

# **Chapter Development Report Arizona State University Biomedical Engineering Society 2016-2017 Academic Year**

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## **Executive Summary**

This report details the activities of the Arizona State University (ASU) student chapter of the Biomedical Engineering Society (BMES) from June 2016 to June 2017. The purpose of BMES at ASU is foster a general interest in the field of biomedical engineering and medicine while providing academic and career opportunities. To fulfill our mission, BMES at ASU has strived to further develop its industry tours, speaker presentations, outreach program, mentorship program, and social events. BMES at ASU is committed to serving its students and providing them with the tools and networks necessary to allow them to be successful in the biomedical engineering field. BMES at ASU will continue to improve by tackling its greatest challenges and addressing the needs of the students and the biomedical engineering community.

May 21<sup>st</sup>, 2016

Biomedical Engineering Society (BMES)  
8201 Corporate Drive, Suite 1125  
Landover, MD 20785-2224

Dear Liz DaSilva and the BMES National Chapter:

The Biomedical Engineering Society at ASU set out to improve many aspects of the organization this academic year. Our primary objectives for the academic year were to a) maintain member attendance at general body meetings, b) expose our members to a variety of professionals and opportunities in the biomedical engineering field, and c) further develop our outreach and mentorship programs. In previous years, we see high attendance (>100) at our first general body meeting each year due to it being the start of the school year, however, this attendance usually drops to extreme lows (~20) by the end of the school year. This year at our first general body meeting we had over 80 students attend with our other meetings having consistently 50 to 60 students. This maintained attendance can likely be attributed to earlier advertisement of meetings and heavy advertising through social media, BlackBoard, BMES @ ASU emails, and emails sent by faculty to their students. Additionally, we worked hard this year to provide students with a variety of speakers to to appeal to more student's interests. We had speakers from major industry companies (W.L. Gore & Associates, Stryker, Medtronic) as well as startup companies (NeoLight, Symic Bio), PhD candidates, faculty members, and a medical school student. These meetings provided students with an opportunity to gain insight as to future career paths and what areas of the field their interests lie while interacting with numerous professionals from the biomedical industry and healthcare field.

To further expose our members to biomedical engineering professionals, we held three industry tours throughout the year. These tours included tours of Stryker, C.R. Bard, and Mayo Clinic locations in Tempe and Scottsdale, AZ. These tours allowed students to see first-hand the exciting work that is being conducted at these facilities. We founded our outreach and mentorship programs three years ago and since have seen both programs exponentially grow and develop. Our outreach program this year visited four high school classrooms, two middle school science fairs, and one elementary school classroom in Phoenix. Additionally, we participated in several ASU outreach programs such as Field Trip Days and Night of the Open Door. We also sought to improve our mentorship program by increasing the number of events held from one event to four events. The most successful mentorship program event was once again the scheduling party--called Snacks 'n' Schedules--to help freshmen obtain sage advice on their classes.

In summary, BMES at ASU will continue to uphold the missions of the national BMES chapter and ASU in order to further establish ourselves as a reputable chapter and continue to make a positive impact on our students and community. We would like to thank the national BMES chapter for allowing our local chapter to continue to improve and meet our goals. This CDR is endorsed by the ASU faculty advisors, Dr. Sarah Stabenfeldt and Dr. Casey Ankeny.



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## **I. Administrative Report**

In order for our BMES local ASU chapter to effectively be run and accomplish our yearly goals, it has been determined that the executive committee be composed of twelve positions. Last year, revisions were made to our constitution in order to more accurately reflect the duties of each position. This outline provided each officer with the basic information to accomplish their individual responsibilities for the year. This year, we had each officer write out a more detailed description of how to accomplish tasks for the incoming officers in order to aid in a smoother officer transition. All officers are required to pay national membership dues and local dues by the start of the fall semester in order to continue serving on the executive board. Each officer was expected to participate in biweekly officer meetings, attend social and volunteering events, and assist one another in their duties. At least three general body meetings were held each semester that consisted of a faculty spotlight and an industry speaker or panel. The following sections will go into further detail regarding the information stated above.

