chair, Zutshi.4@osu.edu
 - a. Duties: Oversee EHRS Event
13. Tasha Bruner: Special Initiatives Chair, Bruner.103@osu.edu
 - a. Duties: Oversee Diversity and Inclusion Events



- 14. Mallory Moehring: Outreach Chair, Moehring.21@osu.edu
 - a. Duties: Lead outreach and volunteer initiatives in the Columbus community
- 15. Jad Hussein: Outreach Chair, Hussein.112@osu.edu
 - a. Duties: Lead outreach and volunteer initiatives in the Columbus community
- 16. Swaapnik Choda: Engineer’s Council Representative, Choda.1@osu.edu
 - a. Duties: Funding & Utility
- 17. Anna Wang: Engineer’s Council Representative, Wang.12213@osu.edu
 - a. Duties: Funding & Utility
- 18. Ellie Guilfoyle: Networking Liaison, Guilfoyle.16@osu.edu
 - a. Duties: Network With Organizations
- 19. Pranav Murali: Faculty Liaison, Murali.57@osu.edu
 - a. Duties: Communicating With Faculty

I-B. Membership

Table 1: Student Chapter Breakdown

Total Membership	Local Membership	National Membership
584 students (268 in major, 256 pre-BME, and 60 in minor)	116 students 19.86%	87 students 14.90%

I-C. General Body Meeting Information

Table 2: General Body Meetings & Speaker Series

Date	Attendance	Name (Speaker) - Description
09/03/2020	62	Fall Kickoff Meeting (Mukul Govande, Ian Rasquinha, Dr. Mark Ruegsegger, Dr. Alexis Ortiz-Rosario) – Welcome and outline of semester schedule for potential members
10/01/2020	25	October General Body Meeting (Mukul Govande and Ian Rasquinhai) - Updates, upcoming events, description of new Community Interns event, cover letter writing tips
11/03/2020	15	November General Body Meeting (Mukul Govande, Ian Rasquinha, Ali Rahimi) - Updates, upcoming events, and Ali Rahimi, CEO of Medforall, spoke about his company
01/19/2021	24	Spring Kickoff Meeting (Mukul Govande and Ian Rasquinha) - Updates, upcoming events, and information about officer elections
02/16/2021	51	February General Body Meeting (Mukul Govande and Ian Rasquinha) - Updates, upcoming events, and officer elections.

I-D. Officer Meeting Information

Table 3: Summer 2020 Meetings

Date & Time	Agenda
6/23/20 2:00 pm	Pre-Semester Goals, Discuss virtual environment transition, Administrative Plans for Fall Semester
7/12/20 2:00pm	National Meeting Logistics, Plan involvement fair and Fall kickoff meeting, EHRS Planning
8/9/20 2:00 pm	National Meeting Logistics, Set-up Involvement Fair, Social event changes, and EHRS Planning

Table 4: 2020-2021 Academic Year Meetings

Date	Agenda
08/30/2020	Discuss transition to virtual environment, beginning of year logistics, plan Fall Kickoff Meeting
09/13/2020	Finalize Networking Mini-Series, Resume Review, and planning first online social event
09/27/2020	Preparing for National BMES Event, first online social event, define Community Interns logistics
10/11/2020	Planning mentorship events, discussing Zoom environment concerns, Medical School Panel, and preparing for National BMES Event
10/25/2020	Planning Community Interns, Engineering Healthcare: Industry and Research Symposium (EHRS), and NASA Networking Series
11/08/2020	Planning GEMS Outreach Event, preparing for EHRS, Industry Panel, social events
11/22/2020	Planning Bio-Hack, Study & Games social event, Election Q&A, preparing for EHRS
12/06/2020	Planning Elections, EHRS, social events for spring semester



01/24/2021	Prepare for Spring Semester (EHIRS and BioHack), Finalize Resume Review and Speed-Dating Interviewing
02/07/2021	Planning Elections, Finalizing Pal-entine’s Day, and Preparing for EHIRS/BioHack
02/21/2021	Finalize EHIRS, BioHack, Prepare for Sculpting Your Future
03/07/2021	Debrief EHIRS and BioHack, Finalize BME scheduling and Baking with BMES, Prepare for Sculpting Your Future
03/21/2021	Finalizing Sculpting Your Future
04/04/2021	Debrief Sculpting Your Future, Finalize Community Interns Event (NuVasive Manufacturing), Plan End-of-Year Mentorship Events
04/18/2021	Debrief Community Interns Event and Mentorship, Preparing Inter-Chapter social event, discuss future plans

II. Treasury Report

Please Note: The items listed below include funding and expenditures between 3/14/20 and 4/24/21.

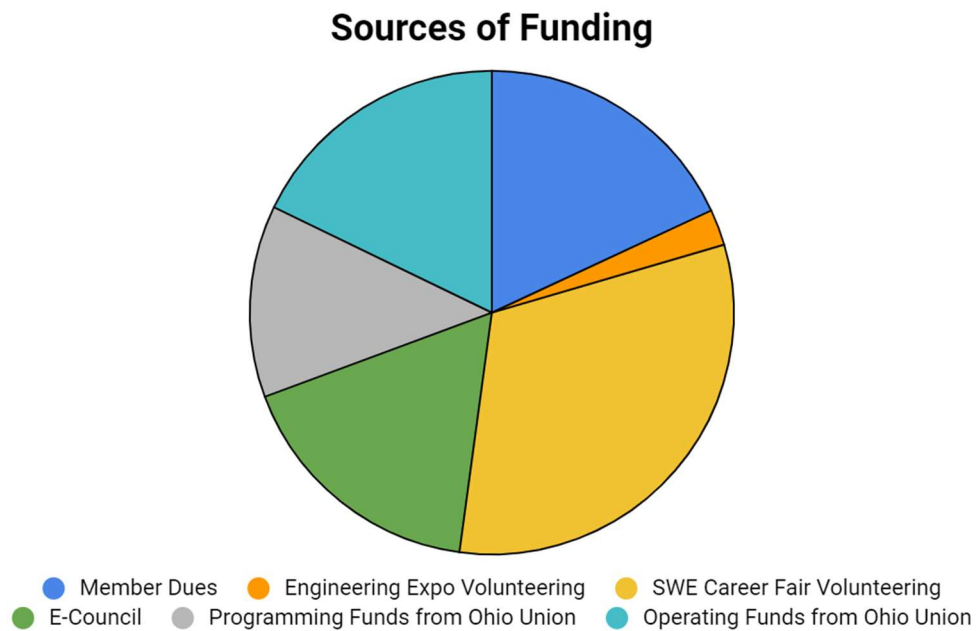
Amidst a pandemic, this past year has affected our expenditures in ways BMES at OSU has never seen before. Unfortunately, due to COVID-19 guidelines and health risks associated with in-person gatherings, we met exclusively online for all hosted events. Consequently, costs associated with these types of events (i.e. food) were eliminated which skewed our numbers seen in a typical year. However, our social events weren’t the only meetings that saw a reduction in cost due to COVID-19. We also saw our annual Engineering in HealthCare: Industry and Research Symposium (EHIRS) event encounter a reduction as well. Most years we face expenses related to parking, advertisements and gifts for speakers as well as fees associated with venue reservations. Despite this temporary waning of expenses, we still seek to maximize funding in preparation for the anticipated rise in spending in upcoming years due to expanded in-person events.

