

**Senior Our Ohio State University Renewal Document**

**Faculty Advisors**

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**Student Members**

**\*\*New membership names in bold\*\***

Name	Title	Email	Responsibilities
Dhruti Shah	Co-President	Shah.1799@osu.edu	Oversee officers
Arnav Madani	Co-President	Madani.12@osu.edu	Oversee officers
Zack Yuschuk	External Vice President	Yuschuk.1@osu.edu	Organize mentorship program
Bridget Yu	Internal Vice President	Yu.3450@osu.edu	Oversee events involving companies
<b>Alec Gill</b>	Secretary	Gill.733@osu.edu	Create weekly newsletter
Benjamin Hsiao	Treasurer	Hsiao.161@osu.edu	Record operating budget
Anna Mickol	Marketing Chair	Mikol.5@osu.edu	Run social media accounts
<b>Michael Watters</b>	Social Chair	Watters.114@osu.edu	Host socials and intramurals
<b>Meagan Bourke</b>	PD Chair*	Bourke.282@osu.edu	Organize PD events
<b>Olivia Steele</b>	Projects Co-Chair	Steele.1107@osu.edu	Plan Bio-Hack & Case Comp
<b>Malak Askar</b>	Projects Co-Chair	Askar.19@osu.edu	Plan Bio-Hack & Case Comp
<b>Alejandro Juarez</b>	Design Team Chair	Juarez.73@osu.edu	Oversee design team
<b>Liam Porteus</b>	EHIRS Co-Chair **	Porteus.38@osu.edu	Run EHIRS 2024
<b>Alex Mian</b>	EHIRS Co-Chair **	Mian.26@osu.edu	Run EHIRS 2024
<b>Anne Chiramel</b>	SI Co-Chair***	Chiramel.1@osu.edu	Plan SYF event

Deven Phillip	SI Co-Chair***	Phillip.81@osu.edu	Plan SYF event
<b>Emily Meier</b>	Outreach Co-Chair	Meier.238@osu.edu	Organize community events
<b>Megan Kirk</b>	Outreach Co-Chair	Kirk.503@osu.edu	Organize community events
<b>Abel Vinoyi</b>	E-Council Rep.	Vinoyi.3@osu.edu	Attend OSU E-Council meetings
<b>Sarah Hartwig</b>	E-Council Rep.	Hartwig.32@osu.edu	Attend OSU E-Council meetings
<b>Emily O'Brien</b>	Faculty Liaison	Obrien.1126@osu.edu	Attend OSU faculty meetings
<b>Megumi Koshino</b>	D&I Chair****	Koshino.3@osu.edu	Host diversity/inclusion events
TBD in the Fall	Freshman Rep.	TBD in the Fall	Receive new member feedback

\* Professional Development, \*\*Engineering in Healthcare: Industry & Research Symposium, \*\*\*Special Initiatives, \*\*\*\*Diversity and Inclusion

**Website Link:** [osubmes.org](http://osubmes.org)

**Free Member Information:**

Member Name	Position	Email Address
Srestha Chattopadhyay	Corporate Relations Liaison	Chattopadhyay.47@osu.edu

# The Biomedical Engineering Society at The Ohio State University

## Chapter Development Report

2024-2025



The Ohio State University's (OSU) Chapter of the Biomedical Engineering Society focuses on providing professional development, social, outreach, and mentorship opportunities for its members interested in the biomedical or healthcare field. Over the 2024-2025 academic year, our chapter hosted several new community outreach events for students in the Columbus area, expanded company partnerships to provide real world industry opportunities, increased development opportunities for members interested in graduate school, and created opportunities for members to gain hands-on engineering project experience while addressing a community need. We further developed our new outreach initiatives including partnering with a local middle school that does not have access to STEM resources to implement STEM outreach programs. This includes creating new pairs for the Pen-Pals program as well as a 3D-printing competition and other STEM based workshops in order to help disadvantaged students learn about STEM and possible careers. In addition, we hosted our third ever OSU STEM Day where we hosted over 50 students on our campus to get students excited about a career in STEM. Our chapter developed a new graduate school mentorship program which paired graduate students at OSU, both masters and Ph-D with undergraduate students in our chapter who are looking to obtain a master's degree or enter a career in academia. Additionally, we expanded our mentorship efforts to reach a local high school where we hosted a BMES kickoff event to help students start their own chapter. We also hosted The Engineering in Healthcare Industry and Research Symposium (EHIRS) again—our third in-person edition since COVID-19. This is also the first year we partnered with OSU's Department of Biomedical Engineering and Graduate Student Association to host this symposium as a department-wide flagship event, boosting involvement with OSU's BME faculty. Featuring five biomedical companies and four research labs, this event allowed for numerous networking resources that students took advantage of. Another huge focus for our organization this year was the growth and expansion of the BMES Design Team. This team was created to allow for students to develop project skills before they reach their senior year capstone class. In collaboration with Nationwide Children's Hospital, the team was able to create a device that is able to help personalize ankle braces for children with cerebral palsy. Due to the tremendous growth and interest for our year long Design Team, we also created a new project in collaboration with the Ohio State University Wexner Medical Center to develop innovative cardiac surgical tools. In collaboration with OSU's Cardiac Surgery team, the group is actively developing a cardiac tool that prevents cannula leakage during surgery. After being awarded for our Outstanding Mentorship, Industry Development, and Advancement in Diversity, Equity, and Inclusion programs in recent years, we aimed to maintain excellence in these areas while also

focusing on improving other dimensions of our organization to provide holistic opportunities for members.

Please direct all questions about The Biomedical Engineering Society at Ohio State's Chapter Development Report to Arnav Madani and Dhruvi Shah.

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### **Faculty Advisors**

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Dear Student Chapter Award Committee Members

The Biomedical Engineering Society (BMES) at Ohio State University (OSU) has continued to develop an environment in which members are able to utilize professional connections, create meaningful peer relationships, and spread their love for biomedical engineering to the neighboring communities. This past year, our chapter focused on expanding our outreach efforts with the Columbus community, sustaining our industry efforts, reaching a broader student audience and expanding a broader range of mentorship opportunities.

The new outreach efforts this year focused on supporting the Columbus community and increasing access to STEM opportunities. BMES members facilitated experiments like building your own wind turbine to generate excitement about biomedical engineering. Members shared these demonstrations during events at various local schools and at large student festivals like WestFest and STEM day. We were able to bring 40 middle and high school students to Ohio State through STEM Day to tour the engineering facilities and go through hands-on activities.

To advance professional development opportunities, OSU BMES expanded its company sponsorship program with 10 sponsors, 6 of which are new to the program. In total, we have partnered with over 20 different companies this year. To support students interested in pursuing higher education, the chapter continued their Medical School and Graduate School Mentorship Program. Additionally, the chapter expanded its Speaker Series program to include representatives from dental school. Around 10 graduate school students served as personal mentors for OSU BMES members. Furthermore, a graduate school panel was hosted on a range of topics from applying to graduate school and what to expect when entering graduate school. In addition, the chapter continued the High School Mentorship Program. 7 OSU BMES members traveled to a local high school and presented on BMES topics including EMGs, engineering domains, and general college advice.

These efforts were recognized throughout OSU this year. At the university level, one of our officers who served as our professional development chair was recognized with an award as an emerging leader this year. At the College of Engineering level, OSU BMES was also awarded Honorable Mentions in Buckeye Shared Values (Diversity Inclusion Enhancement and Outreach Award) and Overall Outstanding Student Organization, highlighting the social, professional, mentorship, outreach, and DEI impact that our chapter has had within the biomedical engineering community and beyond. These awards demonstrate how our chapter's success stems from the cohesiveness and contribution of every member.

The future goals for this chapter include increasing member participation in outreach activities and collaborating with other student organizations on and off campus. While our professional development events were incredible and had a lot of engagement, we noticed that

participation in outreach initiatives was significantly lower. To address this, we plan to promote outreach opportunities more intentionally and consistently, highlighting their impact and relevance to biomedical engineering. This includes volunteering at local STEM fairs, leading hands-on demos at schools, and collaborating with other student organizations like SWE or AiChE. We aim to co-host events that blend education, service, and community-building. Through these partnerships and clearer communication, we hope to make outreach a more accessible and exciting part of the BMES experience, and encourage participation.

We have been able to achieve numerous accomplishments and initiatives this year which have been detailed in the document below for further reference.

Sincerely,  
Dr. Mark Ruegsegger and Dr. Alexis Ortiz-Rosario

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## I. Administrative Report

The BMES chapter at The Ohio State University (OSU) aims to provide professional development and social opportunities for over 250 members. It does this through monthly general body meetings, various scheduled events, and impromptu meet-ups. These opportunities and events are planned together by a pool of 24 officers and their subsequent committee members. Within the officer pool, the external and internal vice presidents oversee the other respective professional and social officer roles. This system is combined with the overall supervisory role of the co-presidents, allowing for multiple checks of each event before it is offered to our members. Furthermore, bi-weekly officer meetings are held where officers can present event ideas to their peer officers to receive a wide range of ideas and feedback. Overall, the leadership structure and management system in place allows us to plan the best possible opportunities for our members.

### I-A. 2024-2025 Officers

<b>Title</b>	<b>Name</b>	<b>Email</b>	<b>Responsibilities</b>
Co-President	Joanne Xu	Xu.4390@osu.edu	Oversee officers and overall operations
Co-President	Mihir Joshi	Joshi.373@osu.edu	Oversee officers and overall operations
Internal VP	Jinju Kim	Kim.8301@osu.edu	Execute mentorship program
External VP	Dhaarini Prasad Sudha	Prasdasudha.1@osu.edu	Oversee events involving companies
Secretary	Saidah Adeyemi	Adeyemi.19@osu.edu	Create weekly newsletter
Treasurer	Jordan Carlson	Carlson.650@osu.edu	Record operating budget
Marketing Chair	Bridget Yu	Yu.3450@osu.edu	Run social media accounts
Social Chair	CJ Replogle	Replogle.17@osu.edu	Host socials and intramurals
PD Chair*	Arnav Madani	Madani.12@osu.edu	Organize PD events
Projects Co-Chair	Emma Wang	Wang.7223@osu.edu	Plan Bio-Hack event and Case Competition
Projects Co-Chair	Dhruti Shah	Shah.1799@osu.edu	Plan Bio-Hack event and Case Competition
EHIRS Co-Chair **	Avneesh Pradhan	Pradhan.73@osu.edu	Run EHIRS 2024
EHIRS Co-Chair **	Ethan Stamas	Stamas.4@osu.edu	Run EHIRS 2024

SI Co-Chair***	Anna Mickol	Mickol.5@osu.edu	Plan Sculpting Your Future event
SI Co-Chair***	Kate Herr	Herr.419@osu.edu	Plan Sculpting Your Future event
Outreach Co-Chair	Mia Dearing	Dearing.37@osu.edu	Organize community outreach events
Outreach Co-Chair	Sanjanasri Vedavyas	Vedavyas.1@osu.edu	Organize community outreach events
E-Council Rep.	Benjamin Hsiao	Hsiao.161@osu.edu	Attend OSU E-Council meetings
E-Council Rep.	Hari Kasi	Kasi.8@osu.edu	Attend OSU E-Council meetings
CR Liaison****	Zack Yuschuk	Yuschuk.1@osu.edu	Manage and recruit for sponsorship/partnership program
Faculty Liaison	Austin Carlin	Carlin.105@osu.edu	Attend OSU faculty meetings
D&I Chair*****	Deven Philip	Philip.81@osu.edu	Host diversity/inclusion events
Freshman Rep.	Srestha Chattopadhyay	Chattopadhyay.47@osu.edu	Receive new member feedback
Design Team Chair	Saanil Rao	Rao.532@osu.edu	Oversee design team

\* Professional Development

\*\*Engineering in Healthcare: Industry & Research Symposium

\*\*\*Special Initiatives

\*\*\*\*Corporate Relations

\*\*\*\*\*Diversity and Inclusion



### I-B. Membership

Chapter Membership	Actively Participating Members	National Membership
252 students	154 students	24 students

Chapter Membership	Actively Participating Members	National Membership
	61%	10%

### I-C. General Body Meeting Information

#### General Body Meetings & Speaker Series

Date	Attendance	Name (Speakers) - Description
08/27/2024	128	Kickoff Meeting (Joanne Xu, Mihir, Joshi, Dr. Mark Ruegsegger, and Dr. Alexis Ortiz-Rosario) – BMES chapter overview and events for potential members
10/17/2024	56	October General Body Meeting (Joanne Xu, Mihir, Joshi, and Biosense Webster) - Recap of recent events including Networking Night and Resume Review, upcoming Events, and presentation from Biosense Webster representatives
11/14/2024	38	November General Body Meeting (Joanne Xu, Mihir Joshi, and AmplifyBio) - Recap of recent events including STEM Day, National BMES Conference, Clean Up Columbus, Industry Panel, Design Team User Testing, Networking Speaker Series, Medical & Dental School Panel, upcoming events, and presentation from AmplifyBio representatives.
01/28/2025	35	January General Body Meeting (Joanne Xu, Mihir Joshi and Amgen) - Upcoming events, member appreciation, officer election information, and presentation from Atricure representatives
02/28/2025	56	February General Body Meeting (Joanne Xu, Mihir, Joshi and Officer Election Candidates) - EHRS recap and officer elections
03/18/2025	42	March General Body Meeting (Joanne Xu, Mihir Joshi, OSU Wexner Medical Center CPR club) - Sculpting Your Future recap, upcoming events, presentations from Nationwide Children’s representatives, Amgen representatives, and BMES Design Team

### I-D. Officer Meeting Information

#### Summer 2024 Meetings

Date & Time	Agenda
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05/21/24 2:00 pm	Discuss pre-semester goals and new initiatives for the upcoming year. Discuss planned budget and room reservations for events of the upcoming year.
06/23/24 2:00pm	Organize BMES National Meeting Logistics and travel with the Ohio State department. Plan materials for Fall involvement fair and general body kickoff meeting, plan Grandparents Day event and discuss strategies for increasing corporate sponsorship program throughout the academic year.
07/14/24 2:00 pm	Plan details for Fall involvement fair and opening kickoff meeting. Coordinate which companies to reach out to and update website/social media pages. Plan dates and events in the Professional Development week including mock interview, resume review, and networking night..
08/11/24 2:00pm	Finalize food and games at BMES Kickoff and Involvement Fair poster. Plan date and details of resume review and Networking Night so that companies know when to come.