### **A. Officer Contact Information**

Name	Email Address	Phone Number	Officer Position
<b>Allison Marley</b>	<a href="mailto:amarley1@asu.edu">amarley1@asu.edu</a>	505-220-3455	President
<b>Hannah Switzer</b>	<a href="mailto:hmswitze@asu.edu">hmswitze@asu.edu</a>	208-816-1994	Vice President
<b>Ethan Marschall</b>	<a href="mailto:emarscha@asu.edu">emarscha@asu.edu</a>	480-399-9195	Outreach Coordinator
<b>Scott Boege</b>	<a href="mailto:sboege1@asu.edu">sboege1@asu.edu</a>	480-528-4223	Mentorship Coordinator
<b>Cami Rowan</b>	<a href="mailto:ccrowan@asu.edu">ccrowan@asu.edu</a>	480-567-6573	Treasurer
<b>Andrew Nelson</b>	<a href="mailto:afnelso7@asu.edu">afnelso7@asu.edu</a>	505-382-8530	Secretary
<b>Dean Spyres</b>	<a href="mailto:dspyres@asu.edu">dspyres@asu.edu</a>	480-559-4239	Sports Coordinator
<b>Derek Vielhauer</b>	<a href="mailto:dvielhau@asu.edu">dvielhau@asu.edu</a>	913-544-3315	Industry Representative
<b>Kenna Lum</b>	<a href="mailto:kmlum@asu.edu">kmlum@asu.edu</a>	480-329-7816	Events Coordinator
<b>Devon Rusk</b>	<a href="mailto:drusk@asu.edu">drusk@asu.edu</a>	480-250-5936	Fulton Representative

### **B. Officer Position Responsibilities**

#### President

- oversee all the meetings and activities of this organization;
- chair all meetings of the membership and of the Executive Committee; and
- ensure that, at all times, this organization is abiding by the rules and regulations of the Student Association.

#### Vice President

- assist the President in the execution of his or her duties;
- be in charge of programming; and

- submit all required forms to the Student Association Senate and the Office of Student Activities whenever they are required.
- maintain this organization's website and social media; and
- advertise through all social media platforms as deemed necessary.

#### Treasurer

- maintain a correct balance of this organization's funds;
- manage this organization's funds;
- present a budget to the membership no later than November 1;

- accept payment of dues from members and update the membership list to reflect said payment; and

#### Secretary

- take minutes at all meetings of the membership and of the Executive Committee;
- distribute said minutes to the membership or the officers;
- maintain the membership list, any mailing lists, and the organization web site;
- accept membership information forms from new members; and
- manage the correspondence of this organization.

#### Events Coordinator

- plan and coordinate social events, Fulton events, industry tours, food at meetings, and networking opportunities for students;
- coordinate the student-faculty mixer each semester;
- assist other officers in the execution of position-specific events; and
- create sign-up forms for all events that are non-position specific.

#### Outreach Coordinator

- conduct and plan high school visits;
- coordinate Fulton Schools of Engineering outreach events;
- invent, improve, and deliver on event demonstration; and

- create volunteer shifts, sign-up sheets and ensure turnout.

#### Mentorship Coordinator

- produce applications for incoming freshmen and upperclassmen;
- plan events to promote the program; and
- help incoming freshmen feel welcomed into the biomedical engineering community.

#### Fulton Representative

- attend all Fulton Student Organization (FSO) Council meetings;
- keep track of Dean's Funding points, Dean's Funding events, and FSO newsletters when applicable; and
- work with the Outreach Coordinator to organize sign-up forms for volunteer shifts.