II-A. Sources of Funding

Table 5: Funding for the 2020-2021 School Year

Source	Total
Member Dues	\$2,109.30
SWE Career Fair Volunteering	\$281.25
E-Council	\$3,700.00
Programming Funds from Ohio Union	\$2,010.00
BMES Nationals: EHRS	\$1,500.01
Miscellaneous	\$2,081.70
TOTAL	\$11,682.26

Figure 1: Sources of Funding for the 2020-2021 School year

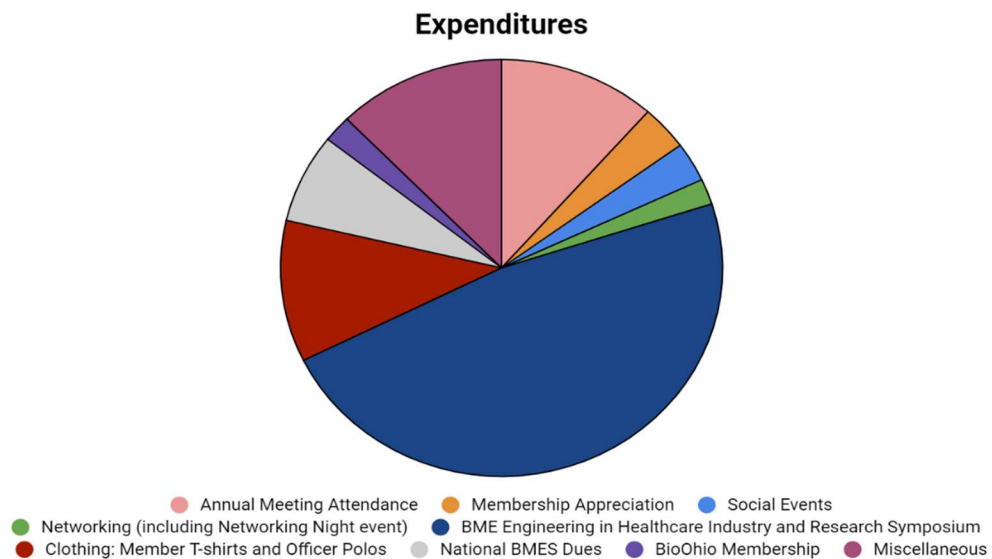


II-B. Expenses

Table 6: Expenditures for 2020-2021 School Year

Source	Total
Annual Meeting Attendance	\$1,000.00
Membership Appreciation	\$300.30
Social Events	\$265.33
Networking Events	\$171.80
BME Engineering in Healthcare Industry and Research Symposium	\$4,134.73
Clothing: Member T-shirts and Officer Polos	\$953.82
National BMES Dues	\$600.00
BioOhio Membership	\$180.00
Miscellaneous	\$1,070.91
TOTAL	\$8,676.89

Figure 2: Expenditures for the 2020-2021 School Year



III. Chapter Activities

To maintain consistent involvement from our chapter’s members in the virtual environment, we held a variety of events including mentorship, professional development, social, and outreach. The social events were unique this year due to being conducted online, and featured several zoom baking activities or game nights to continue developing member relations. These relations were also developed through peer mentorship activities which had a competitive aspect to encourage friendly rivalries. Our outreach events were heavily expanded this year as new co-chair positions were created to assist the Columbus community during the COVID-19 pandemic. We were able to use creative virtual methods to tutor students and host virtual STEM month projects! Professional development has been an established component of our chapter and we created over 15 events throughout the year consisting of industry panels, networking sessions, resume reviews, and initiation of the Community Interns Program. These events were extremely useful by helping members receive internship opportunities and developing networking skills to become attractive candidates.

III-A. Social Activities

Social events helped keep our community connected, despite being virtual this past year. Now more than ever, social events provide new ways to interact and develop relationships with our peers during such a challenging time in our lives. This year, our goal was to take advantage of the virtual environment through online games, media, and events that our members could join from home. Another key focus of our social events this year was to provide resources for first year students to feel welcome and connect to upperclassmen that they have never met in person. To achieve this goal, social events often paired with the mentorship committee to make events involving collaboration between underclassmen and mentors such as game nights. Lastly, we worked to further our social media presence and improve ways to keep members informed about new events such as Instagram stories, group chats, and weekly newsletters. As the pandemic begins to slowly settle, we look forward to hosting both virtual and in-person events as we continually build the social aspect of our chapter that has connected us outside of the classroom.

Fall Kick-Off

This event was aimed to introduce officers to new and potential BMES members. Since the event was virtual, we took advantage of breakout rooms to meet new members on a smaller scale setting. Overall, the event helped establish a welcoming mindset for all members in attendance. Furthermore, we wanted to let members know that despite being virtual, OSU BMES had many plans for a great year ahead!

Date/Location	Audience	Attendance	Cost
9/3/20, 6:00pm Zoom	All BMES members	55+ attendees	N/A



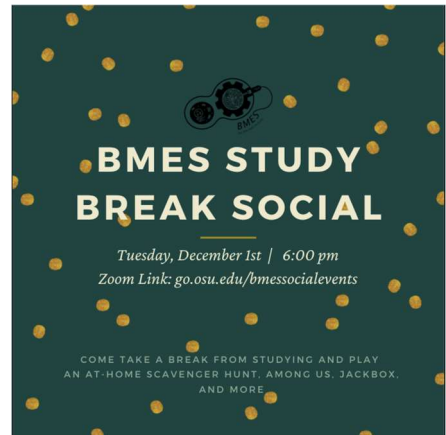
Halloween Themed Cooking

BMES wanted to host an event that everyone could participate in whether they were in a residence hall on campus or somewhere off campus. We hosted a halloween themed cooking event where all were welcome to participate in over Zoom. Students had the opportunity to make chocolate truffles and have fun conversations at the same time! While the treats cooled, a few games of Among Us were played to keep all members involved.

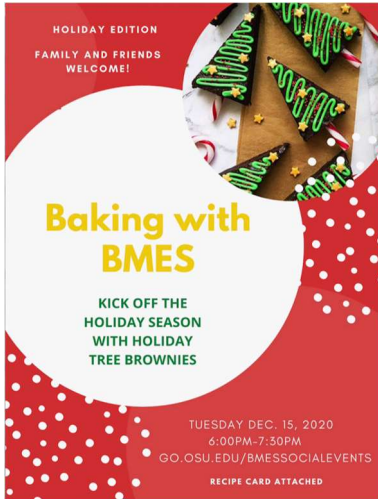
Date/Location	Audience	Attendance	Cost
10/26/20, 6:00pm Zoom	All BMES members	0 attendees	N/A

Social Study Break

To provide a fun way to shift students' focus away from the stress of finals, BMES hosted a virtual study break. We split up into several breakout rooms to play a variety of games or just sit back, relax, and talk about our plans for winter break. This event offered students the opportunity to take a break from zoom lectures and studying for the finals that were in the weeks ahead.



Date/Location	Audience	Attendance	Cost
11/20/20, 6:00pm Zoom	All BMES members	15 attendees	N/A



Holiday Themed Baking with BMES

Baking events provided a fun, unique way to socialize over Zoom. Most attendees were home due to the event being held over winter break, but it allowed everyone to reconnect and bridged the month away from OSU. All bakers had the opportunity to share their fun designs and unique takes on the same recipe, providing further social development amongst attendees and the chapter as a whole.

