

Biomaterials Day 2017 at the University of Florida

Exploring the Capabilities of Biomaterials

March 31, 2017

The student chapter of the Society for Biomaterials at the University of Florida held its sixth annual Biomaterials Day entitled “Exploring the Capabilities of Biomaterials” on March 31st, 2017 in the Reitz Union Grand Ballroom, Gainesville, FL. The one-day symposium consisted of a keynote address, speaker presentations from both faculty and students, a student poster session featuring the work of graduate and undergraduate students, and an industry information session. The following report will highlight the purpose of Biomaterials Day, attendees, sponsors, speakers, feedback, and success stories throughout the event.

Purpose of the event: Biomaterials Day provides an interdepartmental environment to discuss current biomaterial research through internal and distinguished external guest speakers, industry representatives, student poster sessions, and student presentations. Foremost, Biomaterials Day at UF serves to enlighten a wide array of students about what biomaterials have to offer them and the potential career paths and other opportunities in both industry and academia. Secondly, the event was used to expand the biomaterials network at UF with other students and companies actively involved in the biomaterials field. Our event achieved this goal by bringing professors from different universities and representatives from biotechnology companies to discuss advances in biomaterials in the engineering and medical fields. This year we also had a few high school students attend Biomaterials Day. The UF student chapter of SFB focused on promoting the interaction between students, leading scientists, and developers in order to move the field forward.

Participants: Biomaterials Day 2017 had a total of 231 registered attendees including students, professors, and industrial professionals. The majority of attendees were from different departments including: Materials Science and Engineering, Biomedical Engineering, Mechanical and Aerospace Engineering, Chemical Engineering, Agricultural and Biological Engineering, Chemical Engineering, Neuroscience, Computer Science and Engineering, Civil Engineering, Chemistry, Biology, Molecular Genetics & Microbiology, and Pathology-Immunology.

In addition, academic presentations were given by representatives from Northwestern University, Massachusetts Institute of Technology, Biological Technologies Office (DARPA), and Industry representatives included participants from RTI Surgical.

Sponsors: Sponsors for Biomaterials 2017 included, the National Society for Biomaterials, UF Office of Research, UF Department of Materials Science and Engineering, UF J. Crayton Pruitt Family Department of Biomedical Engineering, Gator Engineering, Procter & Gamble, and UF Student Government.

Event Highlights:

The symposium was kicked off by a welcome address given by Dr. Christine Schmidt, department chair of the UF Department of Biomedical Engineering. The day consisted

of a keynote address given by Dr. Darrell Irvine from the Massachusetts Institute of Technology entitled “Engineering immunity against cancer and infectious disease,” and three talks given by faculty and researchers in the biomaterials field. We also had six student presentations given by Ph.D. students in Mechanical and Aerospace Engineering, Biomedical Engineering, and Chemical Engineering at UF. The event also featured a student poster presentation competition with 23 presenters, and an industry information session with industry representatives from RTI Surgical.

We served breakfast, lunch, and snack breaks to all registered guests. In addition, all registered attendees received goodie bags containing a wide variety of informational pamphlets, the event’s program, an SFB Biomaterials Day t-shirt designed by SFB students, and several promotional items from SFB and our sponsors.

Speakers: The following speakers gave presentations during Biomaterials Day

- Darrell Irvine, Ph.D., Massachusetts Institute of Technology
 - Engineering immunity against cancer and infectious disease Controlling Controlled Release to Make Medicine that Imitates Life
- Evan Scott, Ph.D., Northwestern University
 - Engineering self-assembled nanobiomaterials for therapeutic immunomodulation
- Michele Manuel, Ph.D.
 - Designing and Prototyping Materials
- Douglas Weber, Ph.D. Biological Technologies Office (BTO), Program Manager at DARPA
 - Devices that connect with the nervous system to repair and enhance sensorimotor, autonomic, and cognitive functions

Student Presentations:

Six graduate students competed in our student oral presentation competition. Each student prepared and presented a 15-minute oral presentation. Each presentation was judged on various categories including academic merit, presentation quality, and presenter delivery. This year we also included audience voting for determining the best student talks. Tori Ellison, a Graduate student from the Department of Mechanical & Aerospace Engineering, with a presentation titled “Collective cell behavior on basement membranes floating in space” won the best student presentation award. She presented his talk during the symposium and won a cash prize.