### 2024-2025 Academic Year Meetings

Date	Agenda
08/27/2024	Planning for beginning of year logistics, Organize new member registration process, Send out committee and freshmen representative applications, Finalize logistics of resume review and mock interview event
09/10/2024	Finalizing calendar for fall semester events and create room reservations, Plan travel logistics for National BMES Conference, Select committees, Finalize logistics for Networking Night event
09/24/2024	Preparing for National BMES Event, Organize logistics for WestFest outreach event, Coordinate with Johnson and Johnson's BioSense Webster for recruitment event, Reach out to local high schools for STEM Day, Finalize Pen Pal pairings
10/08/2024	Planning mentorship and social events, Planning T-shirt designs and updating budget, Organizing fall intramural sports and registration process, Finalize pairings for medical school and graduate school mentorship programs, Finalize agenda and activities for STEM Day
10/29/2024	Finalizing Bio-Hack event details and food/beverages, Planning Wellness event materials needed, Discuss upcoming research recruitment event, Finalize DNA Origami details for outreach
11/05/2024	Planning LinkedIn workshop with Thermo Fisher Scientific, Secure keynote speaker for EHRS, Recap Biohack and gain feedback for next year, Coordinate first industry shadowing day with Infoverity

11/19/2024	Preparing for Engineering in Healthcare: Industry & Research Symposium (EHIRS) and inviting other BMES chapters, Finalizing calendar for spring semester events, Organizing social de-stress event during finals week
01/11/2025	Preparing for Spring Semester (EHIRS and Sculpting Your Future), Creating interest forms for spring intramural opportunities, Planning election process logistics, Applying for organizational awards at Ohio State University and Engineer Council awards
01/21/2025	Planning Elections and officer application processes, Finalizing EHIRS and checking in with keynote speakers
02/04/2025	Creating written application forms for application-based officer positions, Planning application workshop for pre-BME freshman, Debriefing EHIRS, Preparing for Sculpting Your Future
02/18/2025	Finalizing for Sculpting Your Future, Finalizing election logistics and Standard Operating Procedures for officers, prepare for individual research recruitment events
03/03/2025	Debrief Sculpting Your Future, Transfer documentation over to new officers and do transition meetings, Organizing presenters for March GBM including the OSU Wexner Medical Center CPR club, Begin gathering pictures from events in the semester
03/24/2025	Plan End-of-Year Mentorship Events, Reviewing overall interest and involvement from intramural sports, Finalize panelists for Graduate School Program
04/07/2025	Finalize panelists for Industry Panel, Review logistics for High School Mentorship Kickoff Event, Plan for Spring Cross Chapter Trivia Event
04/21/2025	Finalize details for de-stress social for finals week, Planning format for summer meetings and improvements to be made in upcoming fall semester

## **II. Treasury Report**

*The items listed below include funding and expenditures between 04/15/2024 and 04/05/2025.*

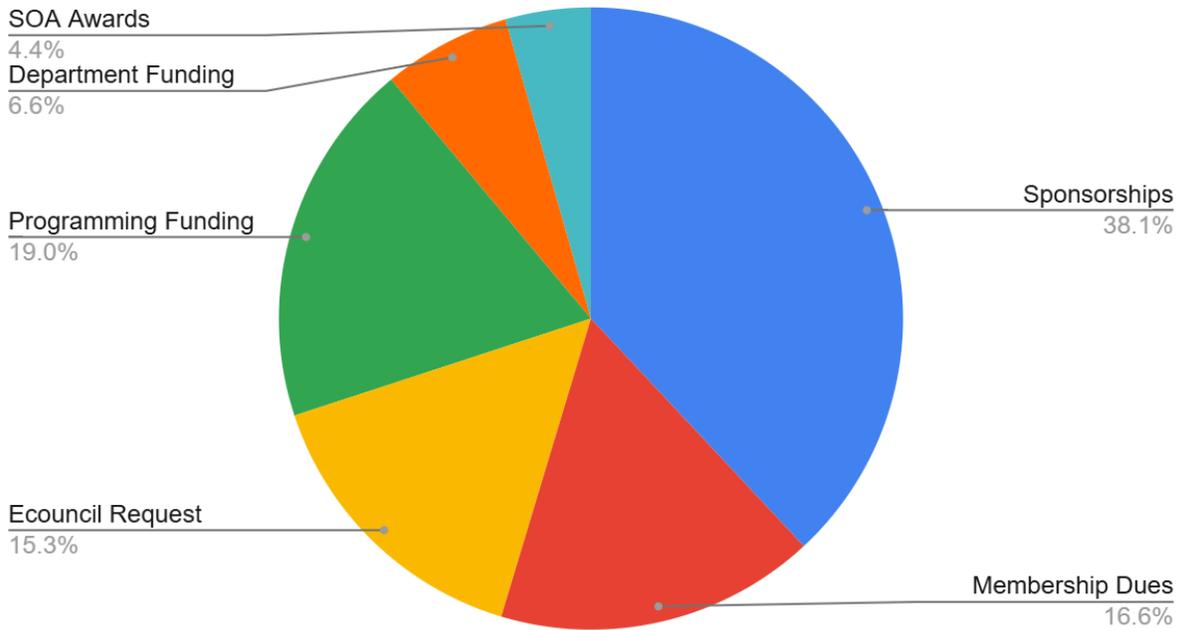
BMES at The Ohio State University had a great year of events and opportunities for our members this past 2024-2025 academic calendar year. We continued our industry sponsorship program where most of our income was sourced. This past year, we continued to host a plethora of opportunities for our members. These opportunities included but were not limited to: professional development events, social events, our mentorship program, our annual EHIRS, SYF and Biohack events and finally our BMES banquet to wrap up the year. Additionally, we added new opportunities, such as our BMES Case Competition for those consulting oriented, as our industry partnership events with J&J Medtech and Andelyn Biosciences. We also added a brand new design project to our design team, and increased the number of actively participating members. We ultimately had a great and successful year in terms of our partnerships we created within the industry and the opportunities we offered to our members and we are looking forward to what we are able to accomplish this next academic year.

**II-A. Sources of Funding**

**Funding for the 2024-2025 School Year**

Source	Total
Member Dues	\$3,748.82
E-Council Fund Request	\$3,460.00
Programming Funds	\$4291.00
Department Funds	\$1,500.00
Company Sponsorships	\$8,600.00
SOA Awards	\$1,000
<b>TOTAL</b>	<b>\$22,599.82</b>

**2024-25 Sources of Funding Breakdown**



**Figure: Funding for the 2024-2025 School Calendar Year**

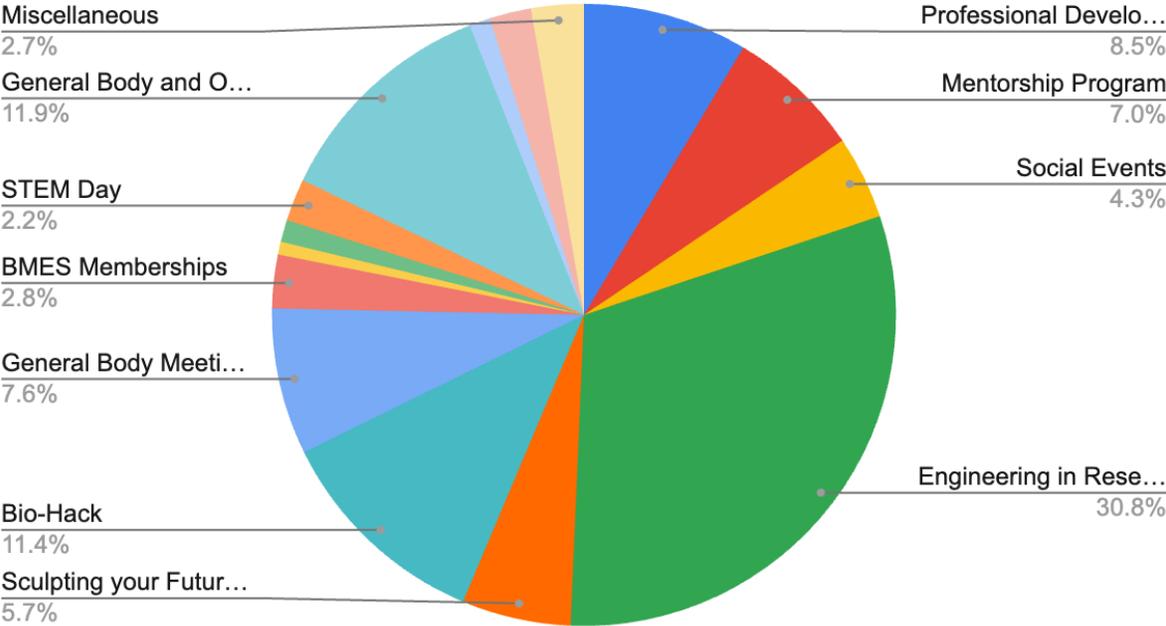
**II-B. Expenses**

**Expenditures for 2024-2025 School Year**

Source	Total
Professional Development Events	\$1,561.11

Mentorship Program	\$1,283.14
Social Events	\$794.11
Engineering in Healthcare Industry and Research Symposium (EHIRS)	\$5,653.59
Sculpting Your Future (SYF)	\$1,037.00
Bio-Hack	\$2,087.70
General Body Meetings	\$1,395.92
BMES Membership	\$510.00
ARCH-E Week	\$395.00
Wellness Events	\$210.26
Design Team	\$123.31
STEM Day	\$402.66
BMES Case Competition	200.00
General Body and Officer Shirts	2183.15
Miscellaneous	\$500.00
<b>TOTAL</b>	<b>\$18,340.95</b>

### 2024-25 Expense Breakdown





### **III. Chapter Activities**

We held a variety of events including mentorship, professional development, social, and outreach to provide a holistic experience for our members. The social events featured new successful initiatives such as inviting alumni to events and incorporating more ways to de-stress which helped us achieve the highest attendance and retention rates in the chapter's history by creating bonds between members. These relations were also developed through peer mentorship activities where members were placed on teams and families which competed throughout the year for points to receive winning prizes. Our professional development initiatives were one of our focuses for expansion this year with the addition of dental school panelists during Medical/Dental School Speaker Series, Industry Shadowing, and a Professional Writing Workshop to accompany the LinkedIn Workshop. To amplify interest from new sponsors/partners, we focused on generating higher traffic at our professional development events through proactive marketing to our member body. We also participated in a university wide STEM fair to expose local students to engineering. These events were extremely useful by helping members receive internship opportunities and developing networking skills to become attractive candidates for medical device companies. Mentorship events were also a main focus to upkeep social and professional engagement. Pairings were extremely useful by helping mentees formulate their academic goals and develop mentor's leadership skills.

#### **III-A. Social or Other Activities**

Social events are a core part of Biomedical Engineering Society at The Ohio State University. For many members, BMES provides a valuable opportunity to socialize with other students outside of the classroom. This year, BMES put an emphasis on ensuring that social events were accessible to and inclusive for all members - in terms of content and timing. This goal will help BMES as a whole become a fun, safe, and accessible place for all students interested in Biomedical Engineering at The Ohio State University. We continue to communicate our events using Instagram, Slack, and a Weekly Email Newsletter. This year, BMES made significant efforts to facilitate connection between members and BMES strives to continue these social efforts in future years.

#### **OSU Student Organization Involvement Fair**

Biomedical Engineering Society officers hosted an in-person booth at Ohio State's annual student involvement fair to recruit new members to our chapter. Officers introduced the Biomedical Engineering Society to interested students. Interested students had their contact information recorded and were invited to the BMES kick-off meeting. Interested Students were also given stickers, BMES scrunchies, candy and other trinkets to encourage interaction and future involvement.



Date/Location	Audience	Attendance	Cost
August 25th, 2024 4:00 PM - 7:00 PM Oval	All OSU students	80 attendees	\$45

### Annual BMES Kick-Off



The BMES Fall Kick-Off meeting is one of our most attended events every year. This year's edition was extremely well attended with over 150 attendees! At this event, officers introduce themselves and their roles in the club. Opportunities for further involvement - including committee positions and a Freshman officer position are introduced. This event also includes a social part - where attendees and officers can enjoy pizza and outdoor games while reconnecting or meeting for the first time.

Date/Location	Audience	Attendance	Cost
August 26th, 2024 6:00pm McPherson Labs	All BMES members	160 attendees	\$50

### BMES Outdoor Social

Early in the fall, BMES hosted an outdoor social! This event was intended to bring members together through common interests in sports or crafts. Sport and Game equipment, tie-dye supplies, and food was provided to members at this event. This event was held outside of Fontana Labs to take advantage of the beautiful fall weather.



<b>Date/Location</b>	<b>Audience</b>	<b>Attendance</b>	<b>Cost</b>
September 26th, 2024 6:00 PM Fontana Labs	All BMES Members	35 attendees	\$170

### **February General Body Meeting**

This year’s February General Body meeting was centered around the annual BMES officer elections, where we successfully filled 24 officer positions for the upcoming year. The event featured in-person candidate speeches and live voting for half of the positions, giving members the opportunity to directly engage in shaping the future leadership of the chapter.

For the remaining positions, applications were opened shortly after the event to ensure a fair and comprehensive selection process. This hybrid election format allowed for both active participation during the meeting and thoughtful consideration for application-based roles.

Overall, this event highlighted the chapter’s dedication to fostering leadership, collaboration, and student involvement within the OSU BMES community.

<b>Date/Location</b>	<b>Audience</b>	<b>Attendance</b>	<b>Cost</b>
02/18/25 Fontana Labs	All BMES members	78 attendees	\$216

### **Wellness Event**

Our wellness event started out with a brief presentation on various resources available to OSU students. This includes Counseling and Consultation Services, the Student Wellness Center (wellness coaching, nutrition coaching, financial coaching, etc.), Student Health Services, the Stress Management and Resiliency Lab (SMART Lab), Student Life Disability Services, and Group Fitness Classes. Attendees then participated in three different activities: make-your-own trail mix, bracelet making, and tile painting. The trail mix activity included a wide range of common trail mix ingredients in bulk so that students could mix and match and create their own to take home in a Ziploc baggie. The bracelet-making activity allowed students to create their own bracelets, earrings, and necklaces with multicolored bead kits. Lastly, the tile painting activity allowed students to watercolor paint magnetic tiles and let their creativity take control. All these activities allowed the students to take a moment, let their creativity take control, spend time with peers, and de-stress. After these activities, attendees were encouraged to attend a group fitness yoga class together to relax their bodies and minds. Many attendees explored this option that they had not been involved in before.



Date/Location	Audience	Attendance	Cost
October 1st, 2024 6:00pm Fontana Labs	All BMES members	30 attendees	\$135

### Diversity Infographics

Infographics were created to highlight celebrations highlighting different ethnic, racial, and various identities to promote diversity, equity, and inclusion. These were done during different months or days that were nationally recognized. These infographics ranged from Women's History Month, Black History Month, Native American Heritage Month, and more. Extensive research was done on these topics and sources were kept track of. The content of these infographics involved giving a spotlight to people within those identities and their contributions to STEM, why the group is celebrated/recognized, how to be an ally, and current involvements like volunteering or parades that you can attend to celebrate the highlighted group. The infographics were shared on our social media page and the resources were provided if people were interested in learning more. The goal of these posts was to shed light on minoritized groups, highlight their contributions to STEM, and educate people on various identities.

**WOMEN IN STEM**

**STEPHANIE L. KWOLEK**

Stephanie Kwolek was a chemist who discovered Kevlar while working at DuPont. Kevlar is known for its strong yet lightweight properties. This material is used in aerospace for spacecraft and in bulletproof vests, offering protection for law enforcement and military personnel. [1]



**MARIA TELKES**

Maria Telkes was a Hungarian-American biophysicist and engineer born in 1900. She is best known for creating the first solar-powered heating system for homes. Telkes earned her Ph.D. in biophysics from the University of Budapest and later worked at MIT in the United States. She was also a pioneer in using solar energy for medical applications, designing solar-powered devices for hospitals. [2]



**WHY IS IT IMPORTANT?**

Black History Month is important because it brings focus to the contributions of African Americans in the United States. It also serves as a platform to highlight racial injustice and the systemic foundations throughout society that allow racism to persist in the United States. [2]



**HOW DID IT BEGIN?**

Black History Month began in February 1926, when it was called Negro History Week. This was started by Carter G. Woodson, who is known as the "Father of Black History." He helped create the field of African American studies and the organization, which was made to encourage people of all ethnic and social backgrounds to discuss Black experiences. [2]

Date/Location	Audience	Attendance	Cost
Instagram 8/21/2024 9/15/2024 10/1/2024 11/5/2024 2/1/2025 3/2/2025	All BMES members	N/A	N/A

### BMES Officer Friendsgiving

Later in the fall, the BMES officers got together to celebrate Thanksgiving! Officers brought a food or drink of their choice, which together made for a fabulous meal! The officers bonded over the good food and shared their Thanksgiving traditions with each other. This event provided a great way to celebrate, relax, and enjoy each other's company during a stressful point in the fall semester.



Date/Location	Audience	Attendance	Cost
November 20th, 2024 7:00pm	BMES Officers	15 attendees	N/A

### BMES Reading Day Social

Ohio State has a single reading day in between the last day of classes and the beginning of Final Exams. On this day, each semester, BMES hosted a Reading Day Social Event. The purpose of this event was twofold: 1) to give students a relaxing break from studying and 2) to help students and



professors connect. This event included muffins, bagels, and games for the BME faculty and students in attendance.

Date/Location	Audience	Attendance	Cost
December 5th, 2024 Fontana Labs	All BMES members and Faculty	30 attendees	\$81.46
April 23rd, 2025 Fontana Labs	All BMES members and Faculty	Anticipating 40 attendees	\$64.97

### BMES Officer Overnight Social

The officers took a weekend trip to an AirBnB in McArthur, Ohio for a fun weekend adventure! The officers bonded over pizza, pool, karaoke, a hot tub, and other games. The purpose of this event was to serve as an officer bonding experience and to thank the officers for all their hard work up to this point.