Date/Location	Audience	Attendance	Cost
12/15/20, 6:00pm Zoom	All BMES members	10 attendees	N/A

Among Us Game Nights

Among Us proved to be a big hit amongst BMES members this year! All attendees were encouraged to meet new members and socialize as everyone had to be familiar with who they were playing with. These events provided an entertaining way to connect over winter break and as the semester was starting. There was never a break between the suspicious accusations or the bursting laughter, as Among Us helped us get through the pandemic in a very fun way as a more well-connected chapter.



Date/Location	Audience	Attendance	Cost
12/17/20; 7:30pm 1/7/21; 7:30pm Zoom	All BMES members	20 attendees at each event	N/A

OSU Jeopardy

Using an online Jeopardy tool, we were able to design an OSU-themed Jeopardy game for our mentorship program and other BMES students who were interested in attending! Ranging from on-campus locations to old Buckeye trivia, members were able to connect in teams of 3-4 to compete for some BMES themed prizes. Each team had a mentor who helped other participants meet each other and connect over some fun, competitive trivia.



Date/Location	Audience	Attendance	Cost
1/14/21, 6:00pm Zoom	All BMES members	30 attendees	N/A

The Great BMES Bake Off

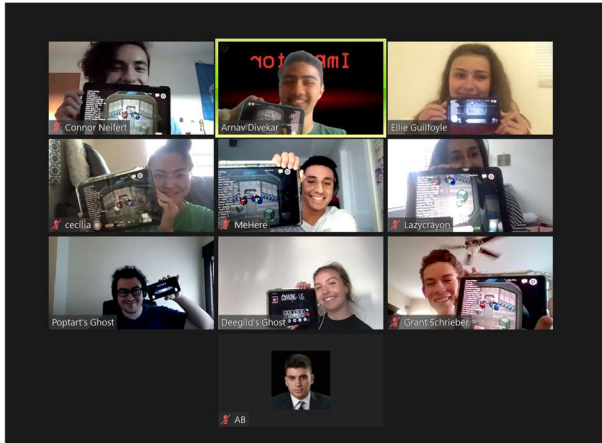
Inspired by The Great British Baking Show, BMES OSU hosted a bake off game show where all contestants made cupcakes. Everyone’s creations were judged by a panel of BMES officers to declare the winner of the BMES Bake Off. Students were encouraged to be creative and show off their designs to everyone over Zoom.



Date/Location	Audience	Attendance	Cost
3/16/21, 6:00pm Zoom	All BMES members	12 attendees	\$65

BMES Game Night

BMES hosted a variety game night to enable people to choose their desired game over Zoom. This event came after elections, so we wanted to provide an opportunity for members to meet their new officers in a fun, casual way. As a wrap-up social event for the semester, we wanted to bring back a crowd favorite and mostly played Among Us.



Date/Location	Audience	Attendance	Cost
4/6/21, 6:00pm Zoom	All BMES members	14 attendees	N/A

III-B. Inter-Chapter Activities

The COVID-19 pandemic caused much emotional and physical isolation. We recognized that this isolation is something which not only existed between members of our own chapter but members of other chapters as well. Additionally, a lot of the inter-chapter relationships which had developed at the annual meeting or various retreats were strained. Our chapter made it a priority to collaborate with other BMES chapters in an effort to address this isolating and rekindle our inter-chapter relationships.

Despite the virtual requirement, we were still able to maintain the inter-chapter connection through social events. The first Battle of the Brains event was carried out involving chapter such as Ohio State, Toledo University, Purdue University, and University of Illinois - Urbana Champaign. Our chapter brought a majority of students to participate and develop relationships with students from other chapters. In future years, we plan to continue this initiative with Battle of the Brains by possibly hosting it during EHRS and also participating in other inter-chapter activities.



Annual Meeting Networking, Socializing & Sharing of Best Practices

Ohio State BMES connects with other BMES chapters at the Annual Meeting. Meeting other chapters allows us to learn about their successes and utilize their strategies to help our own chapter become even more successful in our goals. Through these activities, we strive to discover how to leave a greater impact on our chapter members and our greater community. Members of BMES at Ohio State attending the BMES Annual Meeting sought to improve their academic and professional network through virtual interactions with professors and researchers at breakout informational sessions, networking with BMES student chapter members, and guiding interested student chapters in developing and maintaining successful industry relationships at the best practices meeting. Undergraduate members in attendance were given insight into graduate school possibilities, and all members were able to exchange ideas of how to run a better, more focused chapter in order to enhance our members' experience in BMES. Specific lectures and workshops attended may be found in Section IV.

Date/Location	Audience	Attendance	Cost
10/14/19 to 10/17/19 Online (Zoom)	BMES Officers	BMES members in attendance of Annual Meeting (shown in below section)	\$1000

Battle of the Brains

Members from different chapters of BMES came together to socialize and play trivia. The meeting was held over zoom and kahoots were used to play trivia. There was friendly competition and members from all chapters had fun joking around with each other. There were two kahoots - one science history themed and one earth day themed. A small, comical trophy was presented to the winner of the kahoot, which ended up being the University of Illinois at Urbana - Champaign.

Date/Location	Audience	Attendance	Cost
4/21/21, 6PM Zoom	BMES members from Ohio State, The University of Toledo, Purdue University, and University of Illinois at Urbana - Champaign	25 total attendees, 10 Ohio State chapter attendees	N/A



III-C. Outreach Activities

In an increasingly science and technology-driven world, BMES at OSU understands its responsibility of inspiring young people to succeed in their early educational careers. We have used our position as one of OSU’s highest-awarded engineering organizations to impact the Columbus community, collaborating with various middle and high school programs to expose young students to biomedical engineering. As of this year, we have sustained a five-year relationship with Metro Early College High School where we previously provided tutoring only during a few sessions each a semester; this year, we decided to move to a more regular weekly schedule in order to have a more continuous, impactful effect on the student’s learning. Overall, the Metro students felt that this model helped them feel more comfortable than students in the past reported.

This was the first year of dedicated Outreach Co-Chair executive positions which will continue into the next year. The Co-Chairs assist the IVP in finding outreach opportunities, planning and executing outreach events, as well as implementing methods of increasing diversity and inclusion within OSU BMES, the BME department at Ohio State University, and in STEM as a whole.

Metro Early College High School Tutoring

BMES members gave back to local high school students through tutoring math and science classes. Topics covered included calculus, biology, chemistry, and physics. Due to the COVID-19 Pandemic, our tutors could not conduct in-person tutoring sessions. Instead, the chapter adapted the program to virtual tutoring sessions, utilizing Zoom web meetings to sustain the one-on-one, personalized experience. We also implemented a tutoring-topic request form for the Metro students. Students could fill out the form prior to attending a tutoring session to inform the tutors what concepts or course content they were seeking help with.

Date/Location	Audience	Attendance	Cost
Ongoing, Metro Schools	All BMES members	6 involved members	N/A

Graham Elementary and Middle Schools 8th Grade E-Activity

The OSU chapter continued collaboration with Graham Elementary and Middle Schools (GEMS) to put on a virtual genetic diversity engineering project for 50 8th grade students split over two sessions. Chapter members volunteered their time to help run the event in small groups of 4-5 students with 2 volunteers. An introduction of biomedical engineering was presented to the students through an interactive format. The activity used a coin flip to determine genetic traits of mice, followed by answering questions how the different resulting traits would affect the survival abilities of the mice in different environmental conditions. We worked closely with the coordinating teacher at GEMS to integrate the project into her lesson planning, so that the activity impacted following class days by continued discussion and application of genetic diversity. Real life examples of genetic diversity were introduced to show the impact of their new knowledge, such as in the field of BME: gene editing or targeted gene therapies.



