

Call For Abstract for Symposium #33: Deformation and assembly of materials and structures at solid-liquid interfaces

Symposium information: Interaction of solid with liquid is ubiquitous in nature, and its underpinned physical and chemical characteristics have been leveraged to benefit almost every aspect of our daily life and industry over decades. This concept of solid-liquid interactions is recently reemerging with the ever-fasting demands of calling for innovative design principles and approaches in both design and manufacturing of advanced materials, structures and devices, where seamless integrations and assemblies of different material/phase components are required across multiple scales. Compared with interaction of solids with solids, liquid, an intrinsically deformation-free phase due to fluidity, provides a unique and tactful platform that helps release residual stress or/and avoid deformation mismatch with surrounding solid constraints during growth, self-assembly and manufacturing of solid phase materials and structures meanwhile remaining close contacts at their interface. In either material design or manufacturing approaches enabled by solid-liquid interactions, understanding the underlying complex and multiplex coupled mechanics mechanisms is not only crucial to optimize existing strategies to material and structural design and approaches to manufacturing, but also will help explore new design and manufacturing solutions with unique capability, cost efficiency, and high precision.

This symposium aims to provide an interdisciplinary forum for discussing mechanics of materials at solid-liquid interfaces that enable design and manufacturing approaches of materials, structures and devices. Topics are included but not limited to:

- Theory, modeling, and experiment of material deformation, instability and assembly by solid-liquid interactions (e.g. capillary interaction coupled with chemical reaction, liquid diffusion/evaporation, and/or material swelling/shrinking as well as an external field such as electrical/magnetic field)
- Intelligent design of materials, structures and devices by solid-liquid interactions
- Unusual manufacturing and integration approach of materials, structures and devices by solid-liquid interactions

Abstract submission information ([Extended deadline: January 31, 2022](#))

https://www.usnctam2022.org/abstract_instructions

please select the minisymposium # 33 - Deformation and assembly of materials and structures at solid-liquid interfaces

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