

Monday Morning, April 20, 2026

Plenary Lecture

Room Town & Country A - Session PL-MoM

Plenary Lecture

Moderator: Sandra E. Rodil, Universidad Nacional Autónoma de México

8:00am **PL-MoM-1 Welcome and Opening Remarks,**

8:20am **PL-MoM-2 Nano-Engineered Materials: Heterostructures and Composites, Pulickel M. Ajayan [ajayan@rice.edu]**, Rice University, USA

INVITED

The last three decades have seen spectacular discoveries and developments in the field of nanotechnology. This talk will focus on some of these developments, particularly related to the opportunities and challenges in designing and controllably synthesizing functional nano-engineered materials. The talk will discuss several classes of materials, for example, carbon based and boron-nitrogen-carbon based materials, two-dimensional materials such as transition metal di-chalcogenides and their heterostructures, defect engineered materials and single-atom catalysts, interface controlled polymer nanocomposites and spark plasma sintered ceramic composites. I will also consider the impact of bottom-up engineering on the design of material systems relevant to many areas of applications. Several aspects including synthesis, chemical manipulation and hybridization will be discussed to address the opportunities that are available in creating novel nanoengineered materials.

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