Date/Location	Audience	Attendance	Cost
11/11/2020, 11:00am & 2:00pm	All BMES members	22 involved members	N/A

Columbus Metropolitan Library STEM Month - Bone Fixation Challenge

The OSU BMES chapter began communications with the Columbus Metropolitan Library (CML) in February to create an asynchronous, virtual engineering design challenge for middle and high school students. The activity was a contribution to the CML’s annual STEM month, hosting various events to engage students in STEM fields. Due to the pandemic, the library was unable to host STEM month in-person, so the OSU BMES chapter worked to modify our design challenge to be accessible online and completed by students at home. Students were introduced to the field of BME and taught basic biomechanical principles, including the anisotropic behavior of bone and methods of mechanical testing. With emphasis on the engineering design process, students were then challenged to use their acquired knowledge to construct a 3-D model of a broken tibia using everyday material and design an adequate fixation device that would provide structural support for their model under applied weight. After the activity, students were shown examples of recent biomechanical research at OSU and innovative biomedical devices in clinical trials, emphasizing the relationship between biomechanical research and healthcare.

Date/Location	Audience	Attendance	Cost
April, 2021 Online	CML students	Outreach Chairs	N/A

III-D. Mentoring Activities

This year, the BMES mentorship program was especially important in helping underclassmen navigate making friends, online classes, and adjusting to college life during the pandemic. Our chapter aims to increase retention in the mentorship program and give people a community in which they feel safe and accepted. These goals tie together because as people feel more safe and accepted, they participate more, and as people participate and get to know each other and the program, they begin to feel more safe and accepted. We tackled these with a three-prong approach: by choosing inclusive events that relied on social interactions to nurture the community, showing each member their importance to the program, and encouraging independent family meet-ups to encourage bonding and create close-knit networks. Despite the struggles of navigating an online mentorship program, the total number of participants was 45 members. The families were smaller this year due to an increase in mentor involvement, which allowed members to foster deeper connections.

Maintaining Involvement

This year, we used GroupMe as the primary method of communication for events and other news about the mentorship program. This allowed for efficient communication of organization announcements, while encouraging mentors to reach out to their mentees to share the updates. With the information coming from a personal source instead of a large group message, mentees were more encouraged to come to the events. In order to include everyone in BMES, mentorship events were sent in the larger GroupMe channel containing all members.

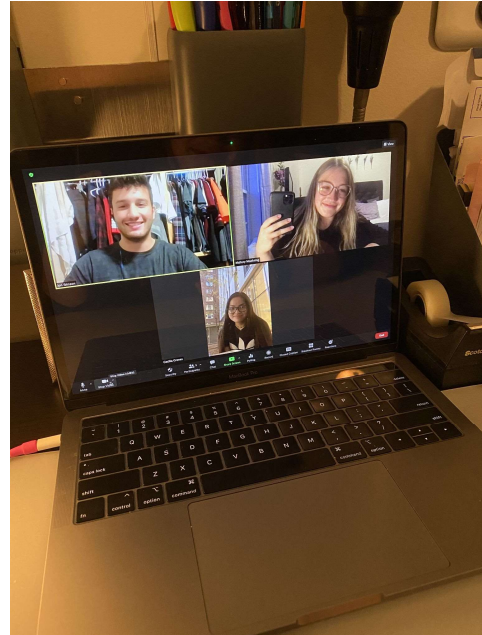
This year, the chapter still encouraged independent family meet-ups either in-person or virtual depending on the state of the pandemic at the time and the comfort of the family members. These events were especially important during the pandemic, as large group mentorship events were over zoom, which doesn't foster a great environment for small-group conversations, as in-person events do.

In addition, we continued the weekly "mentorship spotlight" for the mentorship program. This was another effort to give members the feeling that they are truly valued, regardless of their current level of involvement in the program. This encouraged less involved mentees to get more involved, as they felt they were appreciated in the organization. These spotlights were sent in our weekly newsletters and posted to our Instagram account. Feedback surveys were taken after each event along with mid- and post-semester. These helped us determine areas of mentorship people were happy with and areas that needed improvement, and gave each member a voice in the program.

Member of the Week

Meet Pratima Prabala, a third-year BME major and the incoming Networking Liaison from Milpitas, California! Pratima's favorite mentorship events are the game nights because she gets to meet new people, and she also loves that she gets great advice from people in **BMES**. Another fond memory she has from **BMES** is participating in the Professional Development Committee, event planning, and getting to know the people in the committee. In her free time she loves studying outside, cooking, and listening to Marc E. Bassy, but she's been vibing to Justin Bieber lately.

Follow Pratima on Instagram: @pratimaprabala



The Competition

As our efforts continued from previous years to continue member excitement and participation in mentorship, we continued to distribute "Mentorship Points" to the families, which could be earned by attending mentorship events and family-bonding activities throughout the semester. Last year, some families felt discouraged by the competition aspect, as they felt that



during the semester they got too far behind other families and didn't have a chance to catch up. To keep families motivated, this year, we implemented a raffle that families had a certain amount of entries in based on their amount of points. This allowed all families to have a chance at the raffle, while still encouraging participation to earn more entries in the raffle. The prizes included gift-cards to families to be used for experience-related events, along with BMES branded merch.

Families could earn points in multiple ways:

1. **Large-Group BMES Mentorship Events:** These were structured online mentorship events hosted by the chapter. If the whole family attended as a group, extra points were awarded to them. This year, in order to increase collaboration between families and include all members of the chapter, inter-family groups were formed and changed for each collaboration-style event.
2. **Family Meet-Ups:** Small gatherings were organized through individual families. Zoom meetings were common, while some families met up for walks and other socially-distant activities. They ranged from group visits to coffee shops to exploring downtown Columbus together. A minimum of 4 family meetups per semester per team were encouraged, allowing families to bond more closely.
3. **BMES Social Events:** Points were awarded for members to attend the chapter’s social events. This encouraged bringing our members together not only in their own teams, but also to make the organization feel like an inclusive community.
4. **BMES Outreach Activities:** Participation and volunteering in the chapter’s outreach events allowed mentorship participants the ability to earn points.
5. **Professional Development Events:** Attendance at these events was encouraged and rewarded with points, to show what career-related opportunities the organization could provide. Mentors also assisted at these events by providing advice to underclassmen at events such as “Resume Review.”
6. **General Body Meetings:** Attendance at these events was rewarded with points.
7. **Bingo Sheet Completion:** Monthly “bingo sheets” were released at the beginning of each month. Each square held a challenge, task, or event to be completed as a family. Completing three-in-a-row items would reward the family points.





The Events

The events that the program put on were intended to build a sense of community within the OSU chapter of BMES. The specific events were chosen with intention to be engaging, fun, and establish a sense of team-building, and took into account feedback from surveys sent to members of the program. In combination with the other above methods, our large-group mentorship events brought energy to the program that helped improve the quality of participation and relationships of the families from previous years, and are described on the next page.

Fall Mentorship Kickoff

This was the first mentoring event of the academic year and it explained the importance of mentorship, the potential benefits for both the mentors and mentees, and provided a medium for new students to meet people. The underclassmen met face-to-face with mentors in a “speed-dating” style event to evaluate under whom they would gain the most of their mentorship experience. At the end of the event, the mentees chose the mentor of their choice and teams were created, with four to five mentees per mentor.