#### Industry Representative

- communicate professionally with biomedical engineering companies and maintain good rapport with industry; and
- coordinate speakers for membership meetings

#### Sports Coordinator

- create intramural teams and collaborate with other clubs for fitness-oriented activities; and
- maintain this organization's je

### C. Membership

	Undergraduate	Graduate
<b>BMES Members</b>	59*	5*
<b>Students in BME department</b>	843	166
<b>Percentage of Students in BMES</b>	7.0%	3.0%

\*based on paying members. All blank responses assumed to be undergraduate students

### D. General Body Meetings

Date	Attendance	Company	Agenda
<b>08/31/2016</b>	100	W.L. Gore	General introductions and announcements; Industry Speakers: Katelyn Keberle, Process Engineer; Kailey Rumbo, Quality Engineer; Faculty: Debbi Howard, Internship Coordinator
<b>10/04/2016</b>	62	Neolight	Announcements; Industry Speaker: Sivakumar Palaniswamy, Chief Technical Officer; Faculty: Dr. Jeffrey LaBelle
<b>11/01/2016</b>	54	Stryker	Announcements; Industry Speakers: Connor Wiegand, Manufacturing Engineer; Brooke McDonald, R&D Engineer; Faculty: Dr. Stephen Helms-Tillery
<b>01/30/2017</b>	66	Noraxon	Announcements; Industry Speaker: Zach Scarano, Biomedical Applications Engineer; Faculty: Dr. Barbara Smith
<b>02/27/2017</b>	58	Symic Bio	Announcements; Industry Speaker: Dr. Kate Stuart, Founder and Director; Faculty: Dr. Tony Hu
<b>03/27/2017</b>	50	Medtronic	Announcements: Panelists: Rachel Austin, Product Engineer; Adam Roussas, Medical School Student; Chi Lin, PhD student; Faculty: Dr. Mehdi Nikkah

## II. Treasury Report

Our local chapter of BMES at ASU primarily has access to two different funding sources from ASU: Dean's Funding and the undergraduate student government (USG). At the beginning of the semester, a budget proposal is due in order to secure Dean's Funding (up to \$2000) and general

USG funds (up to \$1300). Dean's Funding supplies funds to events that either have an academic focus or features an industry or faculty speaker. USG typically funds social events, whether it be for food, rentals, or marketing materials. However, this year we experienced numerous difficulties when working with USG due to several miscommunications as well as the fact that USG decided to no longer fund off campus social events due to liability reasons. The club may request funding for events through USG until their funds are dry (usually a month before the last day of classes). The following sections summarize the funding allocation and expenditure for 2016-2017:

### A. Dean's Funding Summary

Awarded Dean's Funding Budget - Fall 2016			
<u>Expense Item #</u>	<u>Expense Item Name</u>	<u>Awarded</u>	<u>Expensed</u>
1	Gore Industry Speaker Meeting	\$270	\$0
2	Neolight Industry Speaker Meeting	\$500	\$500
3	Stryker Industry Speaker Meeting	\$500	\$500
4	BMES Student Faculty Mixer ( <b>Mixer moved to Spring</b> )	\$610	\$0
5	Project C.U.R.E. - Revised to be BMES Executive Board Luncheon	\$120	\$86
Total		\$2000	\$1085.00

Awarded Dean's Funding Budget - Spring 2017			
<u>Expense Item #</u>	<u>Expense Item Name</u>	<u>Awarded</u>	<u>Expensed</u>
1	Noraxon Industry Speaker Meeting	\$350	\$304
2	Tissue Engineering Industry Speaker Meeting	\$400	\$400
3	Medtronic Industry Speaker and Panelist Meeting	\$400	\$375
4	BMES Student-Faculty Spring 2017 Mixer	\$850	\$850
Total		\$2000	\$1929

Total funds spend on

### B. USG Funding Summary

\*Estimated. USG does not record expensed items and we did not keep every receipt copy.