Date/Location	Audience	Attendance	Cost
February 21th, 2025 McArthur, OH	BMES Officers	11 attendees	\$600

### BMES Intramural Sports Teams

Across both the Fall and Spring semesters, BMES offered teams for Ohio State's Intramural soccer, basketball, and volleyball leagues. In total, BMES had 5 teams between the two semesters, which included over 40 different members of the club. This highly significant social initiative involved over 30 members across over 20 matches!

Date/Location	Audience	Attendance	Cost
Fall 2024 Basketball, CoRec A Team ARC	All BMES Members	10 BMES Members	N/A
Fall 2024 Flag Football, Open B Team ARC	All BMES Members	12 BMES Members	N/A
Spring 2025 Volleyball, Open B Team ARC	All BMES Members	10 BMES Members	N/A

Spring 2025 Basketball, Open B Team RPAC	All BMES Members	9 BMES Members	N/A
Spring 2025 Indoor Soccer, Open A Team ARC	All BMES Members	12 BMES Members	N/A



### Egg Drop Social

BMES members put their engineering prowess to the test at the Egg Drop Social! From an assortment of provided eggs and supplies, members were tasked with developing the most effective device for protecting an egg dropped from the side of Arps Garage. Pizza and drinks were provided!



Date/Location	Audience	Attendance	Cost
March 20th, 2025 6:00pm Fontana	All BMES Members	6 attendees	\$13.79

### BMES Engineering Org Networking Happy Hour

BMES participated in an inter-organizational outing at a local bar to give each organization's members the chance to both network and relax in an informal setting. The other Engineering organizations involved included Society of Women Engineers (SWE), Institute of Industrial and Systems Engineers (IISE), Tau Beta Pi (TBP), and others. Pizza was provided to attendees.



Date/Location	Audience	Attendance	Cost
March 28th, 2025 Fives on High	BMES Members and Members of other Engineering Orgs at Ohio State (SWE, IISE, etc.)	80 attendees	\$250

### Engineers-Council ArchE Week Event

This event served as a way for engineers across different disciplines to interact and have fun together. The original idea was to have students play volleyball together at the courts outside of Curl Market. Due to rainy and cold weather, we moved indoors to Fontana 2040 and played board games instead of volleyball. Teams were randomly formed, allowing everyone to engage with others outside of their own organization. Teams played variations of card games: Black Jack, Go Fish, War, and spent quality time getting to know new people. We had engineers of various organizations come and students from all engineering majors, especially Computer Science Engineering. Refreshments and food from Chick-Fil-A were also provided for those who wanted to hang out, catch up with friends, and meet new people.



Date/Location	Audience	Attendance	Cost
3/31/2025	Engineering Students	50 attendees	\$395.00

### Engineering Trivia Night

BMES, along with EWB, AIChE, SWE, and IISE joined together for a Trivia Night Social at Oldfield's North Fourth Tavern. Attendees were able to relax from classes and enjoy great company as well as drinks. Teams were formed to answer trivia questions spanning from pop culture to history to random facts. The social event functioned as a fundraiser as well, with 20% of proceeds from the event going back to the hosting student organizations!



Date/Location	Audience	Attendance	Cost
April 4th, 2025 6:00pm Oldfield's	All Engineering Students	30 attendees	N/A

### BMES Year-End Banquet

In order to celebrate the phenomenal year we have had, BMES will be hosting the fourth ever BMES Banquet for all of our members! The officers and general body will have the opportunity to vote for members to receive superlative awards such as 'Funniest Member', 'Most likely to be CEO of a BioTech company', and 'Best Networker'! The winners of the Fantasy Football, March Madness, and World Cup challenges will all be recognized to commemorate the fun involvements. This event will also feature awards to recognize outstanding general members, officers, and advisors who contributed significantly towards the chapter this year.



Date/Location	Audience	Attendance	Cost
April 17th, 2025 6:00pm Fontana Labs	All BMES Members	Anticipating 60 attendees	Estimated \$400

### III-B. Inter-Chapter Activities

The physical distance between BMES chapters at different universities is something that has caused a disconnect. The Ohio State chapter recognized this sense of disconnect, and wanted to create more bonds with other chapters across the nation. By attending the BMES 2024 National Conference, our chapter has been able to develop a lot of inter-chapter relationships, but otherwise, contact between chapters is often limited due to distance. Our chapter made it a priority to collaborate with other BMES chapters in an effort to address this and connect more with our inter-chapter relationships.

Despite the distance across chapters, we were still able to maintain the inter-chapter connection through social events. BMES hosted 3 of its very own virtual BMES Cross Chapter Trivia with other chapters like University of California - Irvine and New York University Tandon School of Engineering. Lastly, our chapter also maintained its attendance at the Annual Meeting and was able to send 9 officers to attend in-person this year.

#### BMES Annual Meeting

The Ohio State chapter utilizes the Annual Meeting to connect with and learn from other BMES chapters. The attending officers make it a priority to meet with members of other chapters and ask them questions about their chapter's operations. Furthermore, they strive to form friendships with these members by asking them to hang out at certain events like the Welcome Receptions that are hosted by each university. Through forming a closer connection than a simple acquaintance, our officers are able to make connections with other chapters that last past the Annual Meeting and allow us to collaborate with one another throughout the year. We also made sure that all BMES members attended the cross chapter Q&A at the conference and took notes

about different chapters' initiatives and events. Lastly, our members used the Annual Meeting to develop their own personal career goals through attending research presentations, graduate/industry workshops, and industry luncheons. Specific lectures and workshops attended may be found in the Nationals BMES Meeting section later in the document.

Date/Location	Audience	Attendance	Cost
10/23/24 to 10/26/24 Baltimore, Maryland	BMES Officers	9 BMES members in attendance of Annual Meeting (shown in Nationals section)	\$9,600*

\*Cost covered by OSU BME Department and chapter funds



### BMES Cross-Chapter Trivia Events

To help strengthen the connections between BMES chapters across the country, the BMES chapter at The Ohio State University continued our annual Cross-Chapter Trivia event from last year, partnering with the University of California, Irvine, and New York University Tandon School of Engineering. The event was hosted over Zoom, allowing students from different universities to connect and interact. To kick things off, attendees were randomly assigned into breakout rooms to introduce themselves and answer icebreaker questions, fostering new connections across chapters. Once everyone was warmed up, the trivia competition began on Quizizz, featuring a mix of biomedical engineering-related questions, science, and other fun topics. The winner received a gift-card for their trivia victory.



Date/Location	Audience	Attendance	Cost
11/18/24, 7:00PM Zoom	BMES members from The Ohio State University, University of California, Irvine, and New York University.	15 attendees from various chapters	N/A

### Engineering in Healthcare: Industry and Research Symposium

The Ohio State chapter’s flagship event each year is the Engineering in Healthcare: Industry and Research Symposium (EHIRS). EHIRS is a major networking and professional development event that gives students a chance to view biomedical engineering opportunities in industry and academia to enrich their education and inform them about options after college. This year’s event consisted of seven major events, including two keynote speeches, judged graduate and undergraduate research presentations, a medical solutions workshop, industry panel, and a combined research and industry networking event. The event took place over the course of a full day, with research focused events in the morning and industry focused events in the afternoon. This event brought professors and students together for great networking and problem solving, while simultaneously bringing industry representatives and students together. EHIRS truly has something for all students, and this is reflected in the attendance and popularity of the event. A full agenda, information about keynote speakers, and more can be found on our chapter website.



Date/Location	Audience	Attendance	Cost
01/25/2025 at Fontana Laboratories	Any student, university faculty, or industry representative in medicine or engineering.	190+ students, industry representatives and professors from Ohio State, University of Illinois, and University of New Mexico.	\$5,600*

\*Cost covered by OSU and chapter funds

### III-C. Outreach Activities

The Ohio State chapter of the Biomedical Engineering Society strives to impact the Greater Columbus Community through its Outreach events. First, we strive to inspire and empower the next generation of engineers while they are still early in their educational careers. This year our outreach program saw tremendous growth through new collaborations and partnerships in the Columbus community. We partnered with local middle schools and organizations with a focus on helping in underserved local areas. We created programs to expose these students to engineering, teach them about the engineering design process, and to help them envision their possible future as an engineer or STEM-related major. This year we expanded the Pen Pals initiative to further connect disadvantaged students with our members. Another major goal of the outreach arm of the BMES chapter at the Ohio State University is to provide volunteering opportunities for our members that help improve our community. We organize and participate in hands-on clean-up efforts in local parks and in the general off-campus community. In addition, we also provide our members with resources to find clinical volunteering opportunities that they can use in their pursuit of medical school.

#### Grandparent's Day

Grandparents Day is a one-day event sponsored by the Engineering Advancement Team to engage College of Engineering alumni aged 60 and up, and their grandchildren ages 7-12. Grandparents Day includes a day of hands-on STEM activities hosted by invited campus groups. This past year, BMES was invited to host a STEM workshop for attendees. BMES hosted a "Strengthen Your Spine" workshop where children were tasked with making their own spinal disc models to simulate the ability of the spine to flex for movement. We had high interest in this

session, and expanded from last year to host two workshops, one in the morning and one in the afternoon. This effort helped the Engineering Advancement Team, who pioneered the overall event, to host their biggest group of participants to date. BMES has been invited back for the following year and looks forward to hosting a new workshop.



Date/Location	Audience	Attendance	Cost
8/2/2024	OSU alumni and their grandchildren and OSU BMES volunteers	7 volunteers and 23 participants	N/A (covered by College of Engineering)

#### M4 Lab 3D Printing

The GEMs 3D printing Competition was an event for 8th grade students from the Graham Elementary and Middle School in the afterschool program run by Communities in Schools of Ohio. The goal of this event was to introduce eighth graders to the basics of 3D modeling in an easily approachable format through Tinkercad, a free of charge online 3D modeling program. The event was structured around the stem design challenge “Scoop for Your Lives”, where a sand scooper is designed and used to scoop marbles out of a sand box with certificates given to different designs based on categories like most efficient, most creative, and overall winner. This was a two day event, the first day consisted of a presentation and tutorial allowing students to get familiar with Tinkercad and create different designs of scoops. Following the tutorial BMEs volunteers were available to help guide students until a finished design was produced. These designs were then printed using a free 3D printing resource through OSU. The second day of the

event consisted of students using their scoops to pick up marbles in a sandbox, and a winner was determined based on the most marbles collected within a specific timeframe. Certificates were awarded to the winners and other participating students and students kept their scoop.

Date/Location	Audience	Attendance	Cost
12/19/2024	High School Students	3 attendees	N/A

### WestFest

WestFest is a science festival located on OSU's West Campus. The idea is to showcase the work that is happening at Ohio State related to STEM, sustainability, and outreach. WestFest invites any student organizations, community groups, and companies to showcase their STEM-related ideas and research. WestFest gives people a chance to see and learn about Ohio State's projects & research in the STEM field. The underlying goal of WestFest is to make STEM more human. The audience is generally the local community, families with students in elementary and middle schools, and adults who are enthusiastic about science and who want to see the behind-the-scenes at Ohio State.

For this event, we helped kids model DNA at two different zoom-in levels, based on their age. We introduced our organization to families and local teachers and provided a background on the field of biomedical engineering and its sub-field of genetic engineering. For the activity, the children were either provided two pipe cleaners and were tasked with making a double helix, or two separate pieces of cardboard and various supplies to attach them together like base pairs. The engineering design process was emphasized, such that participants were encouraged to plan out their design and examine all the tools at their disposal before building. Then, if the attempt was unsuccessful, they were encouraged to revisit the design process and try again, just as real engineers do.

Overall, we received great feedback from local teachers and visiting parents. We were able to interact with a wide range of students from preschool to middle school, introducing them to a field of biomedical engineering and exposing them to their abilities to think like engineers.



Date/Location	Audience	Attendance	Cost
10/19/2024	Local Families - emphasis on families with young students	4 BMES Volunteers	N/A

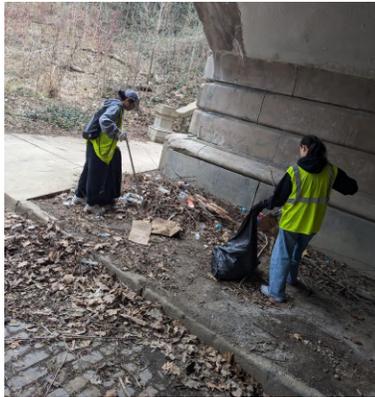
### **Tuttle Park Cleanup**

In order to help beautify our local community and to give our members an opportunity for volunteer hours, we plan to continue a longstanding BMES outreach tradition of hosting a gardening event at our local community park. For this event, we will partner with a representative from the Columbus Parks and Recreation Department. They typically give us directions on what gardening needs done, including tasks like: removing weeds and invasive species, replenishing the mulch, and planting flowers. For this event, we have invited another OSU engineering club, the Institute of Industrial and Systems Engineers (IISE). This will give our members an opportunity to socialize and encourage increased participation at the event.

Date/Location	Audience	Attendance	Cost
Tuttle Park 4/20/2025	General BMES Members and IISE Members	Anticipating 5 BMES Volunteers and 5 IISE Volunteers	N/A

### **Off Campus Street Cleanups (with Clean Up Columbus)**

Like the Tuttle Park Cleanup, the goal of these events were to help improve the appearance and well-being of our community by picking up trash on local streets off campus. This recurring event was organized by Clean Up Columbus, a local nonprofit. BMES participated along with other OSU clubs and individuals. On the day of the event, BMES was assigned a street to clean up. Our members went to the assigned street and picked up all trash and recycling, making sure to properly dispose of everything. Not only was this a great way to aid in our local community, but it also provided the opportunity for BMES members to get to know each other better and discover that doing good can be relaxing, interactive, and fun.



Date/Location	Audience	Attendance	Cost
9/15/2024	General Members	4 BMES Volunteers	N/A
10/27/2024		4 BMES Volunteers	
11/24/2024		4 BMES Volunteers	
3/23/2025		4 BMES Volunteers	
4/23/2025		Anticipating 4 BMES Volunteers	

### OSU STEM Day

The fourth annual OSU STEM Day event was hosted at Fontana Laboratories in October. Local middle school and high school students came to Ohio State’s campus to engage in STEM activities. The goal of this event is to expose students to the engineering design process in hopes to encourage the pursuit of STEM fields to the next generation, and provide high school students the chance to learn more about BME at OSU for their college application cycle. We collaborated with OSU’s chapter of Association of Computing Machinery Women’s Chapter (ACM-W), allowing us to expand our audience and provide perspectives from different fields of engineering. The event began with a quick presentation from the Special Initiative Co-Chairs, Anna and Kate, about the different types of engineering and the opportunities that come with it. Students enjoyed lunch while small groups rotated between taking student-led tours of Fontana Laboratories that included fun facts about the university's engineering program. Three concurrent activities followed the tours, with students rotating through each activity. OSU BME’s Dr. Childers led a hands-on ultrasound experiment and informed students on the abundant applications of ultrasound in the medical field. OSU BME’s Dr. Ortiz-Rosario hosted an EMG activity in which students were able to gather and analyze muscle activity data in their arm while arm wrestling other students. The last activity was a python coding activity led by ACM-W volunteers. The students had a great time exploring different engineering fields, engaging in hands-on activities, and gaining valuable insights that left them excited and inspired about future opportunities in STEM.



Date/Location	Audience	Attendance	Cost	Speakers
10/20/24 10:00am-1:30pm, Fontana Laboratories	Local Middle and High School Students and BMES Volunteers and Faculty	15 volunteers and 23 attendees	\$500	Dr. Rachel Childers (OSU Faculty) Dr. Ortiz-Rosario (OSU Faculty)

### III-D. Mentoring Activities

Our chapter's mentorship program was a pivotal part of our goal to foster community and new friendships as students navigate coursework and college life. This year, we continued our traditional 4-team format, which was introduced two years ago, while also implementing new strategies to improve mentor-mentee interactions and event attendance. Each team had 16-18 members, and there were four families: red, orange, blue, and green. To keep things creative and competitive, we introduced a point system where students could earn points through event

attendance, completing a bingo on the monthly mentorship bingo sheet, and participating in the winning team at mentorship events. This added an element of fun, allowing students to showcase their creativity with activities such as cookie decorating for Valentine’s Day, and engage their competitive spirits with events like a Mario Kart tournament and Jeopardy. In addition, mentors and mentees were encouraged to meet outside of mentorship events and classes to strengthen our community foundation and foster lifelong friendships. To facilitate this, we asked mentor-mentee pairings to take pictures together while participating in activities such as studying, walking together on campus, or grabbing coffee. This not only gave students a chance to earn extra points for their team but also helped build lasting connections that can continue for years to come.