Date/Location	Audience	Attendance	Cost
9/8/20, 6:00pm Zoom	Interested mentors and mentees	31 attendees	N/A

Ask the Mentors! Q&A Panel

This event was a panel of mentors, both graduate and undergraduate of varying levels of experience and areas of expertise. Underclassmen had the chance to submit questions for the mentors to answer regarding classes, internships and jobs, graduate school, and anything else they were curious about.

Date/Location	Audience	Attendance	Cost
10/27/20, 6:00pm Zoom	Interested mentors and mentees	18 attendees	N/A

Game Night

Mentorship teams gathered over zoom to chat while and play games in a friendly competition. There was a choice of many different games, but “Among Us” was the fan favorite of the night. Splitting up into random breakout rooms of about 8 people, the attendees talked about winter break and finals while the game was downloading. “Among Us” was perfect to get a conversation going, as members worked together to figure out which of them was the “imposter.” It allowed families and all members to get to know each other a little better as they discussed who was fibbing.

Date/Location	Audience	Attendance	Cost
11/10/20, 6:00pm Zoom	Interested mentors and mentees	27 attendees	\$25



“Zooms” giving Celebration

BMES mentors and mentees gathered in the midst of their midterm studies to enjoy dinner together and play holiday-themed trivia on Kahoot. This gave members a break from studying and allowed freshmen and other BME members to meet people and form connections (something that was severely lacking this year due to Covid-19). After the game, members were encouraged to compete in making the best origami turkey or hand turkey.

Date/Location	Audience	Attendance	Cost
11/18/20, 6:00pm Zoom	Interested mentors and mentees	19 attendees	N/A

Jeopardy! Spring Kickoff

Mentees and mentors were split up into teams to compete in Jeopardy! after everyone returned for the spring semester. Categories included OSU BME domains, movies of 2020, events of 2020, OSU landmarks, popular music of 2020, anatomy, and campus bites. The winning team received gift cards.

Date/Location	Audience	Attendance	Cost
1/14/20, 6:00pm Zoom	Interested mentors and mentees	30 attendees	\$75

“Pal”-entine’s Day

Inspired by the popular game “We’re Not Really Strangers”, BMES members were encouraged to make connections with their peers and potentially find their perfect match/best friend. As a large group, everyone played “Make it or Break it”, debating which silly and highly unlikely quirks their hypothetical future partner had would break their relationship. To create an environment conducive of making connections, the group was broken up into smaller break out rooms and given a combination of get-to-know you and deep questions to get to know other members of BMES. This also gave attendees the opportunity to reflect on their life and take a break from the beginning of the midterm studies.

Date/Location	Audience	Attendance	Cost
2/11/21, 6:00 pm Zoom	Interested mentors and mentees	13 attended	\$15

Spring Into Scheduling Q&A Panel

This event was a panel of undergraduate mentors who have taken multiple BME, engineering, and non-major courses. Underclassmen had the chance to submit questions for the mentors to answer regarding general education classes, major classes, which professors to take, and which classes to take concurrently, etc.



Date/Location	Audience	Attendance	Cost
3/9/21, 6:00 pm Zoom	Interested mentors and mentees	18 attended	N/A

Summer Send Off

BMES mentors and mentees gathered for the last time before summer to play team-based games. Based on feedback from a survey sent out mid-semester, mentors and mentees wanted to see more game-based events, which we provided through the summer send off. The attendees voted to play “Codenames” online, and enjoyed the game so much they played it until the end of the event. “Codenames” is a team-based word association game where one player has to tie multiple words together using a common theme (one word) and the other members of the team have to guess the words.

Date/Location	Audience	Attendance	Cost
4/13/21, 6:00 pm Zoom	Interested mentors and mentees	8 attended	N/A

III-E. Other Initiatives

BMES prides itself on ensuring that our members have the opportunity to meet and hear from professionals in the field, improve on professional skills, and the mentoring of younger members. Our activities focus on areas that assist members in gaining a better understanding of course work and work on their future career path. Every year BMES holds events to educate our members on the opportunities within the major. We foster relationships between our members and the faculty through events such as our research panels. To ensure that BMES members get the most out of OSU’s career fairs, BMES prepares them with resume reviews and career fair prep events.

OSU Student Organization Involvement Fair

The officers of The Biomedical Engineering Society at Ohio State hosted a virtual booth to recruit new members to our chapter. Students were given the opportunity to look at any club or organization available on campus. The officers answered any questions about BME and BMES, while getting contact information to invite the students to the kick-off meeting for the semester.

Date/Location	Audience	Attendance	Cost
8/23/20, 6:00 pm Zoom	All OSU engineering students	48 attendees	N/A



Grad School 101

This year, the Biomedical Engineering Society (BMES) hosted a virtual graduate school panel to help undergraduate students learn more about graduate school, get their questions answered, and build their overall confidence regarding graduate school. The panelists offered unique perspectives as they all had various motivations and experiences for applying to graduate schools.

Date/Location	Audience	Attendance	Cost
10/06/20, 6:00pm Virtual	All BMES members	14 attendees	N/A

Sculpting Your Future

The Sculpting Your Future event is intended to encourage women in STEM to be the best version of themselves through introspective conversation. Women from diverse backgrounds in industry and academia were brought in to empower women and inform male allies of positive methods of empowerment. The goal of the various workshops were to build leadership skills and confidence in students.

The virtual event began with keynote speaker Dr. Monica Cox, a professor of engineering education at Ohio State and the first African-American woman to earn tenure in engineering at Purdue University. Attendees then had the opportunity to join 4 workshops covering a variety of content as shown in the table below, which was followed with a panel from several female leaders in STEM. The event concluded with a networking dinner and closing speech which was a way for attendees to interact with the guest speakers to gain guidance or share experiences in a more informal atmosphere. The event was successful this year given the online Zoom scenario that was used, but we are always looking to improve in the future and expand the size of the event with further advertisements to students and increase the target audience beyond just engineering.

Date/Location	Audience	Attendance	Cost	Speakers	Sessions
03/31/21 12pm-5:30pm, (Virtual)	All BMES members	25-30 attendees	\$500	Dr. Monica Cox (OSU Faculty) Theresa Polacheck (VP of Swagelok) Dr. Gonul Kaletunc (OSU Faculty) Dr. Lauren Eichaker (OSU Faculty) Dr. Tanya Nocera (OSU Faculty)	Keynote (Meaningful Mindsets) Workshop 1 (Communication) Workshop 2 (Salary Negotiation) Workshop 3 (Workplace Diversity) Workshop 4 (Work Life Balance)

III-F. Industry and Professional Development Activities

This year, BMES saw tremendous growth despite holding all industry and professional development activities virtually. The professional development events posed several opportunities to connect medical device companies with members of our chapter. We used the virtual setting to our advantage as we were able to attract companies and speakers from outside Ohio to expand our network as a chapter.

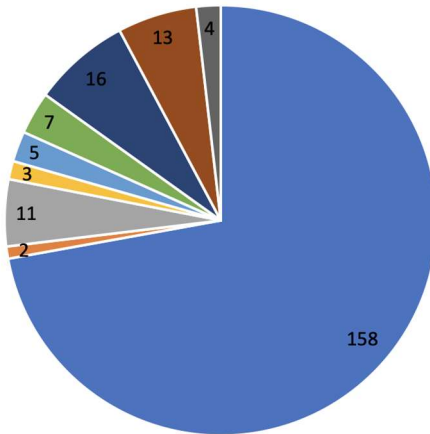
As we transition to the new academic year, BMES will continue to maintain the long-distance connections formed with companies and BMES chapters at different universities by offering various options of attendance. We will achieve this by hosting our flagship events such as Industry Visits, Industry Panels, and Networking Night in a hybrid format. This past year has taught us to utilize various video conferencing platforms for distance learning. These new avenues have brought our chapter a more diverse set of employers and event attendees, allowing us to expand our outreach further than we ever have been able to before. We can continue to reach beyond the biotech and biomedical engineering community in Ohio, and utilize the vast network of Buckeye Alumni to connect our members with career opportunities nationwide.