Awarded USG Budget 2016-2017			
<u>Expense Item #</u>	<u>Expense Item Name</u>	<u>Awarded</u>	<u>Expensed</u>
1	BMES Passport to ASU	\$300	\$300
2	BMES Mentorship Program Game Day	\$400	\$0
3	BMES High School Outreach	\$20	\$0
4	BMES Gingerbread House Competition	\$110	\$98.67
5	BMES Spring Mixer	\$750	\$0
Total		\$2000	\$1085.00

**Total funds spend on awarded funding: \$4,099**

### **C. BMES Business Bank Account**

Our business account allows us to collect membership dues and fundraised money. This account is only used for the purpose of supplementing the awarded funds and is only used if there is a direct (or justified indirect) benefit to members.

Checking: \$994.51

Savings: \$530.98

Total: \$1525.49

### **IIIA. Industry and Professional Development Report**

The Biomedical Engineering Society at Arizona State University recognizes the importance of providing students networking opportunities with industry members in order to connect with different companies and engineers. To achieve this, our general body meetings are structured with speaker presentations and interactive demonstrations. We encourage our industry partners to bring in medical devices and promote student discussion at these meetings. Additionally, to give students more network opportunities, BMES at ASU invites industry members to our bi-annual mixers. Lastly, we afford members opportunities to tour local companies. This is mainly geared towards students searching for internships or jobs, so that they can experience these places first-handedly.

#### **A. Industry Tours**

Our goal was to provide at least one tour per semester



Stryker  
Date: October 20<sup>th</sup>  
Attendance: 18

*Stryker Sustainability Solutions Division is home to a reprocessing and remanufacturing business for single-use medical devices. This plant aims at sustaining patient care, finances, and the environment. To do this, Stryker collects devices at a hospital that utilizes Stryker's products, and are shipped to the reprocessing facility.*

CR Bard  
Date: January 27<sup>th</sup>  
Attendance: 15

*C.R. Bard, Inc. (Bard) is engaged in the design, packaging, manufacturing, and distribution of medical devices. Bard sells a range of products worldwide. Bard's four product groups are: vascular, urology, oncology, and surgical specialties.*

Mayo Clinic  
Date: March 24<sup>th</sup>  
Attendance: 12

*Mayo Clinic is a global health care system with one value, "The needs of the patient come first." This value is continually fulfilled by inspiring hope to every patient through integrated clinical practice, education, and research.*

## **B. Industry Speakers**

Under the administrative report, a summary of our speaker meetings can be found in the general body meetings section. Our objective was to invite one speaker to each of our general body meetings. We held an industry/Graduate student speaker panel during our last meeting in order to expose our members to a diverse group of employees.

Date	Company	Speakers
<b>August 31<sup>st</sup>, 2016</b>	W.L. Gore	Katelyn Keberle, Process Engineer Kailey Rumbo, Quality Engineer
<b>October 4<sup>th</sup>, 2016</b>	Neolight	Sivakumar Palaniswamy, Chief Technical Officer
<b>November 1<sup>st</sup>, 2016</b>	Stryker	Connor Wiegand, Manufacturing Engineer Brooke McDonald, R&D Engineer
<b>January 30<sup>th</sup>, 2017</b>	Noraxon	Zach Scarano, Biomedical Applications Engineer
<b>February 27<sup>th</sup>, 2017</b>	Symic Bio	Dr. Kate Stuart, Founder and Director
<b>March 27<sup>th</sup>, 2017</b>	Medtronic	Rachel Austin, Product Engineer

## **IIIB. Social Activities**

Social activities are essential for promoting college life for our members. These events allow members to interact and network with other biomedical engineering students. This year, our activities included a laser tag event and a hiking event. These are hosted as laid back events, which offer our members an opportunity to relax and get to know each other on a more personal level. The events are meant to allow BMES members to feel a greater connection to other biomedical engineering students at ASU as well as an investment and excitement towards BMES. This year unfortunately, the number of events hosted were lower than average due to new budget policies implemented by ASU which made it more difficult to receive the funds necessary to host these events, as many of our previous social events were held off campus. In the future, we will look into what events we are able to hold on campus and verify whether or not these kinds of events can be successful as well.

