

TMS2016

145th Annual Meeting & Exhibition

FEBRUARY 14-18 DOWNTOWN NASHVILLE,
TENNESSEE MUSIC CITY CENTER

Connecting the Global Minerals, Metals, and Materials Community.



Bio-Nano Interfaces and Engineering Applications

Interfacing biological molecules predictably with solid materials is the key for hybrid composite materials, surface organization, and biomaterials. Bio-nano interfaces, therefore, are of interest for many engineering areas ranging from designing bioactive materials to nanodevices for a wide range of technological applications. This symposium on bio-nano interfaces and their design, tailoring, and engineering applications will emphasize the basic understanding of these soft interfaces and their implementation into practical medical and technological applications such as catalysis, sensors, electronics, and photonics. While the solids may include metals, ceramics, semiconductors, polymers, and their composites, Biopolymers include proteins, peptides, DNA, RNA, polysaccharides, glycans, lipids, and membranes, as well as cells and viruses. A special emphasis will be given to assembly processes at solid liquid interfaces that lead to surface phenomena and designed biomolecular and nanosolid self organizations towards functional materials and devices.

This symposium will encompass the following themes:

- Fundamentals on bio-nano interfaces
- Biomolecular recognition of solids
- Surface phenomena
- Thermodynamics and kinetics
- New trends in surface characterization, in situ and ex situ
- Computational modeling of soft interfaces
- Assembly rules and design criteria
- Applications to electronics and photonics devices
- Implementation in regenerative and restorative medicine

Organizers include:

Candan Tamerler, University of Kansas (USA)

Po-Yu Chen, National University of Tsing Hua University (Taiwan)

Terry Lowe, Colorado School of Mines (USA)

John Nychka, University of Alberta (Canada)

Weng Yang, ETH (Switzerland)

Learn More

at www.tms.org/TMS2016