*Examples of mentor-mentee meetups (from top left): taking a walk on campus, studying together, playing volleyball outside, and grabbing coffee.*

### **Maintaining Involvement**

Building on last year’s efforts, we continued fostering engagement by refining our mentorship program. A key aspect was Mentorship Week (covered in the events section), where mentees had the opportunity to meet potential mentors and express their preferences for a match that aligned with their social and professional goals. This helped ensure stronger, more meaningful mentor-mentee connections.

To further increase and maintain involvement, we introduced a team-based structure that grouped “families” together. This approach provided a broader network of support, making events feel more welcoming. Even if some family members could not attend, there was always a familiar face from their team present, minimizing any intimidation and fostering a sense of belonging. By consistently interacting with the same group, members built stronger relationships and had more to look forward to beyond just attending the events.

This year, we introduced ClassDojo as part of our mentorship program. Both mentors and mentees signed up for the app, which provided a new platform to track and share experiences. Through ClassDojo, students were able to upload photos taken during their meetups, creating a digital portfolio of their mentorship journey. Other students could view each other’s photos, which encouraged more meetups and submissions, as students competed to earn points for their teams. Additionally, we used the app to engage students in a fun and interactive way during mentorship events. We introduced a virtual game called ClassDojo Islands, where students could join with their characters and play together. The game allows students to build structures with blocks and explore different islands, providing a creative and playful outlet for team bonding. The incorporation of ClassDojo helped make the mentorship experience even more engaging and connected.

Another initiative encouraged independent meet-ups among families and teams. These smaller gatherings created a comfortable space for mentees to seek guidance from mentors and ask questions about school, hobbies, and everyday life without feeling scared and anxious. The goal was to cultivate deeper connections and reinforce the value of mentorship beyond the events.

At the beginning of the second semester, a mid-year survey was sent out to gather feedback from mentors and mentees about their experiences so far. The survey asked participants whether they were enjoying the events and if they were satisfied with their assigned mentor or mentee. To ensure everyone had a positive and proactive partnership, we provided the option to switch if they felt their current pairing was not the right fit. Additionally, the survey helped us identify any concerns about discomfort or unprofessional interactions, reinforcing our commitment to maintaining a respectful and supportive mentorship environment. We also asked students to select their favorite event and rate their overall experience out of five stars. This feedback allowed us to make necessary adjustments for the rest of the year and improve the program moving forward.



*Example of a mentor-mentee hangout ClassDojo post*

### **The Competition**

To foster engagement and strengthen connections within the mentorship program, we continued the “Mentorship Points” competition, which was a continuation from last year. This system allowed members to earn points by attending events and participating in various activities, as outlined below. The competition was structured around four large teams, ensuring that underclassmen had access to a broad network of peers and mentors. By competing as part of a team, members were encouraged to stay involved and actively contribute throughout the semester.

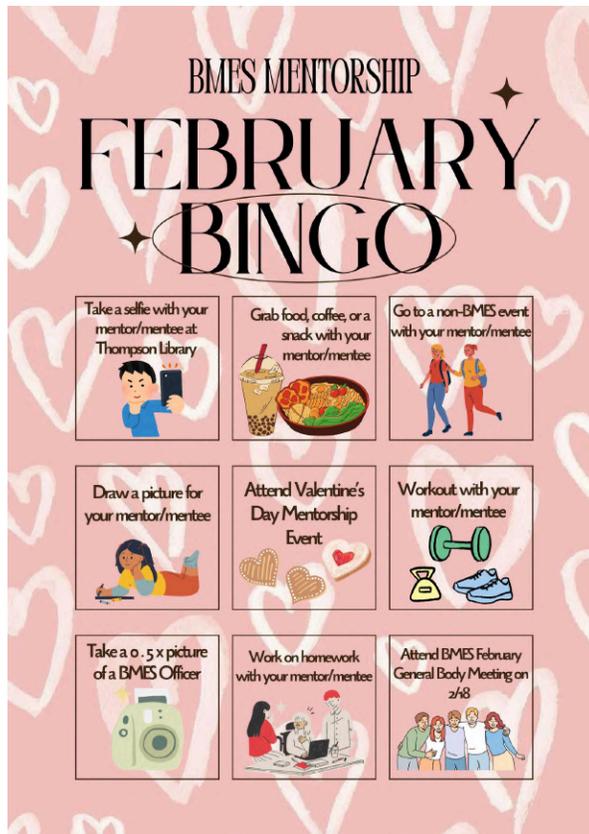
Each semester, the competition restarted, and participants were given a guide explaining how they could earn points. At the end of the semester, the winning team received a prize in the form of individual Amazon gift cards. To ensure fairness, individual contributions were also tracked. A minimum point threshold was set based on participation opportunities, ensuring that only those who actively contributed to their team’s success were eligible for the prize.



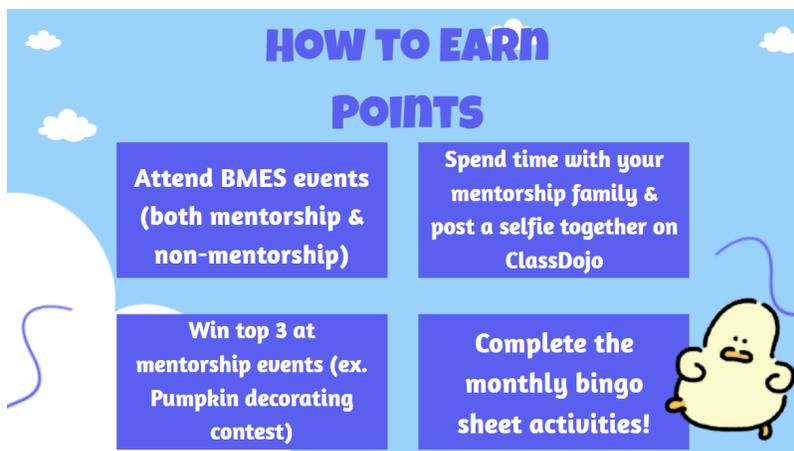
*Example of a mentor-mentee hangout during a BMES Mentorship event*

#### Ways to Earn Mentorship Points

1. **Mentorship Events:** These structured events brought all teams together for friendly competitions and collaborative activities. If an attendee was not assigned to a team, they were evenly distributed among groups to keep things balanced. Winning or placing teams earned extra mentorship points.
2. **Family Meet-Ups:** Smaller gatherings organized by mentorship families allowed members to connect outside of official events. These meet-ups ranged from study sessions to seasonal activities like taking a walk on campus or group meals. Each team was encouraged to meet up at least once per month or 3-4 family meet-ups per semester to strengthen their bonds.
3. **Professional Development Activities:** Attending professional development events, such as resume workshops and networking nights, was another way to earn points. Mentors played an active role in these events by guiding underclassmen and sharing their insights.
4. **Outreach & Volunteering:** Members who participated in BMES outreach events earned points for giving back to the community. We wanted to recognize and reward those who dedicated their time to making an impact beyond the organization.
5. **General Body Meetings (GBMs):** Regular attendance at monthly GBMs was rewarded with mentorship points to encourage participation in chapter-wide activities and updates.
6. **Bingo Challenges:** Each month, a mentorship bingo sheet was sent out in our weekly newsletters and mentorship email list with various activities. Completing a row of three activities earned additional points, making participation both fun and rewarding.



*Example of a Monthly Bingo Sheet: Participants could earn a bingo by completing three tasks in a row (vertically, horizontally, or diagonally) by the end of the month. To receive points, members had to submit photos from each activity on the ClassDojo Portfolio. Events requiring higher participation were strategically placed alongside simpler tasks to encourage engagement.*



*This slide outlines the different ways mentorship participants could earn both individual and team points in the competition. Points were awarded for attending BMES events, spending time with mentorship families and posting selfies on ClassDojo, placing in the top three at mentorship competitions, and completing monthly bingo sheet activities. Attendance was tracked through sign-in sheets, while group meet-ups required photo submissions on ClassDojo Portfolio and approved by the Internal Vice President.*

## The Events

The mentorship program organized events designed to foster community and strengthen connections within the OSU BMES chapter. Each event was carefully selected to be engaging, fun, and often competitive, promoting both teamwork and friendly rivalry. Alongside other mentorship activities, these large-group events energized the program, increasing participation and deepening relationships among mentorship families throughout the year. Below is a detailed overview of the events hosted by the mentorship program.

### Fall Mentorship Week - Speed Dating

Mentorship kicked off with a week of events designed to help underclassmen and upperclassmen connect. The first event followed a speed-dating format, where mentors and mentees had the chance to meet, learn about each other, and identify shared interests or goals. This year for the mentor selection process, students were provided with a Google Slides document featuring each mentor's headshot along with details such as major, year, hometown, research experience, internship/co-op experience, and hobbies. This resource was especially helpful for students who may have forgotten the names of mentors they spoke with during the speed-dating process or were unable to attend. After reviewing the slides, mentees submitted their top five mentor preferences via a Google Form, ensuring they were matched with a mentor who aligned with their interests.

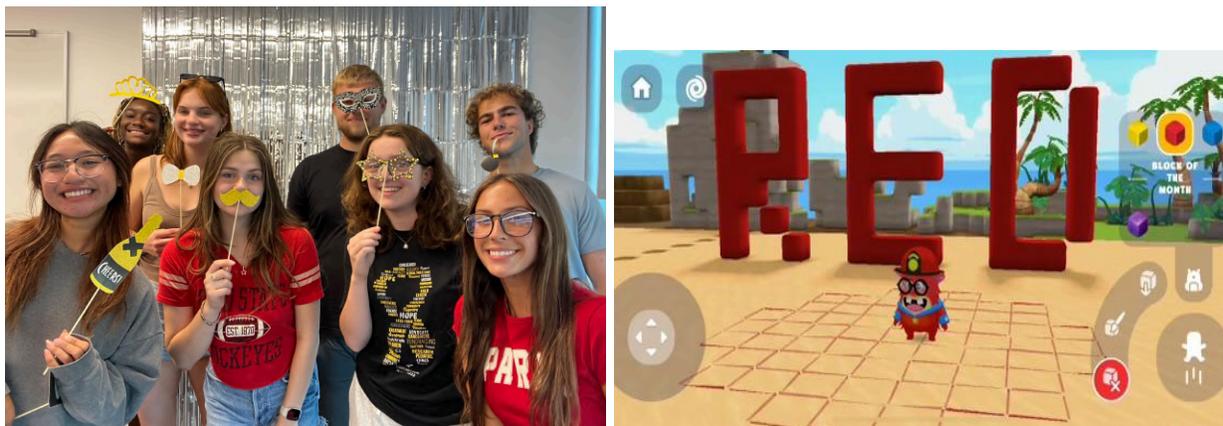
Date/Location	Audience	Attendance	Cost
09/4/24, 6:30pm Fontana 1000	General Body	60 attendees	\$247.53



### Fall Mentorship Week - Mentor Reveal Party

The final day of mentorship week was a party where mentor/mentee pairings were revealed, and everyone was assigned a team color – blue, red, green, or orange. Once the pairings were announced, students sat with their new mentorship team, introduced themselves, exchanged contact information, and kicked things off with a quick icebreaker. Next came a fun team challenge to earn mentorship points. Each team had to find one common fact about all its members, and the most unique answer, which was chosen by ChatGPT, earned 3 points.

Afterward, everyone had the chance to participate in a variety of activities. Students played Taboo and explored ClassDojo Islands, where they could join virtually, play hide and seek, and build structures similar to Minecraft (see picture below). There was also a bracelet-making station for teams to create matching bracelets with their mentors and mentees, followed by a photo booth to capture memories with their new mentorship family. This event was the perfect way to start the semester and build connections.



Date/Location	Audience	Attendance	Cost
09/5/24, 6:00pm Fontana 2040	Mentors and Mentees	32 attendees	\$156.72

### Mentorship Halloween Pumpkin Painting

To celebrate the Halloween season, mentors and mentees teamed up with their mentorship families for a pumpkin painting competition. Each team received an equal number of pumpkins and was encouraged to get creative with their designs. The goal was to showcase creativity and teamwork within the OSU BMES chapter. After all the pumpkins were painted, a neutral third-party judge carefully evaluated each design. The top three teams earned mentorship points toward the overall competition. The competition was a perfect mix of creativity, collaboration, and friendly rivalry, making for a fun experience for everyone involved.



Date/Location	Audience	Attendance	Cost
10/8/24, 6:00pm Fontana 2000	General Body	22 attendees	\$223

### Mentorship Cross Chapter Trivia

Our OSU BMES mentorship program collaborated with BMES Chapters from University of California, Irvine and New York University Tandon School of Engineering for a fun and engaging trivia night. The event was hosted over Zoom, allowing students from different universities to connect and interact. To kick things off, participants joined breakout rooms to introduce themselves and answer icebreaker questions, fostering new connections across chapters. Once everyone was warmed up, the trivia competition began on Quizziz, featuring a mix of biomedical engineering-related questions and fun, random trivia. The top-scoring student received a \$15 Amazon gift card. This year, one of our very own students took first place!



Date/Location	Audience	Attendance	Cost
11/18/24, 7:00 pm Zoom	BMES members from The Ohio State University, University of California, Irvine, and New York University.	15 attendees from various chapters	N/A

### Mentorship Jeopardy

Mentors and mentees came together with their teams for a fun and festive game of Jeopardy. The categories were chosen to reflect the spirit of the holiday season, featuring Wintering, Winter Food/Drink, Holidays, Christmas Jokes, and Thanksgiving. Each mentorship team selected a representative to pick a category and point value. Players then had to answer within the time limit, using a question format: “What is...” or “Who is...” If a team provided an incorrect answer, other teams had the opportunity to steal, and an incorrect response led to a deduction in points. The teams with the most points at the end of the game were awarded mentorship points, with the top-ranking teams earning the most.



Date/Location	Audience	Attendance	Cost
11/19/24, 6:00 pm Fontana 2000	General Body	14 attendees	N/A

### Freshman 101 Night

The freshman representative collaborated with Lab Ally LLC founder Rob Day to plan and host the first BMES Freshman 101 Night. The event featured three presentations from Rob and his former students, emphasizing the importance of engaging in research and internships. Q&A session followed, with four BME graduate students, two medical students, and three upperclassmen (two seniors, one junior) addressing freshmen’s questions about academics, research, and career paths. The event had 19 freshmen attendees and 11 volunteers, with positive feedback on its usefulness in guiding their next steps.



Date/Location	Audience	Attendance	Cost
11/20/24, 6:00-7:00 pm Fontana 2000	First-Years	19 attendees	N/A

### Mentorship Mario Kart Tournament

To kick off the competition spirit after winter break, OSU BMES hosted our annual Mario Kart tournament. The event began with mentorship teams divided into two brackets: Team Blue vs. Team Orange, and Team Green vs. Team Red. Each team played three rounds of Mario Kart, with teammates switching off after each race to ensure that everyone from each mentorship team got a chance to compete. The winners of the first round advanced to the final bracket, where the ultimate champion was determined. The team that won the final race earned the most mentorship points.



Date/Location	Audience	Attendance	Cost
01/16/25, 6:00 pm Fontana 2000	General Body	26 attendees	\$100

### Pre-Major Application Workshop

This was the second annual pre-major application workshop and provided a platform for mentors to offer invaluable guidance and support BME and CSE first-years as they navigated the application process. Mentors played a pivotal role in guiding mentees through the process of writing their application essays, assisting with brainstorming ideas, and providing constructive feedback to refine their papers. This event not only proved immensely beneficial for freshmen seeking admission to the major but also facilitated meaningful bonds between mentees and mentors, reinforcing a sense of community and support within our chapter.