### **A. MS Walk**

Date: 11/4/17

Location: Phoenix Zoo

Attendance: 9

*BMES participated in the MS walk to help raise money for MS research nation wide and to enjoy time together walking throughout the Phoenix zoo.*



## **B. Laser Tag**

Date: 2/3/17

Location: Stratum Laser Tag

Attendance: 14

*BMES hosted a laser tag event due to its popularity in previous years. Students carpooled to the event together and then enjoyed a series of three games together, in which many laughs were shared. This allowed students to destress from the heavy workload biomedical engineering can consist of*



## **C. Hiking**

Date: 4/8/17

Location: South Mountain

Attendance: 6

*BMES took a hike up a South Mountain trail, Telegraph Pass, to enjoy some fresh air while getting some much needed exercise at the end of a stressful semester.*

### **IIIC. Inter-chapter Activities Report**

Facilitating communication between members of BMES chapters throughout the country is one of the goals of the organization. Though we were unable to arrange meetings between our chapter and BMES chapters of other Arizona universities, many of our members made connections with students from other schools while attending the National BMES conference in October. Next year, we hope to pursue meetings or chapter visits with the University of Arizona (U of A) BMES chapter and members of the Northern Arizona University (NAU) bioengineering department, though NAU does not have a BMES chapter.

### **IIID. Outreach Activities**

#### **A. High School Visits and Fulton Events**

BMES at ASU attempted to increase its presence in the community by scheduling high school visits a few times every semester. High school visits were comprised of an interactive presentation that touched upon all aspects of biomedical engineering and college life. Included was a brain demonstration in which different lobes were identified and related back to an aspect of biomedical engineering or research – we then took out surgical gloves and PPE and ate the Jell-O “brain”. Students also had to chance to see and a dialysis tube, catheters, stents, staplers, and a wide array of smaller medical devices. Overall, the high school visits have been successful and kids have enjoyed the interactivity.

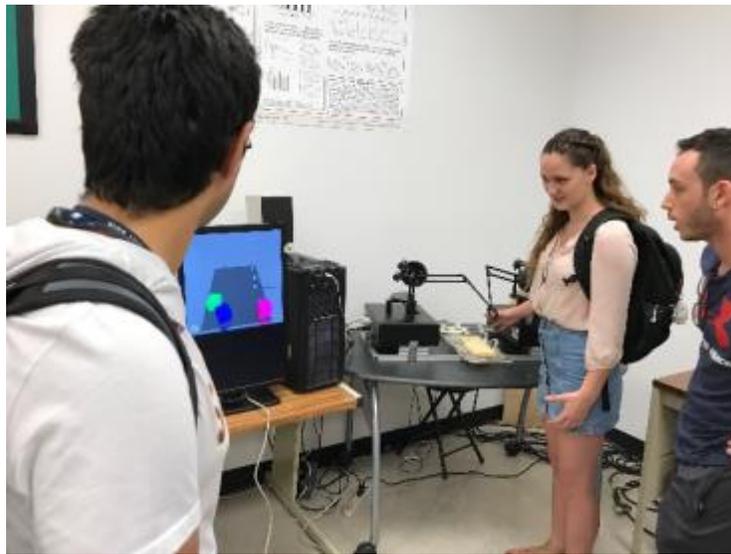
We participated in one major ASU-sponsored event: Night of the Open Door. During this event, we prepared a booth with medical devices and a giant biomed-themed Jenga activities. Kids were invited to stack, answer biomed questions on, and sign their names on the Jenga blocks. Moving forward, we aim to continue improving the interactivity of our outreach activities to increase awareness of our chapter.

