UW Madison SFB Biomaterials Day 2015

Purpose

The 2015 University of Wisconsin-Madison Biomaterials Day theme of the event, titled "*Engineering Stem Cells and Biomaterial Environments*", focused on the relationship between stem cells and biomaterials towards advances in regenerative medicine. The emphasized the importance of biomaterials for the delivery and optimization of stem cells. By drawing on the significant community of developmental biologists, tissue engineers, and materials science researchers within the university and surrounding institutions, this event acted as a forum to discuss the current methods of engineering material properties to drive stem cell differentiation. There was also emphasized the importance of the manifold elements required in successful tissue engineering and the collaborations across departments and universities via participation of various departments

Undergraduate and graduate students presented their work related to biomaterials and stem cells in a poster session as well as any other students in. This highlighted the novel work from those new to the field and three posters were selected at random to win cash prizes in an attempt to foster participation in the poster session.

This Biomaterials Day event had academic talks from three themes, each of which was focused on the stem cell response to biomaterials, specifically biomaterial-induction of stem cell differentiation or pluripotency. These included:

- Bone, tendon, and cartilage engineering
- Vascular and cardiac tissue engineering
- Biomaterials for the assembly of stem cell derived tissues

The last invited speakers were industry representative and they reflected on the commercial developments and the future stem cells and regenerative medicine. It was chosen to have a strong industry presence to both highlight the potential market for the research being done and foster communication between academia and industry.

Partners

- UW-Madison
- UW-Platteville
- WARF
- Morgridge Institute
- Sigma-Aldrich
- Stratech Corporation

Highlights

- Open and free breakfast and lunch fostered communication between attendees
- Talks from academic researchers let those know more about:
    - Work being done on campus
    - The state of the field
    - Foster discussion from diverse backgrounds

- Poster session allowed a unique platform for current students to share their work
- Talks from industry representatives let attendees know more about:
    - The story of current biomaterial products
    - The shift of focus in commercial work
    - Collaboration between academic and industry

Numbers

- Attendees: 121 people
- Sponsors: 0 sponsors

Organizers

- President: Joseph Vecchi
    - jvecchi@wisc.edu
- Secretary/Treasurer: Emily Olszewski
    - olszewski2@wisc.edu
- Bylaws Chair: Jillian Johnson
    - Jkjohnson23@wisc.edu
- Faculty Advisor: Wan Ju Li
    - li@ortho.wisc.edu
- Faculty Advisor: William Murphy
    - wlmurphy@ortho.wisc.edu

Speaker List

- Wan Ju Li
    - UW-Madison, Department of Orthopedics and Rehabilitation
    - Biomaterials in Bone/Tendon/Cartilage Engineering
- William Murphy
    - UW-Madison, Stem Cell and Regenerative Medicine Center
    - Biomaterials for Assembly of Stem Cell-Derived Human Tissues
- Sean Palecek
    - UW-Madison, Department of Chemical and Biological Engineering
    - Biomaterials in Vascular and Cardiac Tissue Engineering
- Nicolynn Davis
    - Sigma-Aldrich
    - Drug Delivery and Translational Research
- Justin Koepsel
    - Stratatech Corporation
    - Future of Regenerative Medicine

Awards

- No merit based awards were given out