Date/Location	Audience	Attendance	Cost
02/4/25, 6:00-7:30 pm Fontana 2000 & 2020	General Body	47 attendees	N/A

### Mentorship Valentine's Day Bingo & Cookie Decorating

OSU BMES celebrated Valentine's Day with a fun and festive event featuring two exciting activities. The first half of the event was a virtual Bingo game, where students scanned a QR code to generate a random bingo card. Winners of each round earned candy and additional mentorship points for their team. The second half of the event was all about creativity with a cookie decorating session. Participants were provided with frosting in various colors, Valentine's-themed sprinkles, and piping bags for decorating. To top it off, each participant received a cute cookie box complete with shredded paper filler and ribbons, perfect for gifting their decorated cookies to friends, family, and loved ones.



Date/Location	Audience	Attendance	Cost
02/13/25, 6:00 pm Fontana 2000	General Body	28 attendees	\$69.07

### Mentorship Family Feud

Before heading out for spring break, OSU BMES hosted a fun and competitive game of Family Feud, where mentorship teams went head-to-head to answer popular survey questions. Teams competed to guess the most common answers and earn points, with the highest-scoring teams earning mentorship points for their efforts. It was an event filled with teamwork, laughter, and some friendly competition.



Date/Location	Audience	Attendance	Cost
03/6/25, 6:00 pm Fontana 2000	General Body	10 attendees	\$105.65

### BMES Olympics/Mentorship Finale

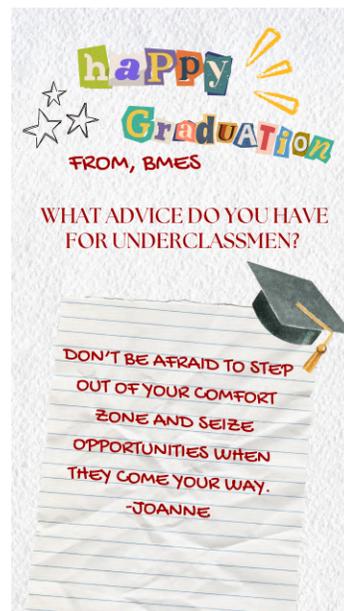
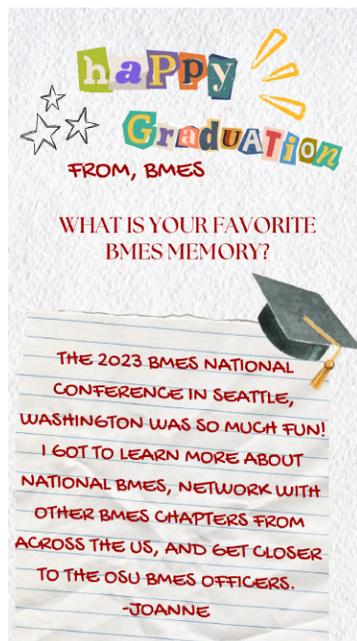
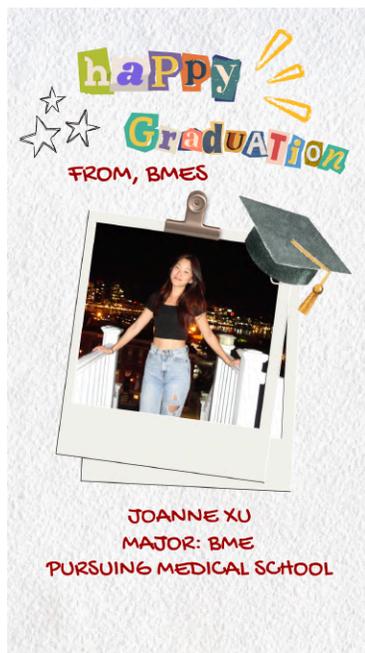
For our last mentorship event of spring semester, BMES OSU organized a series of fun and competitive games for the last chance to earn mentorship points for your team. Games included a ping pong ball throwing game, saltine cracker challenge, cotton ball grab challenge, and an “Are You Smarter Than a 5th Grader” quiz. The winning team and runner up team for each game received their respective amount of points. Attendance of members also counted towards the final point calculation. Once all games were completed, the final winning mentorship team was announced!



Date/Location	Audience	Attendance	Cost
04/10/25, 6:00 pm Fontana 2040	General Body	20 attendees	\$128.27

### Senior Spotlight

At the end of the spring semester, our BMES chapter posted spotlight posts on our Instagram for our senior members. Forms were sent out to students who were interested in getting featured on our social media by asking them to upload a picture of themselves and fun facts about their hobbies, extracurricular involvement, and academic interests.



Date/Location	Audience	Attendance	Cost
N/A	General Body	8 participants	N/A

### New Initiatives

Throughout the year, OSU BMES expanded the scope of its mentorship program by introducing new initiatives that reach beyond the OSU BMES chapter. These initiatives connected graduate students and high school students with our members, fostering opportunities for both mentorship and support across multiple academic levels. This year, OSU BMES launched the Graduate School Mentorship Program, High School Mentorship Program, and Medical School Mentorship Program, all of which are outlined in detail below.

### High School Mentorship Program

OSU BMES has been given the opportunity to visit the Dublin City Schools Emerald Campus, a unique space that brings together three local high schools – Dublin Jerome, Dublin Coffman, and Dublin Scioto – in an inclusive and immersive environment. During this visit, BMES members will introduce students to the field of biomedical engineering and the Biomedical Engineering Society (BMES) through two interactive stations. One station provides hands-on experience with an EMG device and its applications, allowing students to explore the technology and understand its role in biomedical engineering. The second station features presentations from senior BME undergraduates, who share their capstone projects, showcasing real-world biomedical engineering applications. Additionally, our BMES design team will present their ongoing project in collaboration with the Nationwide Children's Hospital Gait Lab, giving students a deeper insight into current work being done in the field.

After the activities, students will be encouraged to complete a survey to assess their interest in starting their own BMES chapter at their high school. Additionally, we will provide a form for students to reflect on their experience, including whether they learned something new, what aspects of the session they found most interesting, and if they would like to be paired with an undergraduate BME student. This connection offers them the chance to learn more about majoring in BME at OSU, university life in general, or even just to get to know each other outside of school and professional settings. Moving forward, OSU BMES will continue to support these schools by assisting with the establishment of their chapters, organizing events, and connecting with industry contacts.

Date/Location	Audience	Attendance	Cost
04/17/25	High Schools in Dublin, Ohio	9 BMES Volunteers	N/A

Dublin City Schools Emerald Campus	(Dublin Jerome, Dublin Coffman, Dublin Scioto)	~120 High School students across 3 class periods	
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### Graduate School Mentorship Program

OSU BMES offers a Graduate School Mentorship Program to provide members with valuable guidance from graduate students in fields they are interested in. BMES members are paired with graduate mentors based on their specific areas of study, research, or desired graduate programs. This program allows undergraduate students to gain insight from those already immersed in advanced academic work, giving them a unique perspective on graduate school and research opportunities. Feedback from both mentors and mentees is gathered each year and used to improve future iterations of the program.



## BMES Graduate School Mentorship Program

You will be paired with a Mentor from the program you have interest in to learn about the process and possibilities!

Are you interested in any Graduate School programs at Ohio State or want to learn more from current graduate students? Fill out this QR code to be a part of the Graduate School Mentorship Program!



Are you interested in the BSMS (MPD, Thesis, Non-Thesis), Masters, or PhD program? The Mentorship program involves graduates from various years!

Date/Location	Audience	Attendance	Cost
Throughout the Fall & Spring semester (November-April)	General Body and BME Graduate Students	12 participants	N/A

### **Medical School Mentorship Program**

This year, OSUxBMES hosted our annual Medical School Mentorship program with the goal of bridging the gap between undergraduate and medical school experiences, offering mentees practical insights and advice to navigate their pre-medical school journey. There were a total of 42 undergraduate mentees from the Ohio State University and 40 medical school mentors from the Ohio State College of Medicine involved in the program. The initiative ensured that mentees and mentors with similar interests were paired together, so that the mentees could receive tailored guidance aligned with their desired career paths within medicine. The mentee-mentor pairs were encouraged to meet at least once a month to form meaningful connections and make the most of the program. The program began in late September and lasted till April.

<b>Date/Location</b>	<b>Audience</b>	<b>Attendance</b>	<b>Cost</b>
Throughout the Academic Year (September-April)	BMES General Body and OSU Medical Students	42 mentees and 40 mentors	N/A

### **III-E. Industry and Professional Development Activities**

This year, BMES saw tremendous growth with professional development (PD) through the expansion of the corporate sponsorship program, implementation of new resources for pre-med and pre-dental students, and by building on our standard PD events. Our chapter was able to continue to build upon our past company partnerships, as well as initiate new collaborations with companies, leading to several recruitment and development opportunities for our members. For our members interested in pursuing further education by attending grad school, we continued the Graduate School Mentorship Program and a Graduate School Panel to provide more insights on the graduate school process. The graduate school mentorship program paired our members with graduate students at The Ohio State University department of Biomedical Engineering to help guide them as they navigate their career path. For our members interested in industry, we hosted a company sponsored workshop focusing on developing our member's networking skills in regards to LinkedIn and Professional Writing specifically, to prepare them for a career in industry. Finally, we were able to host several of our conventional events including Resume Review, Mock Interview, Networking Night, etc. which provided numerous opportunities for students to improve application materials for jobs/internships. In addition to hosting PD events, we focused on utilizing experience from alumni and current chapter members by expanding the Networking Database on our website to feature over 120 members and alumni. This resource allows underclassmen to look at the work and research experience of alumni or upperclassmen so they can conveniently reach out to network with them. This database, combined with the PD events, has allowed members in our chapter to grow professional skills and land positions in the companies/industries they desired.

## Corporate Sponsorship Program

This past year, the Corporate Sponsorship Program expanded, helping foster more industry partnerships with companies in the biomedical space. The Corporate Relations Liaison solely dedicated time to structure the program and find new contacts; hence, personalized involvement packages were created for each company to allow more recruiters from companies to attend numerous events throughout the academic year. Our members also received significant benefits from this successful collaboration, gaining access to diverse internships and full-time recruitment, insights into the job market from partnering companies, and most importantly, invaluable networking opportunities. Two new initiatives were pursued this year - an industry shadowing program and a non-sponsor involvement package. The industry shadowing program allowed for members to shadow professionals in the biomedical industry, providing them with firsthand experience and insights into potential career paths. This year was the first time this program was implemented with two industry leaders- Johnson & Johnson and Andelyn Biosciences. We plan to continue to expand this program to offer more shadowing opportunities to our members and increase collaboration with industry partners. Meanwhile, the non-sponsor involvement package extended benefits to companies that were not official sponsors, allowing them to engage with our members through tailored events and activities like Biotronik and Novartis Pharmaceuticals. These initiatives further enriched our members' experiences and solidified our program's position as a key bridge between academia and industry in the biomedical field.

Over the summer, the sponsorship package was finalized to ensure preparation for the academic year. This packet outlined the various perks and events that companies could access by collaborating with our chapter, and it also featured descriptions of different sponsorship levels. The existing sponsorship packet is accessible on our website, and a preview of it is presented below.

### Sponsorship Tiers



### Chapter Initiatives

	 <b>Buckeye</b> \$500	 <b>Grey</b> \$1000	 <b>Scarlet</b> \$1600
Headline Event 1	✓	✓	✓
Logo on Website/T-Shirts	✓	✓	✓
Networking Night	✓	✓	✓
Present Company at General Body Meeting	✗	✓	✓
Headline Event 2	✗	✓	✓
Resume Book	✗	✓	✓
Shadowing Day	✗	✓	✓
Headline Event 3	✗	✗	✓
Host Development Workshop	✗	✗	✓
Job Opportunities Posted in Weekly Newsletter	✗	✗	✓

**Resume Review**

A resume workshop geared towards members seeking industry jobs at upcoming career fairs. Students receive resume advice, critiques, and interview training from company representatives, faculty and trained upperclassmen.



**Networking Night**

A one-day networking event offered in September the week of Ohio State's Engineering Expo. Networking Night offers both students and companies a chance to communicate in a smaller more focused setting than the expo and serves as a great place for expo follow-ups.



**Career Panels**

A variety of panels focused on different career options such as industry, research, medicine, and alternative pathways. These panels are student-led and offer members a chance to receive advice and questions answered from experts in the field.



**Development Workshops**

A series of faculty-led professional development workshops which introduce new skills and offer hands-on practice and shadowing opportunities. Topics include surgery, circuitry, CAD, and other key technical skills.



**Community Interns Program**

Students volunteer for short-term project experience with a company. This starts as an unpaid part-time internship and can grow into further relations between the student and employer after the program.



*Preview of sponsorship packet with tiers/benefits (left) and description of events (right) - full link found on website*

To entice companies from the industry to participate in our sponsorship program, we incorporated a variety of benefits within the different tiers. These sponsorships allowed entry to our headline events such as EHIRS, Bio-Hack, and Sculpting Your Future, in addition to other benefits such as access to our student resume book, visibility through general body information sessions and logo placements on merchandise, and the ability to recruit at several events.

We reached out to numerous sources to engage as many companies as possible and established a database to record our progress and our points of contact. These sources included: our own members with co-ops and internships who contacted their employers to connect with our corporate relations liaison, maintaining communications with professional organizations such as BioOhio and JobsOhio, and utilizing our extensive alumni network via LinkedIn.

As a result of reaching out to over 110 companies, we hosted events with over 20 different companies, including notable medical device industry leaders. This year’s sponsors were Medpace, Cook Medical, Biosense Webster, Forge Biologics, Optimus Prosthetics, Amgen, Biotronik, AmplifyBio, KLS Martin, and Sarepta Therapeutics. The non-sponsor companies we worked with include Eli Lilly, Thermo Fisher Scientific, STERIS Endoscopy, Lab Ally, Wiseology, Oakwood Labs, Arthrex, and ZOLL. These companies participated in events such as EHIRS, Bio-Hack, Sculpting Your Future, Networking Night, Resume Review, Mock Interviews, General Body Meetings, and some even hosted their own company-specific recruitment events.

Next year, we look to continue our development of the sponsorship program to not only maintain new relationships developed in this past year but also continue to reach out to more diverse industry partners both near and far.

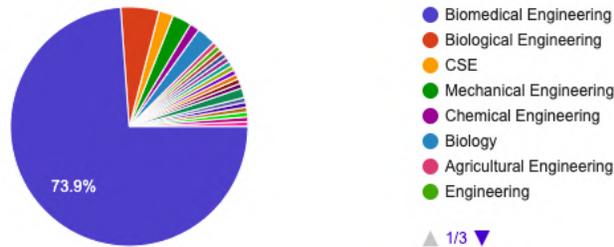
### **Engineering in Healthcare: Industry and Research Symposium (EHIRS)**

<b>Date/Location</b>	<b>Audience</b>	<b>Attendance</b>	<b>Cost</b>	<b>Industry Involvement</b>
01/25/25 8:30am -6:30pm Mars G. Fontana Laboratories	All students interested in Healthcare	141 Students	\$6927.45	<b>Amgen</b> <b>Forge Biologics</b> <b>KLS Martin</b> <b>Andyln Biosciences</b> <b>AmplifyBio</b>

The 10th annual EHIRS was a collaboration between the Ohio State University and 5 industry sponsors to give students a unique perspective and experience on how engineering bridges the gap between healthcare and medicine. In addition to OSU biomedical engineering students,

What is your major?

153 responses



students from 24 different STEM disciplines also attended the event, as shown above. The conference was held in person over one full day at Mars. G Fontana Laboratories from 8:30 am to 6 pm on January 25th, 2025. This day-long event consisted of two major portions: industry and research. The schedule included various activities such as event

check-in and breakfast, introduction and opening remarks by BME faculty, a research keynote speech by Dr. Jordan Winter, Chief of surgical oncology at university hospitals Cleveland Medical Center, graduate and undergraduate research presentations, an industry keynote speech by Caroline Crisafulli, director of entrepreneurial education at Ohio State University, a medical solutions workshop, and an industry panel and networking session featuring Amgen, KLS Martin, Forge Biologics and more. Below are some highlights from the event.



The conference was a comprehensive exploration of the intersection between industry and research in biomedical engineering. The morning session commenced with introductory remarks from the Biomedical Engineering (BME) faculty, setting the stage for a captivating keynote speech by Dr. Jordan Winter, Chief of surgical oncology at university hospitals at Cleveland Medical Center. Following this, graduate and undergraduate students presented their research projects, showcasing the depth and diversity of innovation within the field.