Twenty-three students composed of undergraduate and graduate students presented their research at the student poster session. Wisam Fares, an undergraduate student in UF Biomedical Engineering, won best undergraduate poster presentation and Nicholas Carmean of UF Chemistry won the best graduate student poster presentation as judged by UF faculty and was awarded a cash prize.

Success Story: We feel that the biggest success of Biomaterials Day 2017 was the increase in overall involvement and interest in biomaterials that we have seen over the past 6 years. Our first Biomaterials Day in 2012 brought in a little over 70 participants and consisted of speakers primarily from UF. We have seen participation in our event consistently grow each year and this year we had the largest number of attendees register with 231 registrants. We have also grown enough to be able to bring in great

speakers from across the country to inspire and invigorate our student attendees. Dr. Darrell Irvine's talk was presented to a full auditorium and it was rewarding to see students engaged in his presentation.

Notes on UF SFB membership for 2016-2017: Following Biomaterials day, UF SFB's mailing list swelled to 541 subscribers. Our organization also saw a sharp increase in women attendance and involvement. Six out of seven newly elected SFB officers are women! Our outgoing president was recently elected president-elect of the national student chapter of the Society for Biomaterials. Within the last 3 years, our organization has expanded to include other departments such as Mechanical Engineering, Chemical Engineering, Chemistry, and Biomedical Sciences (Immunology and Pathology).

Feedback: We were successful in attracting over 230 participants for our sixth annual Biomaterials Day at the University of Florida. We were able to attract a more diverse attendee list because our invited speakers included different and interdepartmental types of biomaterial researchers. Because of the research of Dr. Darrell Irvine and Dr. Evan Scott, more students and faculty from the college of medicine attended our event. Overall, people were satisfied with the event and commented on how the event has grown and improved over the years. Several faculty members commented on how impressed they were with such a large-scale event that was organized by SFB student officers.

Although we hosted an industry portion at our event, we feel that we can do a better job of recruiting companies to attend. We would like to be able to provide more diverse employment opportunities for every SFB. We will keep contact with the current companies that have helped us, and we plan to build new relationships with additional companies over the next year.

Our goal for Biomaterials Day 2017 is to have over 250 registered attendees and increase our industrial partners. We received the following feedback, and we plan on implementing many of their suggestions for 2017.

Improvements we made to Biomaterials day 2017 from feedback provided during 2016 Biomaterials Day:

- We shortened our student poster session to 50 minutes instead of an hour and half.
- We increased the number of student presentations (both podium and poster) and moved some student presentations to earlier in the day to increase attendance.
- We carefully selected the date for Biomaterials Day as to not conflict other
- We expanded our advertising reach to include more departments at UF. Because we had plenary talks from interdisciplinary speakers, we included all departments that may be interested. For example, Dr. Irvine and Dr. Scott presented on a mixture of immunology and biomaterials. We included our normal biomaterial related research, but also expanded to UF biomedical sciences, pathology, immunology, mucosal immunology, and cell biology.

Suggestions and improvements to be made for 2018:

- Schedule travel of speakers to include gracious layovers. Our keynote presenter almost did not make his talk because he was stuck in the Miami airport.
- Plan a “Welcome Reception” instead of a “Farewell Reception”.
- We cannot reserve our Student Union Grand Ballroom for the entire day on Fridays. For the afternoon sessions, we utilize an auditorium across from the ballroom. For as long as we’ve had our event, we are criticized that we cannot use the ballroom for the entire time.
- Since our event is earlier in the spring semester, we will begin advertising the event in the semester prior to Biomaterials Day and open abstract submission earlier (tentatively the first day of spring semester classes 1/8/18)

Contact Information: The following people and their contact information were involved in the planning of Biomaterials Day

- Edward Li, UF SFB Vice President and Biomaterials Day Chair, teddyli13@ufl.edu
- Maggie Fettis, UF SFB President, National President-Elect, mfettis@ufl.edu
- Angela Cleri, UF SFB Treasurer, UF SFB President-Elect, acleri57@ufl.edu
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- Dr. Anthony Brennan, UF SFB Faculty Chair, abrennan@mse.ufl.edu

I would like to take this opportunity to thank the Society for Biomaterials for making this event possible. Without the society’s generosity, Biomaterials Day would not be possible. Thank you for your continual support of the University of Florida chapter!

Report compiled by Maggie Fettis