

Thanks to...



## Acknowledgements

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**GBMES Website & Contact Information**  
<http://andrew.cmu.edu/org/gbmes/>

# The 5<sup>th</sup> Annual Biomedical Engineering and Biotechnology Research Symposium

*Thursday April 29, 2010*  
Carnegie Mellon University  
Grand Room, Posner Hall



Organized by the Graduate Biomedical Engineering Society

## Symposium Program

8:50 – 9:00 am

**WELCOMING REMARKS**  
Ryan Kellogg, GBMES President

### ***Presentations***

#### ***Biomaterials & Regenerative Medicine***

9:00 – 9:15 am

**Sheetal Pai, ChemE** (Przybycien)  
*Characterization of PEGylated proteins using small-angle neutron scattering*

9:15 – 9:30 am

**Steve Sun, BME** (Washburn)  
*Local control of inflammation with polymer-antibody conjugates*

9:30 – 9:45 am

**Rowena Mittal, BME** (Bruchez, Campbell)  
*Quantitative quantum dot (QD) methods for tracking stem cells noninvasively in vivo*

9:45 – 10:00 am

**Rachelle Palchesko, Duquesne Univ.** (Gaway)  
*Chemical modification of calcium aluminates for use as bone scaffold material*

10:00 – 10:15 am

**BREAK**

10:15 – 10:30 am

**Elmer Ker, Biological Sciences** (Campbell)  
*Directing a single stem cell population towards musculoskeletal interfaces;* (Campbell)

10:30 – 10:45 am

**Eric Hsu, BME** (Hollinger)  
*Post-transcriptional gene silencing using siRNA delivered from Star nanostructured polymer*

#### ***Biomedical Microdevices***

10:45– 11:00 am

**Chris Highley, BME** (Zappe)  
*Encapsulation of neural stem cells in natural biopolymers*

11:00 – 11:15 am

**Usha Kuppuswamy, BME** (Zappe)  
*Nanopatterned substrates for control of neural stem cell fate*

11:15 – 11:30 am

**BREAK**

### ***Keynote Lecture – Professor Kristi Anseth, PhD*** ***“Designer Biomaterials to Promote Tissue Regeneration”***

**11:30 – 12:30 pm**

Dept. of Chemical & Biological Engineering at University of Colorado; Howard Hughes Medical Institute Investigator

12:30 – 2:00 pm

**BUFFET LUNCH**

12:30 – 2:00 pm

**POSTER SESSION**

#### ***Clinical Methods***

2:00 – 2:15 pm

**Deane Smith, AGH resident, General Surgery**  
*Neurologic events associated with left ventricular assist devices: a comparison of continuous flow devices and pulsatile pumps*

2:15 – 2:30 pm

**George Nassif, AGH resident, General Surgery**  
*Discordant admission lactic acid and base deficit after trauma – is there any significance?*

#### ***Computational Methods***

2:30 – 2:45 pm

**Tao Peng, BME** (Przybecian)  
*Automated unmixing of complex protein subcellular patterns*

2:45 – 3:00 pm

**Wei Wang, BME** (Rohde)  
*Detection and classification of thyroid follicular lesions based on nuclear structure from histopathology images*

3:00 – 3:15 pm

**BREAK**

3:15 – 3:30 pm

**Andrej Savol, Computational Bio.** (Chennubhotla)  
*A protein trajectory reconstruction strategy from FRET-derived distance constraints*

3:30 – 3:45 pm

**Portia Taylor, BME** (Kanade)  
*Classifying human motion using accelerometers*

#### ***Cardiovascular Modeling***

3:45 – 4:00 pm

**Antonio Ferreira, Post-doc, BME** (Antaki)  
*A suction detection based control system for rotary blood pumps*

4:00 – 4:15 pm

**Alberto Gandini, Post-doc, BME** (Antaki)  
*Medical devices for treatment and diagnosis of malaria*

4:15 – 4:25 pm

**CLOSING REMARKS**

5:00 – 6:30 pm

**Awards Ceremony & GBMES-BioPharma Networking Mixer**