Date	Event	Location	Involvement	Overview
<b>September 23<sup>rd</sup>, 2016</b>	High School Visit	Saguaro High	4 Presenters	3 Classes: Biotechnology
<b>October 10<sup>th</sup>, 2016</b>	High School Visit	Corona Del Sol	5 Presenters	1 Class: Robotics
<b>November 4<sup>th</sup>, 2016</b>	High School Visit	Corona Del Sol	2 Presenters	3 Classes: Mixed
<b>December 7<sup>th</sup>, 2016</b>	High School Visit	Corona Del Sol	3 Presenters	2 Classes: Honors/AP CHM
<b>February 9<sup>th</sup>, 2017</b>	STEAM Fair	Franklin Junior High	2 Presenters	Tabling event with medical devices and giant biomed-themed Jenga
<b>February 7<sup>th</sup>, 2017</b>	Science Fair	Franklin Junior High	1 Volunteer	Judging science fair posters
<b>February 21<sup>st</sup>, 2017</b>	Elementary School Visit	Highland Arts Elementary	3 Presenters	6 <sup>th</sup> grade class. Emphasis on Jello-O brain demo, medical devices, and 3D printing.

<b>February 25<sup>th</sup>, 2017</b>	Night of the Open Door	ASU	9 Presenters	6-hour tabling event with medical devices and giant biomed-themed Jenga
<b>March 3<sup>rd</sup>, 2017</b>	Field Trip Day	ASU	2 Volunteers	Assisted Teacher Assistants and with school group check-ins

## B. Laboratory Tours

We worked alongside two professors, Dr. Stabenfeldt and Dr. Santello, to coordinate tours of their research labs for BME undergraduate students: 5 students toured both labs and 1 toured only Dr. Stabenfeldt's lab. This was a first-time BMES event designed to gauge interest of our general body members, and was successful despite an unusual mid-morning Tuesday schedule. Moving forward, we hope to continue this event with the permission of SBHSE faculty.



### **III.E. Mentoring Activities**

BMES at ASU decided to continue the mentorship program for a third year after the growth after the first two years. Mentoring applications were reviewed for both new and returning mentors. A total of 105 freshmen (mentees) and upperclassmen (mentors) participated in this program. To create a more organized mixer, the mentor-mentee pairing was planned before the mixer. Groups of 2 mentors and 3-4 mentees were formed based on career path (Pre-Med, Honors college). The fall semester much more participation than the spring semester. The following summarizes the six events the mentorship program.

#### **A. Mentorship Mixer**

Date: Tuesday, August 16<sup>th</sup> 2016 at 6PM

Location: SCOB 290 (Schwada building, Prototype Lab)

Attendance: 90

*Mentor-mentee groups met in person to discuss any questions about the major or ASU in general. The event lasted about an hour and a half. Ice cream was provided.*

#### **B. Snacks n Schedules**

Date: Thursday, October 13<sup>th</sup> 2016 at 6PM

Location: SCOB 340 (Schwada building, Design Studio)

Attendance: 25

*BMES at ASU held the same event as last year where biomedical engineering students in the mentorship program received advice on classes, schedules, and professors for the spring 2017 semester. A relaxed environment helped ease the stress of planning for the future and promoted interaction between the students. Attendance could have been higher, but there was a class event that same night that half of the freshmen had to attend instead. Unfortunately, there is only a four-day window between when schedules are released and when students in the Honors college can begin signing up, so this event cannot be easily rescheduled.*

#### **C. Game Night**

Date: Saturday, October 1<sup>st</sup> 2016 at 4PM

Location: SCOB 340 (Schwada building, Design Studio)

Attendance: 25

*BMES at ASU sponsored an event where students could relax about two months before finals and play various board games. The original plan was to rent giant inflatable balls from Bubble Bashers and play bubble soccer, but the funding from Undergraduate Student Government was not approved in time. If the funding was received, the event would have drawn more interest from students and attendance would have increased.*

#### **D. Gingerbread Houses**

Date: Monday, November 21<sup>st</sup> 2016 at 6PM

Location: ECG Lounge (Engineering Center G Building)