Engineering in Healthcare: Industry and Research Symposium

Date/Location	Audience	Attendance	Cost
02/26/21, 8:40 AM - 5:15 PM, Virtual	All BMES members	158 OSU Students; 300 Total Attendees	\$4,050.00

EHIRS University Attendees



- The Ohio State University
- Purdue University
- Wright State University
- University of Illinois - Chicago
- Washington University in St. Louis
- Carnegie Mellon University
- Pennsylvania State University
- University of Nebraska - Lincoln
- University of Akron

EHIRS Industry Attendees



- Battelle
- NuVasive Manufacturing
- Medforall
- Cook Medical
- Medpace
- Nanofiber Solutions

The sixth annual EHIRS was a collaboration between The Ohio State University and eight other Midwestern university BMES chapters. It was held completely virtually via an online event platform called Whova. The conference was open to the public and featured multiple industry booths run by company representatives, an industry panel with speakers from industry, four concurrent sessions of graduate student research presentations, two keynote speakers, two networking sessions, a poster session for student presenters, and finally, an awards ceremony. The industry booths were set up by industry representatives and were hosted on the ‘Career Fair’ feature on Whova, allowing students to interact directly with the companies’ representatives via Zoom. Both faculty and industry representatives judged the poster presentations and provided insights as to how to improve. The day before the event, a social event for students was held by the OSU BMES Graduate Student Association via Zoom to allow for a more personal “meet and greet” among students from all different chapters.

Looking at feedback for the event, most attendees highly enjoyed the overall event, specifically the industry panel and student research presentations session. As the event expands, there are many improvements to be made for next year. BMES plans to organize a hybrid EHIRS so that attendees are able to attend in-person with safe sanitation practices, as well as via virtual Zoom interactions during the live event. We also wish to invite more industry representatives for an inclusive and well-rounded networking session. Due to the hybrid format and expansion of the event, we plan on making EHIRS a two-day conference in order to facilitate more productive sessions.



EHIRS Committee



BMES 2020-2021 Executive Board

Resume Review

The Resume Reviews were intentionally scheduled to take place right before the Autumn and Spring Career Fairs. This provides our members with the opportunity to have multiple volunteers (BMES officers) look over their resume and offer constructive feedback. This event is partially targeted towards freshmen who may have only recently created a formal, college resume. Feedback from our members indicated that they enjoyed this event and were grateful to the officers who assisted them with their resume. Our members were able to attend the career fairs feeling both confident and well-prepared.

Date/Location	Audience	Attendance	Cost	Industry Involvement
9/17/20 (Virtual)	All BMES members	19 Undergraduate 1 Graduate	N/A	N/A
04/15/2021 (Virtual)	All BMES members	8 Undergraduate	N/A	N/A

Networking Series

The purpose of the Networking Series was to provide BMES members an opportunity to connect with Biomedical Engineering industry professionals. This served to help attendees grow their professional networks while learning about innovative biomedical engineering projects and potential career paths. During the Networking Series Zoom sessions, the speaker would present a summary of their current job position, how they got interested in this field of work, and any advice they have for students interested in pursuing a similar career path. The attendees then asked specific questions to the speaker. Feedback for the series was quite positive as students enjoyed learning about various BME career paths that they had never been exposed to before.

Date/Location	Audience	Attendance	Cost	Industry Involvement
09/30/2020 (Virtual)	All BMES members	11 Undergraduate	N/A	Dr. Angela Zhou (CAS)
10/29/2020 (Virtual)	All BMES members	17 Undergraduate	N/A	Emily Johnson (NASA)
12/02/2020 (Virtual)	All BMES members	5 Undergraduate	N/A	Dr. Christa Pawlowski (Haima Therapeutics)

Research Panels

This event is meant to connect Principle Investigators (PIs) in need of undergraduate/graduate students with undergraduate/graduate students seeking a research lab together. This event occurs twice in the academic calendar, once in Autumn, once in Spring. A panel of OSU professors presented their research via Zoom alongside the various opportunities available in their labs. After the presentations, the presenters were separated into breakout rooms where the attendees had the opportunity to join any of the rooms depending on their interest. At this point, if the interactions are positive, the professor and the individual/s continue the conversation at a later time and the individual is added to the research team if suitable. Due to the virtual platform, less students than previous years attended, but overall feedback rated the event at a 4.5 or greater/5.

Date/Location	Audience	Attendance	Cost	Research Speakers
10/08/20 (Virtual)	All BMES members	28 Undergraduate	N/A	Dr. Benjamin Walter (Spine Research Institute) Dr. Thomas Hund (Hund Laboratory) Gunjan Agarwal (Agarwal Laboratory)
2/25/21 (Virtual)	All BMES members	16 Undergraduate	N/A	Dr. Drew Nassal (Hund Laboratory) Dr. Samir Ghadiali (Respiratory Mechanobiology Research Laboratory) Dr. Raghu Machiraju (Machiraju Laboratory)

General Body Meeting #3

The purpose of these meetings are not only to update our members and make announcements, but also to have speakers of varying expertise come and speak. Meetings start out with some brief announcements by BMES officers and are followed by the presentation by our speakers and questions from students. The third general body meeting featured Ali Rahimi, CEO of Medforall, who spoke about his company. Feedback from BMES members was positive as they reported that having “real-world” representatives come in and speak provided them a valuable experience.

Date/Location	Audience	Attendance	Cost	Industry Involvement
11/03/20 (Virtual)	All BMES members	15	N/A	Ali Rahimi (Medforall)



Industry Panel

Industry Panels aim to introduce undergraduate BME students to the diverse career paths that can be taken in different industries with a Biomedical Engineering Degree. The panel provided an opportunity to ask questions relating to finding a job after graduation, or what additional classes would be beneficial to take when thinking of a specific career path. All panelists were OSU graduates, with a goal of showing undergraduates how different opportunities can be found under the same education. BMES hosts moderated the Q&A so that panelists were asked a combination of previously-sent questions and new ones from the Zoom chat. Attendees found the panelists' advice insightful and believed that the event was beneficial.

Date/Location	Audience	Attendance	Cost	Industry Involvement
11/12/20 (Virtual)	All BMES members	30 Undergraduate	N/A	Divya Krishnagiri (Conformis) Alyssa Dalic (Medpace) TJ Gaither (PercuVision LLC) Tony Mango (Healthbox) Will Cisneros (Cardinal Health) Marissa Kamenir (Ethicon)
04/05/2021 (Virtual)	All BMES members	11 Undergraduate	N/A	Jason Mattice (SEA Limited) Steven Starkey (Johnson & Johnson) Genevieve Thanh (OSU Graduate Student)



Speed Dating Interview

The Speed Dating Interview Event was intentionally scheduled to take place right before the Spring Career Fair. It allowed our members to practice a mock interview with BMES upperclassmen who have earned internship experiences. BMES members were given examples of questions that they may get during the career fair and were offered constructive feedback by the BMES upperclassmen. This event did not have as many attendees as some of the other PD events, but it was still highly beneficial to the attendees who learned professional tips on how to successfully obtain internship and professional experiences through career fairs.

