

THE WORLD COMES HERE.
TMS 2025
154th Annual Meeting & Exhibition



March 23–27, 2025
MGM Grand Las Vegas
Hotel & Casino
Las Vegas, Nevada, USA
#TMSAnnualMeeting



SUBMIT AN ABSTRACT FOR THE FOLLOWING TMS2025 SYMPOSIUM:

BIOMATERIALS

Mechanics and Physiological Adaptation of Hard and Soft Biomaterials and Biological Tissues

Biological tissues and materials self-assembled in nature have complex, hierarchical structures that can result in unique properties. These structure-property relationships are a wealth of information for materials scientists to explore for inspiration in designing the next generation of materials. Biological tissues and materials are, however, not always static entities. Often the dynamic structure is growing and/or adapting to the local biological or mechanical environment. Materials science investigations can offer great insight into how features in the multi-scale structure sense mechanical forces and biochemically promote adaptation. Materials-specific characterization techniques are then essential in quantifying the structure and related properties particularly for disease-related structural and functional modifications.

Topics that will be addressed:

- Mechanics and physiological adaptation of soft and hard tissues
- Role of the multi-scale structure in soft and hard tissue mechanics and adaptation
- Mechanobiology in tissues adaptation
- Mechanochemically active synthetic biomaterials
- Design of biomaterials to interact with tissue growth and adaptation

ORGANIZERS

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TMS Functional Materials Division, TMS Structural Materials Division, TMS Biomaterials Committee