Attendance: 10

*An idea was generated to do a fun event before finals of the fall 2016 semester to help destress students. The event was probably too close to finals, as the attendance was very low.*

#### **E. Snacks n Schedules 2**

Date: Monday, February 20<sup>th</sup> 2017 at 6PM

Location: SCOB 340 (Schwada building, Design Studio)

Attendance: 20

*Once again, the feedback from the first Snacks n Schedules was very positive, so students gathered to plan the fall 2017 semester (and summer 2017 for the students taking classes over summer). BMES will continue this event for the 2017-2018 school year.*

#### **F. Game Night 2**

Date: Tuesday, April 11<sup>th</sup> 2017 at 6PM

Location: SCOB 340 (Schwada building, Design Studio)

Attendance: 10

*Since the first game night was successful, another one was held in the spring 2017 semester. One of the courses biomedical engineering at ASU focuses on product design and development through the analogy of board games. Groups from that class brought their board games to test out, but there was not much interest from members of the program at this point.*

### **IIIF. Additional Activities**

The ASU chapter of BMES always strives to provide its members with as many opportunities for involvement as possible. Over the past year, we not only have hosted many social, outreach, and mentorship events, as described in previous sections, we have also participated in a number of other events that have allowed us to interact with new ASU students, grow closer as a club, and gain valuable hands-on skills. Some are aimed at recruiting students to the organization, while others are aimed at giving back. It is our goal to continually search for new activities for our officers and members to participate in to further our reach, and to continue to participate in the activities that have had the most impact. These activities do not fall under the responsibility of any single officer, and instead are planned through the combined efforts of the officer team. One officer is generally chosen as the lead, and the other officers act as support. In the future, we hope to continue to expand this list, and participate in more activities than before, as well as increase the attendance rates of those that have been done previously. We will also reach out to incoming members and ask for information on what kind of events they would be interested in.

#### **MS Walk**

Date: Saturday, November 4<sup>th</sup>, 2016 at 8:00AM

Location: Phoenix Zoo

Participants: 8

*The event is always a lot of fun and it's a great way to go to the zoo as well as help a great cause. BMES creates a team annually in order to help fundraise and raise awareness to BME students.*

*“Every hour in the United States, someone is newly diagnosed with multiple sclerosis, a disease of the central nervous system. Symptoms range from numbness and tingling to blindness and paralysis. The progress, severity and specific symptoms of MS in any one person cannot yet be predicted, but advances in research and treatment are moving us closer to a world free of MS.” - Walk MS*

### **Student Organization Fairs**

Passport to ASU: Wednesday, August 17th, 2016 from 6:30 PM to 9:00 PM

Fall '16 FSO & Resource Fair: August 16th 2016 from 11:30 AM to 1:30 PM

How to Engineer Fulton Student Council Event: April 12th 2017 from 5:00 PM to 7:00 PM

*We attended four organization fairs throughout the year. Two were at the beginning of the semester, one was during the fall semester, and the other was during the spring semester. We created a booth and flyers in order to attract students.*

### **Project C.U.R.E.**

Date	Attendees
<b>October 15th, 2016</b>	17
<b>November 12th, 2016</b>	13
<b>February 11th, 2017</b>	9
<b>April 8th, 2017</b>	6

Location: 2100 W 14th St T3, Tempe, AZ 85281

*BMES is involved with several other initiatives, such as Project C.U.R.E., a non-profit organization that ships medical devices and supplies to developing countries. BMES volunteers at Project C.U.R.E. throughout the year in order to engage members in the community and learn more about biomedical engineering. The following summarizes the visits to Project C.U.R.E.*

## **IV. National BMES Meeting**

Seeing as we were unable to provide financial aid to members this year, we gathered a group of interested students and assisted them in finding various sources of funding from on campus programs, the honors college, and various travel grants. All students who traveled with the local ASU BMES chapter were able to secure funding. This year, four of our ten officers were able to attend the national conference in Minneapolis, MN.