Date/Location	Audience	Attendance	Cost	Industry Involvement
2/1/21 (Virtual)	All BMES members	6 Undergraduate	N/A	N/A

III-G. Societal Impact Activities

Our BMES chapter provided several opportunities to help students gain hands-on experience for developing medical device solutions to impact the surrounding community. These opportunities came in the form of expanded events and new initiatives, offering our members multiple chances to get involved. Our two main opportunities for societal impact were Bio-Hack and Community Interns.

Bio-Hack has been a successful event for our chapter over the last few years. Due to COVID-19 restrictions, this bio-hackathon was virtual and was extended to a three-day period for teams to develop their projects. It involves students working in groups of 3-4 people to develop solutions to healthcare issues and commenced with a judging session from faculty / industry representatives. Our chapter was also excited to announce a brand-new Community Interns program. This initiative allows members to work for local BME companies on projects which directly benefit the Columbus community. This offered our members more opportunities to obtain industry experience and also developed extensive relations with companies such as Medforall and NuVasive Manufacturing which could be leveraged for future projects.

Bio-Hack

BMES collaborated with MakeOHIO and E-Club to conduct Bio-Hack, which was a completely virtual healthcare-focused workshop. This event was open to all students and featured two main hands-on medical device projects to impact the community. The first project option was the ICU Hand Washing Recognition System. Often times, healthcare workers forget to maintain effective hand hygiene when traveling into and out of patient rooms, so this project tasked students with designing and building a prototype for an automated visual alert system. These products will heavily reduce the risk of infection or disease transmission through hospitals, especially during the COVID-19 pandemic. The second project was a Wheelchair Obstacle Sensor. Students were tasked with developing a system to prevent accidental collisions between wheelchairs and surrounding objects or walls. These systems therefore prevent further injury for new wheelchair patients as they learn to navigate efficiently. Project kits that contained circuits and medical materials were delivered to the teams to provide necessary resources, but options were available



for teams to purchase additional resources. The students then spent three days completing their projects to the best of their ability and the final projects were judged virtually with prizes for the best products. This event was extremely successful and allowed students to brainstorm creative solutions as well as gain hands-on experience with medical device and electrical equipment.

Date/Location	Audience	Attendance	Cost	Industry Involvement
3/5/2021-3/7/2021, Virtual	All BMES members	23 attendees	\$800	N/A

Community Interns

The purpose of the Community Interns (CI) events were to give students a more structured opportunity that does not require a definite or finite contract for work. This allowed students to gain medical device project experience with companies in the Ohio community. BMES hosted Community Interns Events with representatives from Medforall in the Autumn and NuVasive Manufacturing in the Spring. At the events, the representatives explained the project then networked with students one on one in Zoom breakout room speed-networking sessions. The Medforall project offered students an opportunity to help develop assistive technologies in disability support systems. Nuvasive Manufacturing sponsored a Load Curve Analytics Projects which allowed students to analyze data from the spinal device manufacturing process to reduce the scrap rate and detect patterns in abnormalities. Students were chosen by the representatives to join the project team and assist the company in completing the project on a volunteer basis. Feedback for the events was positive from both the students and the company representatives. These projects allowed our chapter to collaborate with local industry to provide short-term project opportunities in medical device development for our members.

Date/Location	Audience	Attendance	Cost	Industry Involvement
11/03/2020 (Virtual)	All BMES members	12 Undergraduate	N/A	Jake Hasselbach Ali Rahimi (Medforall)
04/15/2021 (Virtual)	All BMES members	9 Undergraduate	N/A	Brandon Wehl Roderick Fair (NuVasive Manufacturing)

IV. National BMES Meeting

BMES at OSU will continue to bring a strong member body at the national meeting. We aim to bring at least 50% of the executive board as well as any other members that want to attend. Through this BMES has been able to reap the benefits of the national meeting.

IV-A. Attendance

Table 7: Graduate Students and Post-Docs in Attendance

First Name	Last Name	Email (Lastname.#@osu.edu)
Megan	Co	Co.21@osu.edu
Qinqin	Fei	Fei.100@osu.edu
Mario	Mendez	Mendezperez.1@osu.edu
Tom	DePalma	Depalma.55@osu.edu
Marco	Rodriguez	Rodrigues.1065@osu.edu
Kylie	Nairon	Nairon.1@osu.edu
Nick	Moise	Moise.12@osu.edu
Vasudha	Shukla	Chaureyshukla.1@osu.edu

Table 8: Undergraduate Students in Attendance

First Name	Last Name	Email (Lastname.#@osu.edu)
Aneesh	Zutshi	Zutshi.4@osu.edu
Connor	Neifert	Neifert.4@osu.edu
Kate	Mallek	Mallek.6@osu.edu
Sreyas	Pillai	Pillai.68@osu.edu
Anna	Wang	Wang.12213@osu.edu
Ellie	Guilfoyle	Guilfoyle.16@osu.edu
Natalia	Mendonca	Mendonca.10@osu.edu
Tasha	Bruner	Bruner.103@osu.edu

Table 9: Faculty and Staff in Attendance

First Name	Last Name	Email (Lastname.#@osu.edu)
Katelyn	Swindle-Reilly	Reilly.198@osu.edu
Daniel	Gallego-Perez	Gallegoperez.1@osu.edu
Samir	Ghadiali	Ghadiali.1@osu.edu
Jun	Liu	Liu.314@osu.edu
Benjamin	Walter	Walter.367@osu.edu
Richard	Hart	Hart.322@osu.edu
Aleksander	Skardal	Skardal.1@osu.edu
Seth	Weinberg	Weinberg.147@osu.edu

IV-B. Participation

Student/Chapter workshops and lectures attended by members

- Day 1 - Coffee Q&A Open Office Hours For on Demand Sessions (Cardiovascular Engineering)
- Day 1, Plenary Session I - Pritzker Distinguished Award Lecture
- Day 1, Session 4 - Oral Presentations: Immunoengineering
- Day 1, Session 2 - Oral Presentations: Lung, Tissue, and Device Development
- Day 1, Session 5 - Student and Early Career Programming: Level Up Your LinkedIn Game
- Day 2, Plenary Session II - Diversity Award Lecture
- Day 2, Session 2 - Oral Presentations: New Insights into Cancer Cell Function and Therapy
- Day 2, Session 4 - Oral Presentations: Neural Tissue Engineering to Study Injury and Regeneration
- Day 2, Townhall with BMES Leadership on Supporting Black, LatinC, and Indigenous Members
- Day 2, Session 2 - Oral Presentations: Stem Cell Engineering I
- Day 2, Session 2 - Oral Presentations: Biosensors
- Day 3, Plenary Session IV: Wallace H. Coulter Healthcare Innovation Award Lecture, PhD, GENEWIZ
- Day 3, Session 3 - Oral Presentations: Tissue Engineering Frontiers I
- Day 3 - Gender Equity Event
- Day 3 Session 3 - Oral Presentations: Heart Valve Structure and Disease
- Day 4, Plenary Session V: Rita Schaffer Young Investigator Award Lecture and Mid-Career Award Lecture
- Day 4, Session 1 - Oral Presentations: Neural Interfaces / Neuromodulation
- Day 4, Session 5 - Student and Early Career Programming: How to Make the Best of a Mess: Turning Chapter Programs Virtual
- Day 4, Virtual Bash with D

