

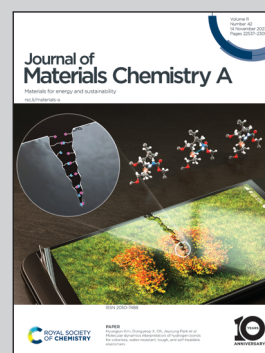
# 10

**Showcasing research from Prof. Abhijit Chatterjee's laboratory at Indian Institute of Technology Bombay, India.**

**Emergent ionic conduction in aliovalently-doped fast ion conductors**

The Chatterjee group introduces a new theoretical framework to understand the effect of local chemical environment on the movement of mobile ions in solid electrolytes. At the atomistic scale, the ion migration depends on the specific details of the local cation arrangement, whereas the ionic conductivity is an emergent property that is determined by the overall interactions and exchange of ions between different parts of the material system. The theory can be used to effectively design, optimize, and operate solid electrolyte-based devices.

**As featured in:**



See Bharathi Bandi and Abhijit Chatterjee, *J. Mater. Chem. A*, 2023, **11**, 22760.