### **A. Member Attendance**

Name	BMES ID	Name	BMES ID
<b>Allison Marley</b>	2341190	<b>Amanda Nguyen</b>	2352469
<b>Hannah Switzer</b>	2341419	<b>Austin Tielke</b>	2343018

<b>Ethan Marschall</b>	2343039	<b>Nathan Flath</b>	---
<b>Scott Boege</b>	2343016	<b>Maria Jose Quezada</b>	2341138

## **B. Presenters**

<b>Name</b>	<b>Track</b>	<b>Presentation Title</b>
<b>Amanda Nguyen</b>	Biomaterials	A Personalized 3D Medpor Conformal Process Feasibility Study
<b>Ryan Bridges</b>	Biomechanics	Determining Static And Dynamic Movement Between Human Gender With Inertial Measurement Unit
<b>Casey Weinstein</b>	Biomechanics	Development of Kinematically Accurate Cervical Spine Model for Biomechanical Testing Optimization
<b>Elizabeth Lopez</b>	Biomechanics	Interaction between CT-based BMAT and Total Body Fat during Intentional Weight Loss in Older Adults
<b>Danh Truong</b>	Cancer Technologies	Microengineered Tumor-Stroma Platform Investigating the Biochemical Influence of Stromal Fibroblasts on Breast Cancer Invasion
<b>David Probst</b>	Biosensors	Microengineered Tumor-Stroma Platform Investigating the Biochemical Influence of Stromal Fibroblasts on Breast Cancer Invasion
<b>Austin Tielke</b>	Biomechanics	Recognition Of Human Dynamic And Static Activity During Independent Time Periods Using Wearable Sensor
<b>Barrett Anderies</b>	Bioinformatics	Stochastic Parameterization of the Proliferation-Diffusion Model of Brain Cancer in Mice
<b>Maria Jose Quezada</b>	Implant and Prosthetic Biomechanics	The Role of Task Expertise in Startle Evoked Movements

## **V. Future Directions**

As we move forward next year, we intend to continue our high level of activity and involvement as a local BMES chapter. We will continue our heavy involvement with the Fulton Engineering

School at ASU and we intend to increase membership interest of BMES. It is important that we maintain the legacy set by past BMES leaders and ensure that the student organization continues to be successful in the coming semesters.

Elections took place several months ago, and efforts have been taken to make the transition as seamless as possible for the coming year. Several officers from the 2016-2017 school year will be continuing as officers next year, so the new year will begin with an experienced officer team familiar with the tasks needed for the organization to continue to be successful. There are also several new officers previously not involved in the leadership of BMES that will be joining the team, and we look forward to the addition of their enthusiasm and fresh ideas. All new officers attended the last few officer meetings, and helped run the final BMES general body meeting of the year. Each old officer met with their replacement individually and provided them with a transition document detailing any valuable information that could be useful in the future.

Goals for the summer include advertising heavily to incoming freshmen, as well as reaching out to returning students. This will also be the third year BMES offers a mentorship program, so coordination for that will occur over the next few months as the program will be kicked off at the beginning of the semester. Additionally, it has been found that women in STEM fields are more successful when they have a woman as a mentor. Retention rates are higher for women in STEM that have a sense of community. This coincides perfectly with a mentorship program. BMES at ASU will be implementing this for the 2017-2018 school year, and other local chapters are strongly encouraged to implement this as well. Assuming groups of two mentors and four mentees, at least one mentor should be a woman and at least two mentees should be female to maximize the effectiveness of the groups, when possible. We also hope to extend our outreach program to reach a greater variety of student backgrounds and interests.

Future plans are primarily focused on increasing membership and improving retention. BMES will continue to offer social, information, and volunteering events during the upcoming school year, and act as a meeting place for students studying biomedical engineering at ASU. The National BMES Conference is being held in Phoenix in October of this year, so additional preparations will go into participating and assisting as many students as possible in attending the event.