The afternoon session shifted focus to industry insights, featuring a keynote address by Caroline Crisafulli, director of Entrepreneurial education at Ohio State, and a dynamic industry panel with representatives from leading companies like Amgen, KLS Martin, and Forge Biologics. The Co-Chairs then hosted an interactive workshop, which provided a hands-on exploration of medical solutions, fostering collaboration and idea exchange among participants.

Throughout the day, the conference facilitated meaningful connections and knowledge exchange, leaving attendees inspired and motivated to drive forward progress and innovation in biomedical

engineering. Overall, the event drew over 180 attendees from several stem disciplines, showcasing the passion of OSU students in biomedical industry and research.



The event was well received by attendees and OSU BME faculty. General feedback encouraged hosting the event in a more central location that is easily accessible and potentially hosting the event on days which do not conflict with class. For future events, the planning co-chairs may change approaches on marketing and will try to coordinate with other universities to increase attendance. EHIRS is planning to continue to incorporate interactive events centered around networking and research presentation while maintaining the one day format to help increase attendance and make it easier for students from visiting universities to participate. Below are the co-chairs that planned the event.



## Sculpting Your Future

Date/Location	Audience	Attendance	Cost	Industry Involvement
03/1/25 11:00 am- 3:00pm (Fontana Laboratories)	Ohio State engineering undergraduate and graduate students, BME faculty	40 attendees	\$1000	<p style="text-align: center;"><b>Dr. Susan Mallery</b> (OSU College of Dentistry)</p> <p style="text-align: center;"><b>Marilyn Carpenter</b> (Emerson Power &amp; Water Solutions, BEWEL)</p> <p style="text-align: center;"><b>Dr. Courtney Collins</b> (OSU General Surgeon)</p> <p style="text-align: center;"><b>Dr. Zarine Shah</b> (OSU Radiologist, Vice Chair for DEI)</p> <p style="text-align: center;"><b>Sara Goldberg</b> (Optimus Prosthetics)</p> <p style="text-align: center;"><b>Ashley Harrod</b> (Optimus Prosthetics)</p> <p style="text-align: center;"><b>Amber McGraw</b> (Andelyn Biosciences)</p> <p style="text-align: center;"><b>Lakshmi Dasar</b> (Andelyn Biosciences)</p> <p style="text-align: center;"><b>Arnav Divekar</b> (J&amp;J Biosense Webster)</p> <p style="text-align: center;"><b>Kaila Recker</b> (J&amp;J Biosense Webster)</p> <p style="text-align: center;"><b>Zach Alleman</b> (J&amp;J Biosense Webster)</p> <p style="text-align: center;"><b>Claudia Herrera Dias</b> (Clinical Engineering at OSU Wexner Medical Center)</p> <p style="text-align: center;"><b>Megan Malara</b> (Center for Design and Manufacturing Excellence)</p>

Sculpting Your Future featured women from diverse backgrounds in industry, healthcare, and academia brought in to empower women and inform male allies of positive methods of empowerment. The event began with the keynote presentation from Dr. Susan Mallery, a dentist and patent holder for her work on chemoprevention treatments of oral cancer by natural products. She shared her personal journey of being on the Ohio State track and cross country teams before the introduction of the NCAA for women. The workshop following the opening presentation was led by a member of Buckeye Engineering Women in Executive Leadership (BEWEL). Marilyn Carpenter presented “Creating My Balance and Shining in a Changing

World,” with examples of her personal journey on how to keep a healthy balance of supporting yourself and your professional goals.



A networking luncheon followed the first two speakers. Company representatives were introduced at the beginning of the lunch, and attendees were allowed to freely mingle with all facilitators consisting of event speakers, Ohio State faculty, and industry representatives from Andelyn Biosciences, Optimus Prosthetics, Johnson & Johnson Biosense Webster, and the OSU Center for Design and Manufacturing Excellence. Throughout the lunch, the attendees were prompted to reflect on questions regarding their experiences with diversity and ways to empower others. Main dishes for lunch were catered from Chipotle, while dessert was catered from Giant Eagle and coffee was served from Starbucks.



After lunch, Dr. Courtney Collins presented a workshop on negotiations in their presentation titled “Life is Full of Negotiations.” The presentation featured an interactive activity where one person took on the role of the employee and one person was the “boss.” To close out the event,

OSU Department of Radiology's Dr. Zarine Shah gave a keynote presentation highlighting her academic and professional journey as a woman in the radiology research field. We are excited about the growth in attendance and number of speakers at this year's Sculpting Your Future event, and we hope to continue to improve in the future by advertising through professors in classes and to a broader audience outside of just BME or engineering majors, but also any and all STEM majors. Additionally, we would like to have a more diverse set of speakers including one that empowers those with disabilities in the workplace.

### **Resume Review**

The Resume Reviews were intentionally scheduled to take place right before the Autumn and Spring Career Fairs and specifically EHIRS in the Spring. This provided our members with the opportunity to have multiple industry representatives and BME faculty look over their resume and offer constructive feedback. This event was partially targeted towards underclassmen who may have only recently created a formal, college resume. With an effort to increase industry collaboration and to set the tone for Professional Development events, Resume Review gathered eleven industry representatives in addition to OSU BME faculty and BME seniors to review student resumes. Between the two events, these industry representatives came from nine different companies. These events involved both in-person and virtual options for the one-on-one, ten-minute reviewing sessions. The availability of an in-person and virtual option allowed for increased attendance by our industry partners who could not attend in-person, while allowing for more personal interactions for those who could attend in-person. Feedback from our members indicated that they enjoyed this event, especially the ability to get feedback by company recruiters who are experts on resumes, and that they came away having learned a great deal. Our members were therefore able to attend the career fairs feeling well-prepared. Industry representatives also provided positive feedback about how well-run the event was and how prepared our members were. They also provided us with common errors and mistakes which we then implemented as a resume resource on our website that hosts sample resumes, resume tips, and more.





Date/Location	Audience	Attendance	Cost	Industry Involvement
9/10/2024 Fontana Labs and Virtual	All BMES members	54 attendees	\$211.56	<b>Beth Ney</b> (Optimus Prosthetics) <b>Liz Salgado</b> (Forge Biologics) <b>Nick Wang</b> (Amgen) <b>Rob Day</b> (Lab Ally) <b>Kevin Host</b> (Biosense Webster) <b>BreAnna Zilm</b> (Medpace)

				<b>Amanda Sparks</b> (Cook Medical) <b>Tina McBride</b> (Sarepta Therapeutics) <b>Buddini</b> <b>Karawdeniya</b> (OSU) <b>Mihir Joshi</b> (OSU) <b>Austin Carlin</b> (OSU)
01/14/2025 Fontana Labs	All BMES members	21 attendees		<b>Brandon Lewis</b> (AmplifyBio) <b>Arnav Divekar</b> (Biosense Webster) <b>Soham Dave</b> (Abbott) <b>Jennifer Leight</b> (OSU)

**Mock Interview**

The Mock Interview event succeeded the Resume Review event so that students could have a strong resume before practicing their interview skills. This provided our members with the opportunity to practice common interview questions with industry representatives. This event was held the week before the Fall Career Fair and our BMES Networking Night in order to improve student’s confidence before having to network with companies in the daunting setting of the career fair. We received positive feedback from our members who indicated that they felt more prepared for upcoming networking events and interviews by being able to practice in a real-world setting with the company representatives who conduct interviews on a daily basis. Industry representatives were very impressed with the event and the opportunity to aid students in their career fair preparation.



Date/Location	Audience	Attendance	Cost	Industry Involvement
9/12/2024 Fontana Labs and Virtual	All BMES members	16 attendees	N/A	<b>Soham Dave</b> (Abbott) <b>Ashley Maeso</b> (Optimus Prosthetics) <b>Rob Day</b> (Lab Ally) <b>Amanda Sparks</b> (Cook Medical) <b>Liz Salgado</b> (Forge Biologics)



### Networking Night

The purpose of Networking Night was to provide both BMES members and all students at The Ohio State University who were interested in bioscience 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. Networking Night has traditionally been an opportunity for BMES members only, and has been held the night before Ohio State's Engineering Expo to permit members personal interaction with bioscience representatives prior to the commotion of the Expo. The goal was to host as many companies as possible to increase the amount of opportunities for BME undergraduates. This event ended up with a total of seven companies in

attendance. Networking Night was held in-person and was set up like a typical career fair. Several members were able to acquire co-ops or internships from this event. Companies who attended this event were very pleased with the intimate setting that was created and said they could connect better with our students as opposed to large career fairs.



Date/Location	Audience	Attendance	Cost	Industry Involvement
09/27/2024 Fontana Labs	All BMES members	101 attendees	\$211.56	<b>Ashley Maeso</b> (Optimus Prosthetics) <b>Brett Patton</b> (Amgen) <b>Nick Wang</b> (Amgen) <b>Sue Anne Turner-Johnson</b> (Cook Medical) <b>Erica Kier</b> (KLS Martin) <b>Tina Gonzalez</b> (Sarepta Therapeutics) <b>Blaise Gorski</b> (Biosense Webster) <b>Arnav Divekar</b> (Biosense Webster) <b>Kevin Host</b> (Biosense Webster) <b>BreAnna Zilm</b> (Medpace) <b>Christopher Hurley</b> (AmplifyBio)

				<b>Emily Church</b> (AmplifyBio)
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**October General Body Meeting**

This meeting started out by informing members on upcoming events for the chapter. We subsequently had several representatives from Biosense Webster (Johnson & Johnson) present about their company and BME roles that they are searching for, especially the Associate Clinical Account Specialist (ACAS) position for their 3D mapping system during radiofrequency cardiac ablations. They described the training structure and presented a case study to show what an ACAS would do during a procedure. The presentation was then followed by a Q/A session with food and beverages so that students and speakers could speak in smaller settings. This resulted in two students receiving and accepting job offers, and several students who began shadowing cases if they were not ready to graduate the upcoming year.



Date/Location	Audience	Attendance	Cost	Industry Involvement
10/17/24	All BMES members	68 attendees	\$216	<b>Arnav Divekar</b> <b>Gaby Del Risco</b> <b>Josef McQuain</b> <b>Blaise Gorski</b> (Biosense Webster)

## November General Body Meeting

This meeting began with a brief overview of upcoming chapter events and opportunities. We then welcomed representatives from AmplifyBio to present about their company and the exciting internship and full-time job opportunities available to our student members.

The speakers shared insights into the company's mission, cutting-edge work in preclinical and translational research, and the roles that biomedical engineering students can pursue within the organization. Their presentation offered valuable perspectives on how students can apply their academic background in a real-world research and development environment.

Following the talk, students had the chance to network with AmplifyBio representatives, fostering meaningful one-on-one conversations and allowing members to explore potential career paths in a more personal setting.



Date/Location	Audience	Attendance	Cost	Industry Involvement
11/14/24	All BMES members	24 attendees	\$216	AmplifyBio

## January General Body Meeting

The January general body meeting began with chapter updates and announcements about upcoming events. We then welcomed representatives from Amgen to present on their work in pharmaceutical manufacturing, with a focus on quality control and drug packaging.

The speakers provided an inside look at Amgen's new state-of-the-art facility in Central Ohio, highlighting innovations such as automated robotics and enhanced line efficiency. They also discussed career and internship opportunities for biomedical engineering students interested in manufacturing, operations, and quality assurance.

The meeting wrapped up with a Q&A session and informal networking, giving students a valuable opportunity to connect with industry professionals and explore potential career paths.



Date/Location	Audience	Attendance	Cost	Industry Involvement
01/28/25 Fontana Labs	All BMES members	37 attendees	\$216	Amgen

### BIOTRONIK Information Session and Interviews



To end the semester on a good note, Biotronik, a global leader in cardiovascular medical devices, reached out to host their own info session to introduce their Field Specialist Role, specifically tailored for Ohio State BME students! Biotronik was added to the sponsor list, and through the information session, students learned firsthand about this exciting opportunity to work in a cutting-edge field, directly impacting patient outcomes. Representatives from Biotronik discussed the role, their innovative company culture, and how OSU BME students could get involved. Following the information session, a

networking opportunity was provided and students came prepared with their resumes as Biotronik representatives noted down individuals for their next-day interviews. Approximately 8-10 students were selected for the first-round interview which took place all day on the next day.

Date/Location	Theme	Audience	Attendance	Cost
11/21/2024 Fontana Labs	BIOTRONIK Information Session	All BMES members	25 students	N/A
11/22/2024 Fontana Labs	BIOTRONIK Interviews	Interview-Selected BMES members	8 students	N/A

### March General Body Meeting

The March general body meeting began with chapter updates and a preview of upcoming events. For the main portion of the meeting, we partnered with the OSU Wexner Medical Center CPR Club to host an interactive and educational session on the importance of CPR.

Representatives from the club discussed the life-saving impact of CPR knowledge and training, especially for those pursuing careers in healthcare and biomedical engineering. They also brought CPR manikins, allowing members to get hands-on practice with proper chest compression techniques and response protocols.

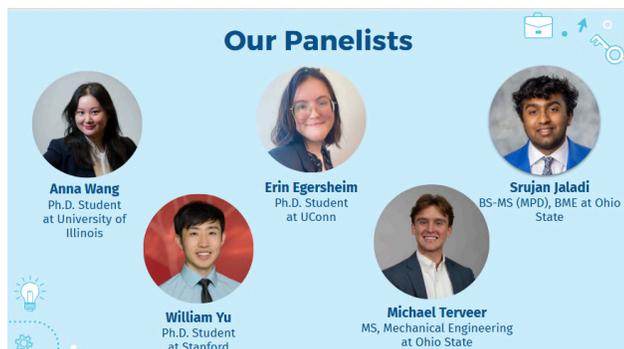


This engaging and skill-building event gave students a practical understanding of emergency response and emphasized the value of being prepared in critical situations.

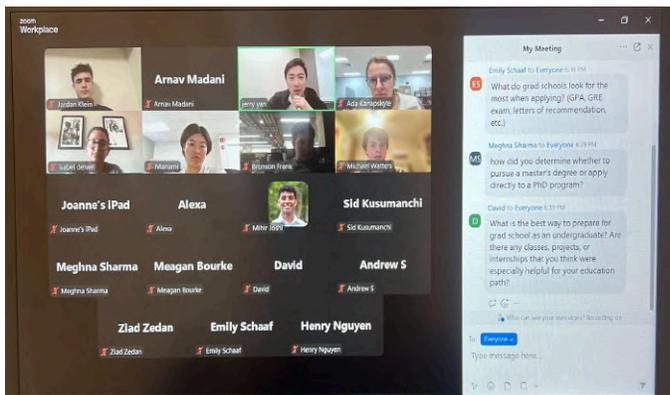
Date/Location	Audience	Attendance	Cost	Industry Involvement
03/18/25 Fontana Labs	All BMES members	20 attendees	\$216	OSU Wexner Medical Center CPR Club

### Graduate School Panel

This year, we hosted two virtual graduate school panels aimed at providing valuable insights and guidance to undergraduate students considering further education. Both panels consisted of OSU alumni (Medical Device Product Development Program BS-MS and Mechanical Engineering MS) and PhD candidates from institutions such as the University of Illinois, Stanford, UC Davis, and UConn. The second panel was also in collaboration with our very own Ohio State BME Graduate



Student Association through which we created a medical school mentorship program. The panels' aim was to break down the graduate school experience by addressing topics such as the application process, the significance of pursuing graduate studies, post-graduate opportunities, and considerations when applying to different institutions. Panelists shared their diverse motivations and experiences, enriching the discussion and offering unique perspectives. Through a pre-event registration form, students submitted questions, which were addressed during the panel discussion, enabling attendees to glean valuable information and forge meaningful connections with the panelists. Based on the feedback received from the students, this event proved to be a successful event, and the panelists provided their contacts to the students to reach out to them for further support.



