

1. Purpose of the Event:

The purpose of the event was to create a meeting place for academics, biotech industry professionals and clinicians to attend intriguing talks and discuss the current climate of orthopaedic biomaterials research. University of South Dakota's fourth Biomaterials Day conference's goal was to increase our impact through a larger and more diverse audience. Our theme this year concentrated on the "Immunomodulatory Design of Biomaterials."

2. Number and names of universities and industry partners participating:

Academic Partners (8)

University of South Dakota
University Center
South Dakota State University
Augustana University
South Dakota School of Mines and Technology
University of Florida
University of Colorado Boulder

Industry Partners (6)

University of South Dakota Discovery District Research Park
South Dakota Biotech Association
ZEAL: Center for Entrepreneurship
SRI International
Alumend
Antimicrobial Materials Inc.

Research Institutions (3)

Sanford Research Institute

3. Event Highlights:

University of South Dakota's fourth successive Biomaterials Day conference was very well received and we fulfilled and exceeded our goal of increasing our attendance over the previous years' number of participants. We effectively increased the number of speakers this year and attracted many high caliber speakers who gave excellent and engaging talks about their research and goals. Our keynote speakers were, once again, the highlight of the event. Dr. Tanmay Lele of the University of Florida gave his talk on the biomechanics of the cell and molecular interaction. He is a very animated speaker who was as entertaining and was very informative! Our other keynote, Dr. Stephanie Bryant gave an engaging talk on her research on hydrogel functions and interface to control stem cell differentiation. Dr. Parijat Bhatnagar from SRI International gave his talk on cancer

Report on Event

The University of South Dakota Biomaterials Day: May 11, 2017

immunotherapy that advances personalized medicine through the use of helper T cells. His talk detailed the hardship experienced by cancer families across this country and gave hope for future cancer research. Dr. Adam Hoppe from South Dakota State University presented his talk on signal transduction and membrane transport to control growth and differentiation of macrophages. He was charming and engaging and was happy to take the many thoughtful and poignant questions from the audience.

As mentioned earlier, the poster session for our 2017 Biomaterials Day conference was had 27 total posters in the exhibition. The poster session was before lunch, which we believe facilitated interactions between all participants and allowed for more time for everyone to network. The poster competition judges were extremely impressed with the various degrees of research graduate students were conducted. Poster session contained students from various different South Dakota Universities. The final session of the day was a panel discussion titled "Engineering Solutions in Medicine." This segment gave our speakers time to address today's medical challenges with innovative solutions so that these solutions can be applicable and utilized in real treatments. The speakers were also able to motivate graduate students and discussing the hardships experienced through their careers and paths as well.

The director of the USD Biomedical Engineering Department also discussed the state-of-the-art USD Discovery District, a new 80-acre Research Park that will combine private industry, academia, and retail to create an infrastructure for research innovation, small business incubation and product commercialization in addition to how the space will be used and which companies and institutions have signed on.

Furthermore, our Biomaterials Day concluded with a set up tour of the Graduate Education and Applied Research (GEAR) building to highlight equipments and facility along with the newly supplemented "GEARbox" that featured three brand-new 3D printers for the department providing further advantage to our graduate students.

4. Number of Attendees: 95 attendees.

5. Sponsors:

- The Society for Biomaterials
- South Dakota Biotech Association
- The University of South Dakota.
- University Center
- South Dakota State University
- South Dakota School of Mines and Technology
- Antimicrobial Materials Inc.

