

*Connecting the global minerals, metals, and materials community.*



## **Plan Now to Attend:**

### **Biological Materials Science Symposium**

The Symposium on Biological Materials Science will focus on advances in biological materials towards the development of biomaterials and biomimetic materials. Biological materials are comprised of the inorganic and organic constituents of biological systems, whereas biomaterials are synthetic materials developed to replace, restore or augment biological materials. Biological materials are inherently hierarchical in organization and exhibit redundancy of structural property as well as ability to heal. Biological materials are formed under ambient conditions by living and adaptive biological systems for multifunctional performance. Characterizing and modeling responses of these materials are inherently challenging due to the hierarchical structures, anisotropy, and the inherent inhomogeneity of these materials. Biomimetic materials (or bio-inspired materials) have unique, tailored structure and properties designed based upon the study of structure-property relationships in biological materials. Biomimetic materials most often utilize creative new methods of synthesis/processing and microstructure design in order to achieve the desired functionality.

The symposium will encompass the following themes:

- Biological materials (soft and hard tissues, cells, etc.)
- Biomaterials (implants, tissue engineered structures and devices)
- Modeling and experimental evaluation of mechanical properties of biological and biomaterials.
- Biomimetic and bio-inspired materials
- Bio-enabled materials and systems
- Bio-related applications

The organizers are planning to pursue publication of proceedings in a journal.

#### **Sponsored by:**

- TMS Structural Materials Division
- Biomaterials Committee

#### **Organized by:**

Kalpana Katti, North Dakota State University (USA)  
Rajendra K. Kasinath, Johnson and Johnson Company (USA)  
Michael Porter, University of California at San Diego (USA)  
Francois Barthelat, McGill University (Canada)

**For more information on how  
to participate, visit:**

[www.tms.org/TMS2015](http://www.tms.org/TMS2015)

Questions? Contact [programming@tms.org](mailto:programming@tms.org)