Date/Location	Audience	Attendance	Cost
10/15/2024 (Virtual)	All BMES members	16 attendees	N/A
02/27/2025 (Virtual)	All BMES members	20 attendees	N/A

### Industry Panel

This year's Industry Panel aimed to help undergraduate BME students with practical insights and guidance for their upcoming summer internships and fall co-op placements. Featuring representatives from the biomedical companies partnered with OSU BMES through the Sponsorship program, the panel offered diverse industry perspectives. Prior to the event, a registration form was circulated, enabling students to submit questions for the panelists. During the session, panelists shared firsthand experiences and invaluable advice, while BMES hosts moderated a Q&A session, combining pre-submitted and real-time questions. Overall, the event was successful, as there was lots of engagement, garnering positive feedback from both industry representatives and students. One BMES member was able to secure a full-time role by networking at this event, which is a great success story!



Date/Location	Audience	Attendance	Cost	Industry Involvement
10/29/2024 (Virtual)	All BMES members	25 attendees	N/A	<b>Blake Szkoda</b> (Forge Biologics) <b>BreAnna Zilm</b> (Medpace) <b>Robert Hinks</b> (Optimus Prosthetics) <b>Erica Kier</b> KLS Martin
04/01/2024	All BMES members	14 attendees	\$51.95	<b>Ryan O'Connor</b> (Medpace) <b>Izzy Evans</b> (KLS Martin) <b>Kaila Recker</b> (J&J MedTech) <b>Nick Wang</b> (Amgen)

### Networking Speaker Series

The purpose of the two Networking Speaker Series was to provide attendees with the opportunity to connect with industry professionals and get an idea of what career paths lie for them post-graduation. The first Networking Speaker Series, we had Dr. Kevin Nelson, an Engineering Project Manager at



Nanofiber Solutions/Medical Device Expert at Dekra, attend. This event allowed attendees to foster new professional networks while learning about the regulatory environment of medical devices and R&D processes.



Dr. Kevin Nelson presented a summary of his work at two companies, providing great detail into certain EU guidelines and regulatory framework for internationally marketed medical devices. Afterwards, there was a Q&A session where students got to ask questions about his projects and why he chose this path. In a similar fashion, the second Networking Speaker Series hosted Dr. Richard Eldridge, the Clinical Engineering Director at The Ohio State University Wexner Medical Center. Dr. Richard Eldridge provided guidance navigating biomedical engineering and personal and professional life after

graduation. He also shed light on his roles and responsibilities as a clinical engineer, the people he communicates with, and the role of leadership. Feedback from attendees was quite positive as students enjoyed learning about different BME career paths and research projects that they had never been exposed to before.

Date/Location	Audience	Attendance	Cost	Industry Involvement
11/07/2024 Fontana Labs	All BMES members	13 attendees	N/A	<b>Dr. Kevin Nelson</b> (Dekra and Nanofiber Solutions)
03/25/2025	All BMES members	17 attendees	\$161.35	<b>Dr. Richard Eldridge</b> (OSU Wexner Medical Center)

### Industry Shadowing with Andelyn Biosciences

This year, we successfully implemented an industry shadowing program in collaboration with Andelyn Biosciences, a leading contract development and manufacturing organization (CDMO) specializing in cell and gene therapies. This initiative provided students with firsthand insight into the integration of data science within the biopharmaceutical sector. The students were invited to Andelyn's state-of-the-art facilities in Columbus, Ohio, where they received comprehensive tours of the company's research, development, and manufacturing spaces. During their visit, students engaged in networking sessions with industry professionals, fostering valuable connections and deepening their understanding of data science applications in gene therapy development and manufacturing.



Date/Location	Audience	Attendance	Cost	Industry Involvement
03/03/2025 Andelyn Biosciences	All BMES members	20	N/A	Andelyn Biosciences

### **People of Color in Engineering Panel**

This year, BMES hosted a POC in Engineering Panel aimed at informing peers and students in biomedical engineering about the impact of diversity, equity, and inclusion (DEI) on the field. The panel featured six amazing panelists with diverse backgrounds and professional experiences, including individuals in the industry, founders of medical device companies, postdocs at The Ohio State University, and the assistant deans for graduate and undergraduate admissions. Panelists were selected based on their interest and involvement in promoting DEI, as well as their racial and ethnic backgrounds, which provided them with unique perspectives in engineering. The panel facilitated discussions on their academic and professional journeys and how DEI has shaped their careers. Additionally, the event included a section addressing the impact of current events and policy changes at the national, state, and collegiate levels on student education, faculty experiences, and society as a whole.

# POC in Engineering Panel

BMES

**Theodore Nicholson**

- Chief Technology Officer and Co-Founder of Iaso Automated Medical Systems
- Product development and management in medical devices, specialization in software
- BS in Chemistry from Oakwood University and MS, PhD in Biomedical Engineering from the Ohio State University



**Kavya Narayanan**

- Associate Scientist at Procter & Gamble, Beauty R&D, Skincare Formulation
- B.S. (2022) & M.S. (2023) Biomedical Engineering, The Ohio State University
- Involvements at OSU: SWE, Mount Leadership Society Scholars, Medical Product Development Program
- Hobbies: Baking, running, exploring new coffee shops



**Dr. Shawanee' Patrick**

- LEGACY Postdoctoral Scholar at The Ohio State University, Department of Mechanical Engineering
- Conducts research developing patient-centered mobility solutions for individuals with physical disabilities.
- Ph.D. in Mechanical Engineering from Texas A&M University
- Deeply committed to inclusive engineering education practices that empower and support students from all backgrounds.

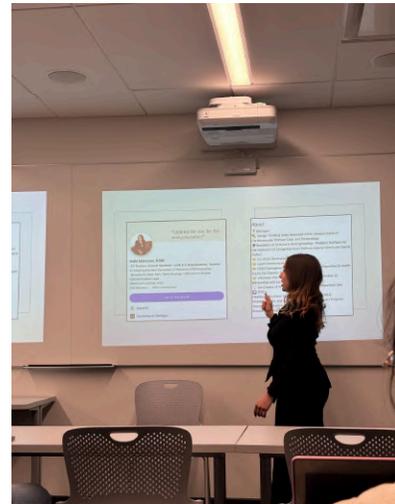


Date/Location	Audience	Attendance	Cost	Faculty Involvement
3/27/2025 (Virtual)	All BMES members & Engineering Majors	12	N/A	LaTonia Stiner-Jones (OSU)

## Professional Development LinkedIn + Professional Writing Workshop



At OSU BMES, we recognize the power of networking in unlocking new opportunities and building meaningful professional connections. This year, we hosted a LinkedIn and Professional Writing Workshop designed to help our members enhance their online presence and communicate effectively in career-focused interactions. We welcomed Halle Mancuso from Novartis Pharmaceuticals, who shared her personal experiences in growing a strong LinkedIn network and provided insights into professional communication strategies. She walked attendees through examples of well-crafted LinkedIn profiles, discussed best practices for engaging with career-oriented professionals, and offered tips on maximizing networking efforts in a way that aligns with individual career goals. Students also had the chance to put these insights into action by refining their profiles and exploring LinkedIn’s powerful search and networking tools to find relevant connections and opportunities.



Date/Location	Audience	Attendance	Cost	Industry Involvement
02/11/2025 Fontana Labs	All BMES members	28 attendees	N/A	<b>Halle Mancuso</b> (Novartis Pharmaceuticals)

### Research Recruitment Event



The Research Recruitment Event was meant to connect Principal Investigators (PIs) with undergraduate students to initiate the recruitment process. Interested students filled out an interest form by specifying their availability and providing an updated resume. The PIs each presented about their labs and the research they are currently working on. The first research recruitment in October included the Fedorov Lab, STAIRS Lab, Pharmacology of Membrane Trafficking Lab, Respiratory Mechanobiology Lab, Liu Lab, and Medical Modeling, Materials and Manufacturing (M4) Lab. Following the presentations was a career fair-like networking session where students were able to ask questions about expectations as a student researcher and the lab work they will be focusing on as well as share their professional experiences. A few undergraduate students were able to tour certain labs and seven students even ended up with an Undergraduate Research Position.

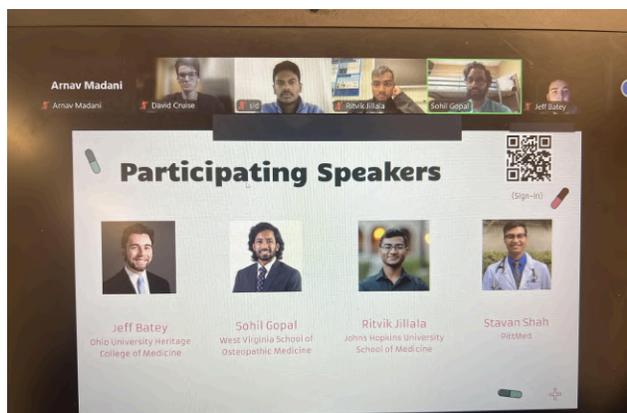


Date/Location	Audience	In-Person Attendance	Cost	Recruiting Labs
10/03/2024 Fontana Labs	All BMES members	43 attendees	N/A	<b>Dr. Vadim Fedorov</b> (OSU Faculty) <b>Dr. Enora Le Flao</b> (Postdoctoral Fellow) <b>Dr. Ema Cocucci</b> (OSU Faculty) <b>Jon Fritz</b> (Ph.D. Candidate) <b>Bei Liu</b> (OSU Faculty) <b>Joanne Xu</b> (M4 Lab Undergraduate)

### Medical/Dental School Panels

This year, BMES hosted a series of 2 virtual medical/dental school panels over the course of the year to help undergraduate students learn more about medical and dental school, answer their many questions, and build their overall confidence regarding medical school admissions from the MCAT/DAT to the application process. This year, an increase in pre-dental BME students was recognized, so to cater to a new diverse group of students, dental students who had previously graduated from a BME undergrad accompanied medical students on the panel. The Medical School Panel in January was more catered to students who had already taken the MCAT/in their MCAT-taking year so that they can obtain guidance on which schools to apply to, what the

medical application (recommendation letters, clinical/volunteer hours, professional experiences, etc.) looks like as well as understand the interview process and narrowing down the choices. The panelists, who came from different backgrounds and experiences from all over the country, offered unique perspectives as they all had various motivations and experiences for applying to MD/DO medical school and dental programs. Panelists included medical students from 7 different universities including Stanford University, Johns Hopkins University, The University of Illinois, Case Western Reserve University, and more.



Date/Location	Theme	Audience	Attendance	Cost
11/12/2024 Virtual	How to study for MCAT/DAT, application process, personal experiences, interviews, research, etc.	All BMES members	13 students	N/A
01/30/2025 Virtual	Medical School Applications, interview preparation, medical school tours/narrowing the choices down!	All BMES members	21 students	N/A

## Johnson&Johnson MedTech Electrophysiology Workshop

We had the privilege of hosting the first-ever workshop with J&J MedTech, specifically through Biosense Webster’s Ohio Key Accounts. This interactive electrophysiology workshop provided attendees with hands-on experience, delving into the day-to-day responsibilities of a Clinical Account Specialist. From learning about advanced catheter technology to participating in activities like making steam pops in chicken breasts—where tissue temperatures reach approximately 100°C during ablation—it was an exciting and educational experience. It was particularly impressive to see how Biosense Webster’s catheter technology incorporates safety mechanisms to prevent steam pops during real procedures, ensuring patient safety remains the top priority.



Date/Location	Theme	Audience	Attendance	Cost
04/05/2025 OSU Wexner Medical Center	Electrophysiology, Cardiac Mapping, Ablation, Day in the Life of a Clinical Account Specialist, etc.	Selected BMES members	16 students	N/A

### Student Networking Database

The intention behind this effort was to foster a growing community within our student members and in the long term, have contacts available for future industry partnerships. Since last year, we have expanded our database to include over 100 students plus alumni. Each student provides their academic background, career paths, and professional experiences to share with the Ohio State Biomedical Engineering community. This information is available to our members to reach out for advice on specific work experiences, long term career goals, and general mentorship. This database has also allowed us to foster new company relationships and provide more career

opportunities to our members. This year, we renovated the database to be sorted into different sections based on career path for easier use for our members. The current database is featured on our website here: <https://www.osubmes.org/resources#h.evu146wcg3yf>.

### **III-F. Societal Impact Activities**

This year, BMES hosted a series of impactful, student-led initiatives that advanced socially responsible innovation in biomedical engineering. From Bio-Hack, a weekend-long hackathon centered on low-cost prosthetic technologies and healthcare accessibility, to the launch of our first-ever Case Competition integrating engineering, medicine, and business, students tackled real-world challenges with empathy and equity in mind. The year-long Design Team program continued to expand, giving students hands-on experience in medical device development through partnerships with clinical institutions like Nationwide Children's Hospital and the Wexner Medical Center. Projects focused on improving prosthetic testing and cardiovascular emergency procedures, with several teams pursuing national competitions and commercialization opportunities. Across all events, BMES fostered interdisciplinary collaboration, mentorship, and a commitment to designing inclusive, human-centered solutions that improve lives.

#### **Bio-Hack**

This year's Bio-Hack was a weekend-long, in-person hackathon focused on advancing accessibility in healthcare through low-cost prosthetic technologies. Sponsored by Optimus Prosthetics, the event invited students from diverse academic backgrounds and experience levels to come together and engineer socially responsible solutions for real-world problems in prosthetic care. By centering the challenge around affordability and functionality, the hackathon pushed participants to consider not only innovation, but equity, developing devices and tools that could benefit individuals who are often underserved by traditional medical technologies.

One of Bio-Hack's core values was inclusivity - both in team formation and impact. Students could either form their own teams or be matched based on rank and major, intentionally mixing underclassmen with upperclassmen to encourage mentorship and interdisciplinary collaboration. This year's organizers also implemented a structured Discord server to enhance communication, mentorship, and team support throughout the event. Mentors, ranging from industry professionals to faculty, were embedded directly in team channels, providing tailored technical feedback and guidance.

The event opened with a keynote by Ashley Maeso, Market Developer at Optimus Prosthetics, who offered insight into the social and economic challenges in the prosthetics industry. Throughout the weekend, students had access to 3D printing through OSU's Innovation Studio, allowing them to rapidly prototype their ideas. The winning project, LimbLink, exemplified the event's mission: an AR-powered app that generates 360° limb scans using just an iPhone. By eliminating the need for high-end clinical equipment and enabling remote assessments, the solution made strides toward more affordable and accessible prosthetic fittings, especially critical in rural or low-resource settings.

In addition to building technical skills, Bio-Hack created opportunities for students to engage with professionals committed to making healthcare more inclusive and human-centered. A final

gallery walk and crowd-favorite vote celebrated all participants' work, and every mentor and judge was recognized with personalized notes and tokens of appreciation. Ultimately, Bio-Hack reinforced the idea that engineering is not just about solving problems, it's about improving lives. Through this event, BMES empowered students to approach innovation with empathy, accessibility, and long-term impact in mind.

Date/Location	Audience	Attendance	Cost
11/16/2024 - 11/17/2024, Fontana Labs	Students in BME, CSE, BMS, ChemE, AeroE, MechE, FABE, ISE, Biology, Data Analytics, Finance, Math, Neuroscience, Public Health	77 attendees	\$3103.96



### Case Competition

This year, for the first time ever, we introduced a Case Competition to highlight the growing intersection of medicine, engineering, and business, and to challenge students to think beyond innovation and consider the broader societal implications of their ideas. The competition provided undergraduate students with a platform to explore solutions to real-world biomedical engineering challenges, while reflecting on the social, ethical, and economic dimensions of healthcare. In collaboration with Rev1 Ventures, a Columbus-based seed-stage venture capital firm, expert judges guided participants in developing solutions that were not only technically sound, but also socially responsible and accessible.

Participants assumed the role of consultants for CardioTech, a global pacemaker company facing declining market share and increasing competitive pressure. Charged with helping CardioTech regain its leadership, teams explored how to make cardiac devices more affordable, sustainable, and widely available - particularly in underserved or low-resource regions. Their strategies addressed challenges such as high device costs, disparities in global access to care, and the need for provider education and patient trust. By designing business and engineering solutions with equity in mind, participants considered how innovation can expand access to life-saving technologies and improve cardiovascular health outcomes for vulnerable populations. Through this competition, BMES empowered students to think critically about the role biomedical engineers play in shaping a more inclusive and impactful healthcare future.