V. Future Directions

V-A. New Officer Contact Information

1. Aneesh Zutshi: Co-President, Zutshi.4@osu.edu
 - a. Duties: Oversee Operations
2. Arnav Divekar: Co-President, Divekar.6@osu.edu
 - a. Duties: Oversee Operations
3. Ellie Guilfoyle: Internal Vice President, Guilfoyle.16@osu.edu
 - a. Duties: Mentorship, Outreach & Social Events
4. Kate Mallek: External Vice President Chair, Mallek.6@osu.edu
 - a. Duties: Professional Development & Community Service
5. Cecilia Groves: Secretary, Groves.219@osu.edu
 - a. Duties: Meeting Notes & Member Communication
6. Grant Schrieber: Treasurer, Schrieber.2@osu.edu
 - a. Duties: Fiscal Responsibility
7. Natalia Mendonca: Projects Chair, Mendonca.10@osu.edu
 - a. Duties: Oversee Project based events
8. Mihir Joshi: Marketing Chair, Joshi.373@osu.edu
 - a. Duties: Oversee PR with BMES Community
9. Maariyah Ahmed: Professional Development Chair, Ahmed.710@osu.edu
 - a. Duties: Assist EVP in planning Professional Development events
10. Michael Kaltman: Social Development Chair, Kaltman.3@osu.edu
 - a. Duties: Social Events
11. Shivangi Mohta: EHRS Chair, Mohta.9@osu.edu
 - a. Duties: Oversee EHRS Event
12. Stephen Piatkowski: EHRS Chair, Piatkowski.4@osu.edu
 - a. Duties: Oversee EHRS Event
13. Tasha Bruner: Special Initiatives Chair, Bruner.103@osu.edu
 - a. Duties: Oversee Diversity and Inclusion Events
14. Hannah Mullany: Special Initiatives Chair, Mullany.5@osu.edu
 - a. Duties: Oversee Diversity and Inclusion Events
15. Madison Reidl: Outreach Chair, Reidl.7@osu.edu
 - a. Duties: Lead outreach and volunteer initiatives in the Columbus community
16. Jad Hussein: Outreach Chair, Hussein.112@osu.edu
 - a. Duties: Lead outreach and volunteer initiatives in the Columbus community
17. Celine Ertin: Engineer's Council Representative, Ertin.3@osu.edu
 - a. Duties: Funding & Utility
18. Nikhil Nandyala: Engineer's Council Representative, Nandyala.7@osu.edu
 - a. Duties: Funding & Utility
19. Pratima Prabala: Networking Liaison, Prabala.2@osu.edu
 - a. Duties: Network With Organizations
20. Anna Wang: Faculty Liaison, Wang.12213@osu.edu
 - a. Duties: Communicating With Faculty

V-B. Looking Ahead

Our BMES chapter has made notable improvements and accomplishments this year; however, we strive to continue our growth into next year in all areas of our society. Despite the difficulties surrounding the COVID-19 pandemic, we have sustained our membership of over 100 members this past year, and plan to further increase membership this upcoming year. We will focus our efforts on reaching out to academic advisors in other engineering departments at OSU who are interested in biomedical aspects of their discipline such as Computer Science Engineering, Material Science Engineering, and Electrical Engineering. We also will advertise our society through the Engineers Council at The Ohio State University by taking initiative during student organization events on campus. By doing so, we will diversify the representation of majors within BMES and increase our general membership. We also aim to increase our industry partners through collaborations with BioOhio and JobsOhio, which help connect medical device companies to our chapter.

In the past, our chapter has struggled with member attendance during events, leading to challenges in creating an engaged community. Over the years, we have seen a rise in attendance for our social events, however, the turnout gets progressively smaller throughout the semester. To improve this, we plan to prioritize our marketing strategy, specifically social media branding. We will redesign our website, weekly newsletter, and Instagram page so that our messages are easily accessible and understandable by our members. We will also create a LinkedIn page to connect with companies in the biomedical industry. Networking in this manner will enable more speakers to attend events, resulting in higher demand and attendance by members. Secondly, we plan to make our events more engaging and accessible to members. We will transition meetings back to in-person where food and drinks will be offered along with opportunities for peer social interaction and engagement. Furthermore, we will stream these meetings and have exclusive virtual events for members who may not feel comfortable with in-person events. These changes will allow for a close-knit community and increased levels of engagement from members during the anticipated hybrid environment.

This year, the mentorship program was especially important to integrate underclassmen into the sudden virtual community of BMES. The mentorship families were more close-knit than in previous years, which allowed members to feel the sense of community even with the pandemic. While the closeness of the families grew, we saw a decline in participation in large group events, particularly towards the end of the year. To increase participation next year, we will be introducing the use of mentorship group chats - one with just underclassmen and one with all participants in the mentorship program. This will allow us to better communicate with the mentorship participants through a platform for mentees and mentors to get to know one another in the larger group. It will also be used to allow mentors and mentees to have more of a voice in the program by having them help with events and suggest ideas. Creating this sense of a larger community will increase large-group participation in mentorship events.

The professional development (PD) events had numerous achievements this past year and led to valuable networking and internship opportunities for our members. Next year, we plan to

introduce a PD Workshop Series, which consists of several events throughout the academic year. Each workshop would be led by a faculty member and include a brief instructional section followed by an interactive project which students can work on collaboratively. These workshops will consist of topics like surgical experience, CAD software, and circuitry, providing a diverse skill set for members to reference during interviews or when entering the industry. Another event being planned is an annual BMES Medical Device Case Competition. Members of our chapter would receive an opportunity for a weekend-long trip to a company, involving a networking dinner where participants can connect with company representatives in a relaxed social environment. Following that, members will be grouped into teams and will conduct a healthcare-related case analysis using an interdisciplinary mindset. These new events provide unique opportunities which will further both technical and analytical skills for members as they enter the healthcare industry. Lastly, we are constructing an alumni database which will contain contact information about graduates from our chapter along with their current professional status. This will allow for increased networking opportunities between current members and graduates with interests in similar professional fields.

In addition to the new creations, we also understand the importance of stabilizing and expanding our current PD events. Two of our flagship events: The Engineering in Healthcare: Industry and Research Symposium (EHIRS) and Sculpting Your Future (SYF), have grown significantly in the virtual environment. For EHIRS, we aim to grow the one-day symposium into a two-day conference. The first day will be industry focused with multiple speakers, networking sessions, and an industry panel. The second day will be research focused with students presentations and a project-based competition. Our chapter is in contact with the National BMES organization about advertising the event and reaching out to new university partners as well. Certain events will be livestreamed at EHIRS to make them more accessible to interested chapters who may not be able to attend the event in-person. On the industry side, our chapter is looking to partner with Ohio State's Engineering Career Services and JobsOhio to secure more companies and their respective representatives at EHIRS. For SYF, we plan to grow the event in a similar manner to the previous year's EHIRS expansion. We will invite surrounding BMES chapters to the event to increase student attendance. Additionally, we will partner with Ohio State clubs such as the Society of Women's Engineers to not only increase attendance but also obtain more industry contacts. We hope this will increase the number of speakers and attendees at this year's SYF.

There are several tasks that we have aligned regarding mentorship, marketing, and professional development. We are confident that we can accomplish these goals for next year to continuously improve our chapter and build memorable experiences for our members.