Report on Event

The University of South Dakota Biomaterials Day: May 11, 2017

6. Name and Contact Information of Organizers:

- Yangxi Liu - USD SFB Student Chapter President
Email: Yangxi.Liu@coyotes.usd.edu
- Mariah Hoffman – USD SFB Student Chapter Treasurer
Email: Mariah.Hoffman@coyotes.usd.edu
- Eric Sandhurst - USD SFB Student Chapter Secretary and Treasurer,
Biomaterials Day Chair
Email: Eric.Sandhurst@coyotes.usd.edu
- Jordan Kuiper - USD SFB Student Chapter Bylaws Chair, Social Media Chair
Email: Jordan.Kuiper@coyotes.usd.edu

7. List of Speakers:

1. Keynote Speakers
 - Dr. Stephanie Bryant, University of Colorado Boulder**
 - Dr. Tanmay Lele, University of Florida**
2. Plenary Speaker I
 - Dr. Adam Hoppe, South Dakota State University**
3. Plenary Speaker II
 - Dr. Parijat Bhatnagar, SRI International**
4. Panel Speakers
 - a. Dr. Scott Wood, South Dakota School of Mines and Technology**
 - b. Dr. Parijat Bhatnagar, SRI International**
 - c. Dr. Tanmay Lele, University of Florida**
 - d. Dr. Daniel Engebretson, University of South Dakota**
 - e. Dr. Stephanie Bryant, University of Colorado Boulder**
 - f. Dr. Adam Hoppe, South Dakota State University**

8. Name of Poster Session Awardees:

- 1st place: Jordan Kuiper
2nd place: Brianna Jaward
3rd place: Hannah Sanyour

9. Event Photographs:

See attached photo file folder

10. Success Story

Graduate students from the Biomedical Engineering Department at the University of South Dakota Student Chapter for the Society for Biomaterials and students from the South Dakota School of Mines and Technology co-hosted its fourth Biomaterials Day conference on and Thursday May, 11th with a short welcome reception that was held on Wednesday, May 10th. The goal of our event was to expose the students, scientist, researchers, government officials and industry professionals to the exciting biomedical research happening both in South Dakota and across the nation. In addition to sharing our common research interests, the conference seeks to foster new ideas amongst professors, students, and the general community. This year our conference theme was *Immunomodulatory Design of Biomaterials* which focused on the development, design and applications of bioengineered technologies and how they can impact patient outcomes. We were honored to have such prestigious speakers as Dr. Tanmay Lele of the University of Florida, Dr. Stephanie J. Bryant of the University of Colorado Boulder, Dr. Parijat Bhanagar of SRI International, Dr. Adam Hoppe of South Dakota State University, and Dr. Scott Wood of South Dakota School of Mines and Technology. Our speakers not only shared their knowledge and their research, but also their during a panel discussion that was aimed at a general audience and with all of our speakers on stage they discussed the medical challenge they were addressing with their research and how their research can transitioned to bedside treatment. Overall we believe our event was very successful not only from the caliber of scientific professionals we were able to attract for the event, but also from the engagement and networking that was observed among our speakers and our local scientific community.

Our undergraduate and graduate student poster competition was one of our largest to date and we attracted 14 poster presenters who participated in the competition while other participated as exhibitors. Overall we had 24 presenters from a variety of institutions and organizations! The students shared their research to inform the conference attendees while also exchanging new ideas about potential collaborations. Ultimately, our judges scored each of the posters and the top three scoring posters were awarded cash scholarship prizes. Our total attendance also reached its highest numbers to date, with 95 attendees representing eight different institutions and organizations. With the goal of becoming a sustainable biotechnology and biomedical conference, we reached out to many of our local organizations and universities for financial and logistical support. Our sponsorship increased to include regional universities such as the University of South Dakota, South Dakota State University, South Dakota School of Mines and Technology, and

Report on Event

The University of South Dakota Biomaterials Day: May 11, 2017

the University Center as well as with local industry support from South Dakota Biotech Association, Antimicrobials Inc., Alumend and Zeal.

We look forward to applying for future Biomaterials Day Grants to support our growing biotechnology sector in South Dakota. We have successfully planned and carried out our fourth biomaterials day conference with the help of students from our partnering university, The South Dakota School of Mines and Technology. Our collaboration with them opened up many new research collaboration opportunities and other exciting ways our student groups can support each other. Finally, we would like to thank the Society for Biomaterials national chapter for their continued support for our event and for awarding us with the grant money to bring together the diverse group of attendees that make our event such a success.

Sincerely,

University of South Dakota Student Chapter for Society for Biomaterials