Date/Location	Audience	Attendance	Cost
03/24/2025 Fontana Labs	Students in BME, CSE, Finance	12 attendees, 3 Teams	\$200

### Design Team

This year, we continued to grow the BMES Design Team—our year-long initiative that gives students real, hands-on experience in medical device development. From the earliest stages of ideation all the way to building a functional device ready for real-world testing, students are immersed in the full engineering process. The program welcomes participants from all disciplines, allowing a variety of skill sets and perspectives to come together in an innovative and collaborative environment. Students not only build technical skills but also learn how to identify real clinical problems, conduct early-stage research, and work toward practical solutions.

To maintain momentum and accountability, the Design Team holds weekly meetings throughout the semester. These sessions are dedicated to project updates, design reviews, and technical brainstorming. They also serve as a space for peer learning and team-building, helping students stay aligned while giving everyone a voice in the development process.

This year also marked a milestone for our program: we hosted our first-ever Design Team Launch Event. This event served as an official introduction to the initiative and welcomed new students to get involved. With over 70 attendees, the event featured presentations from current team leads and mentors, a showcase of our ongoing projects, and a Q&A session that allowed students to learn how they could contribute to future design efforts. It was also an opportunity to spotlight the incredible mentors supporting us—faculty, clinicians, and industry professionals who are helping guide our work. The energy and engagement at the event made it clear that there's strong interest and excitement for medical device innovation on campus.

The link below contains a slideshow from the Launch Event: [BMES Design Team Launch Event Presentation](#)

Our A Robust Testing Platform for Ankle-Foot Orthoses Team, also known as ADAPT Team, continued its collaboration with the Honda Center for Gait Analysis and Mobility Enhancement at Nationwide Children's Hospital (NCH). The goal is to create a device that measures the stiffness and deformation of ankle-foot orthoses (AFOs), which are commonly used by children with cerebral palsy. Currently, clinicians lack a reliable way to customize these braces for each patient. After reviewing literature and learning from our site visits to NCH, the team began prototyping a solution.

This semester, the device was upgraded to include an automated force-application system while ensuring the phantom foot remained stable. These changes made the system more consistent and clinically useful. Regular meetings with researchers at NCH helped guide design decisions, and user testing played a major role in keeping the project focused on clinical integration. Deadlines tied to testing sessions with clinicians helped keep the team on track and ensured that progress could be demonstrated in a tangible way.

The ADAPT team also submitted an invention disclosure to explore commercialization potential. Initial findings showed that a device like this does not currently exist for use in clinical settings, which validated our approach and opened doors for further opportunities. As a result, we applied to national competitions like the NIH DEBUT Challenge and the Medtronic/BMES Student Design Competition, and our collaborators at NCH approved us for continued funding and development support.

In addition, a new team was launched this year—the Cardiac Team—which is working closely with the Cardiac Surgery Team at the Ohio State Wexner Medical Center to improve a critical step in emergency cardiovascular procedures. During high-pressure situations, such as in the ER or trauma settings, inserting a cannula for cannulation can be a time-consuming and technically

demanding process. The Cardiac Team aims to develop a device that reduces the time and complexity of cannulation, ultimately helping save lives when every second counts.

The team identified three key areas for improvement: eliminating the need for suturing, stabilizing the cannula during insertion, and streamlining the incision process. These three avenues are currently being explored in parallel. Students are rapidly prototyping early concepts for each approach and testing their feasibility through benchtop simulations and surgeon feedback. The goal is to evaluate which method—or combination of methods—offers the most effective and clinically viable solution.

Throughout the semester, the team has worked closely with the surgical team to better understand the procedure from the clinician's perspective. This collaborative approach helps ensure that the device aligns with user needs and can be realistically integrated into fast-paced surgical workflows. Regular user presentations allow students to share their designs, practice professional communication, and gather critical input that directly informs the next design iteration.

None of this would be possible without the ongoing support of the Biomedical Engineering department at Ohio State. Faculty and staff have generously shared lab space, materials, and mentorship throughout the semester. Their contributions have played a key role in helping students bring these projects to life.





Timeline	Audience	Active Members	Cost
09/2024 - 04/2025	Underclassmen BME Students	50	\$200

#### **IV. National BMES Meeting**

The Ohio State BMES chapter continues to be a strong member body at the national meeting. 4 chapter members served as student volunteers where they helped set up and host different oral and design competition sessions. Furthermore, the Ohio State chapter was able to achieve the goals it previously set out for the national meeting. The number of members attending grew from 6 to 9 in part from the extra funds the chapter set aside to fund the trip. These members were not only active in student chapter events but also in poster sessions. Mihir Joshi and Dhruvi Shah presented their on-going research and went to other students' posters to learn about work in similar fields. Finally, chapter members worked towards the goal of networking with other Midwest chapters for more collaborative events like EHRS. This was done through attending different department booths, conversing at student sessions and attending the university receptions. Furthermore, Avneesh Pradhan and Ethan Stamas, the EHRS Co-Chairs, attended

and made a deliberate effort to advertise the event throughout the conference. Furthermore, our members attended various university hosted receptions throughout the evening of the conference to further network with other student leaders as well as faculty. Lastly, Ohio State chapter members continued to make an effort to attend special sessions such as the celebration of communities of color and gender equity luncheons to contribute to important dialogue. Overall, the national conference was an excellent opportunity that the attending officers took full advantage of to develop their personal career goals, improve Ohio State chapter operations, and increase inter-chapter collaborations.

### Goals for Future Annual Meetings

1. Maintain chapter attendance by increasing university funds and continuing to allocate personal funds towards travel costs for the conference.
2. Continue to network with collegiate BMES chapters to recruit for chapter collaborations. We have been able to recruit a few chapters for Cross Chapter Trivia and EHIRS but are looking to grow collaboration at these events and potentially have more collaborations throughout the year.
3. Through our BMES Design Team, we aim to have some of our members compete in the design competitions offered at BMES (e.g. NIBIB DEBUT). Our chapter made great strides in research presentations but we also have numerous prototypes being developed at Ohio State that we have yet to present at BMES.



### IV-A. Attendance

#### Undergraduate Students in Attendance

First Name	Last Name	Email (Lastname.#@osu.edu)
Mihir	Joshi	joshi.373@osu.edu
Joanne	Xu	Xu.4390@osu.edu
Emma	Wang	Wang.7223@osu.edu
Dhruvi	Shah	Shah.1799@osu.edu
Avneesh	Pradhan	Pradhan.73@osu.edu

Ethan	Stamas	Stamas.4@osu.edu
Bridget	Yu	Yu.3450@osu.edu
Kate	Herr	Herr.419@osu.edu
Dhaarini	Prasad Sudha	PrasadSudha.1@osu.edu

## IV-B. Participation

### *Student/Chapter workshops and lectures attended by members*

- 10/23/24 - Welcome Reception
- 10/24/24 - Special Events: Building Accessibility Breakfast
- 10/24/24 - Plenary Session: State of the Society
- 10/24/24 - Poster Session A
- 10/24/24 - Special Events: Various University Hosted Receptions
- 10/25/24 - Poster Session C
- 10/25/24 - Special Sessions: Fundamentals of Medical Product Regulation
- 10/25/24 - Special Sessions: Student Chapter Best Practices
- 10/25/24 - BMES Reception

### *Student presentations by members*

#### **Dhruiti Shah**

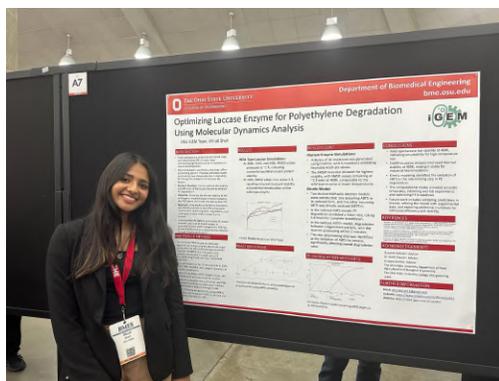
Poster Title:

*Optimizing Laccase Enzyme for Polyethylene Degradation Using Molecular Dynamics Analysis*

#### **Mihir Joshi**

Presentation Title:

*Use of a Novel Digital Health Application for Enhancing Treatment Outcomes for Food Allergic Individuals Undergoing Oral Immunotherapy*



## V. Future Directions

### V-A. 2025-2026 Officer Contact Information

Title	Name	Email	Responsibilities
Co-President	Dhruti Shah	Shah.1799@osu.edu	Oversee officers
Co-President	Arnav Madani	Madani.12@osu.edu	Oversee officers
External Vice President	Zack Yuschuk	Yuschuk.1@osu.edu	Organize mentorship program
Internal Vice President	Bridget Yu	Yu.3450@osu.edu	Oversee events involving companies
Secretary	Alec Gill	Gill.733@osu.edu	Create weekly newsletter
Treasurer	Benjamin Hsiao	Hsiao.161@osu.edu	Record operating budget
Marketing Chair	Anna Mikol	Mikol.5@osu.edu	Run social media accounts
Social Chair	Michael Watters	Watters.114@osu.edu	Host socials and intramurals
PD Chair*	Meagan Bourke	Bourke.282@osu.edu	Organize PD events
Projects Co-Chair	Olivia Steele	Steele.1107@osu.edu	Plan Bio-Hack & Case Comp
Projects Co-Chair	Malak Askar	Askar.19@osu.edu	Plan Bio-Hack & Case Comp
Design Team Chair	Alejandro Juarez	Juarez.73@osu.edu	Oversee design team
EHIRS Co-Chair **	Liam Porteus	Porteus.38@osu.edu	Run EHIRS 2024
EHIRS Co-Chair **	Alex Mian	Mian.26@osu.edu	Run EHIRS 2024
SI Co-Chair***	Anne Chiramel	Chiramel.1@osu.edu	Plan SYF event
SI Co-Chair***	Deven Phillip	Phillip.81@osu.edu	Plan SYF event
Outreach Co-Chair	Emily Meier	Meier.238@osu.edu	Organize community events
Outreach Co-Chair	Megan Kirk	Kirk.503@osu.edu	Organize community events
E-Council Rep.	Abel Vinoyi	Vinoyi.3@osu.edu	Attend OSU E-Council meetings
E-Council Rep.	Sarah Hartwig	Hartwig.32@osu.edu	Attend OSU E-Council meetings
Corporate Liaison	Srestha Chattopadhyay	Chattopadhyay.47@osu.edu	Recruit company sponsors
Faculty Liaison	Emily O'Brien	Obrien.1126@osu.edu	Attend OSU faculty meetings

D&I Chair****	Megumi Koshino	Koshino.3@osu.edu	Host diversity/inclusion events
Freshman Rep.	TBD in the Fall	TBD in the Fall	Receive new member feedback

\* Professional Development, \*\*Engineering in Healthcare: Industry & Research Symposium, \*\*\*Special Initiatives, \*\*\*\*Diversity and Inclusion

### 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. We would like to continue building a supportive and friendly environment by utilizing our chapter’s Slack software messaging platform. Slack offers the ability to create several “channels” or group chats within a group to organize different group chats for members. In past years, we have had a “casual” channel for members to have informal chats, but we have never gotten much engagement through this. This year, we hope to encourage involvement and communication between members in these channels by having “officer sign-ups” to send messages in the “casual” chat, which may consist of open group study tables, coffee chats, and/or group recreational activities. Engagement in these channels will allow members within our chapter to build deeper connections with each other. We also hope to incorporate Officer Coffee Chats as a more intentional way for members and officers to connect, fostering meaningful relationships, mentorship opportunities, and a stronger sense of community within BMES. In addition to these administrative changes, we plan to improve our social activities within our chapter, expand on our mentorship efforts, increase member participation in outreach activities, and collaborate with other student organizations on and off campus.

Next year, we aim to continue strengthening the social fabric of our BMES chapter by revitalizing and broadening our social programming. While academic and professional development remain central to our mission, we also recognize that strong personal connections are key to a thriving and supportive community. To foster this, we plan to introduce monthly themed events, ranging from game nights and movie screenings to creative socials like pumpkin painting or cookie decorating, as well as informal outings such as picnics, bowling nights, or boba runs. During high-stress periods like midterms and finals, we will host casual study tables at campus libraries and cafés, offering members a space to work, relax, and connect. In addition, we hope to reintroduce intramural sports by forming a BMES team, encouraging members to bond outside of an academic setting. These initiatives are designed to create a welcoming, low-pressure environment where organic friendships can form, helping all members, especially new ones, feel at home in BMES.

In regards to other career paths, we wish to expand our current graduate school mentorship program with further advertising and integration into our own undergraduate mentorship program. To increase participation, we hope to distribute bonus points to participants who join the graduate mentor-mentee pairings and proactively spend time with their graduate mentors. These points will be added into their respective color mentorship teams. Additionally, we look forward to planning events with the BME Graduate Student Association (GSA) to increase interactions between the undergraduate and graduate students. The events will not only be informative such as receiving help with graduate school applications and networking for

potential internships and research lab positions, but we will also integrate a fun social aspect to it such as cookie decorating and participating in our intramural sport teams. With these changes, we hope to improve our overall attendance and engagement.

Community outreach is another area where we aim to see significant growth. We plan to partner with local schools, STEM programs, and healthcare-focused nonprofits to provide hands-on workshops, tutoring, and volunteering opportunities for our members. Next year, we will be focusing on maintaining consistent communication with the relationship we developed with Graham Elementary and Middle School, as well as Emerald Campus, while also developing relationships with new contacts such as Upper Arlington and Hilliard district schools in Columbus. While we have a plethora of outreach events, we hope to increase member participation at them. We hope to spotlight outreach opportunities more regularly through our newsletter and Slack, making it easier for members to get involved. We will also give out membership points for attending Outreach events, encouraging more members to attend.

In addition to developing our members at our BMES chapter on campus, we hope to continue inspiring the next generation of young engineers by serving the Columbus community. This year we helped Emerald Campus start their own BMES Chapter, and we hope to continue this at other high schools. We will communicate with the students who have expressed interest during the upcoming summer and fall semesters. We will provide them with resources and guidance on creating a constitution, recruiting students as officers and members, and outlining how to create and run events. Additionally, we will invite the high school students to one of our general body events and biweekly officer meetings to experience our chapter's activities firsthand. Possible event collaborations will also be arranged to assist the high school students in starting up their chapters. This will not only foster a mentorship relationship between our chapter and local high schools, but also further our outreach in introducing STEM and biomedical engineering to future students. These experiences not only help fulfill our mission of promoting biomedical engineering in the community, but also provide our members with valuable leadership and service experience.

In an effort to build stronger interdisciplinary ties and foster innovation, we plan to collaborate more with other student organizations, both within the College of Engineering and across campus. Partnering with groups such as SWE, Medical Innovation Club, and student chapters of AiChE or IISE will allow us to host co-sponsored events, workshops, and design challenges. Furthermore, we will expand upon our collaboration this past year with the Association of Computing Machinery Women's Chapter (ACM-W) to develop more outreach opportunities for aspiring females in the STEM field similar to OSU STEM day and Sculpting Your Future from this year. We also hope to strengthen our relationship and increase collaboration with other BMES Chapters from across the country, fostering relationships outside of the Columbus community as well.

Additionally, to support the growth of our programming and provide more opportunities for our members, we plan to place a stronger emphasis on fundraising in the coming year. Our goal is to diversify our fundraising strategies through a combination of community-based events, corporate sponsorships, and alumni outreach. We plan to host events like percentage nights with local

restaurants, bake sales, and merch fundraisers featuring BMES-branded apparel and stickers designed by members. We also hope to reconnect with BMES alumni through a newsletter and invite them to contribute to a new alumni fund dedicated to professional development initiatives. By expanding our fundraising efforts, we'll be able to increase the accessibility and scale of our events, provide scholarships for conference travel, and invest in resources that enhance the BMES experience for all members.

Lastly, we are working to make internal operations more efficient and sustainable by refining our administrative structure and investing in officer development. We plan to create more detailed transition materials for leadership roles, standardize event planning procedures, and hold regular officer workshops focused on communication, conflict resolution, and time management. These changes will ensure that our chapter operates smoothly behind the scenes while empowering current and future leaders to grow in their roles. Ultimately, these strategic improvements will allow us to better serve our members and sustain long-term success.

We have several ideas to implement next year to expand and enhance our chapter in terms of outreach, mentorship, networking, and professional development. We are confident that we can accomplish these goals for next year and continuously improve our chapter in order to build memorable experiences for all of our members.

