

Prof. Jincheng Du

Department of Materials Science and Engineering

Computational material science, functional glass and ceramic materials, atomistic computer simulations, materials for biomedical & environmental appl.

Research Group: [Functional Glasses and Materials Modeling Laboratory](#)

5 Ph.D. Students / 1 Postdoc; funding: DOE EFRC/NEUP, NSF

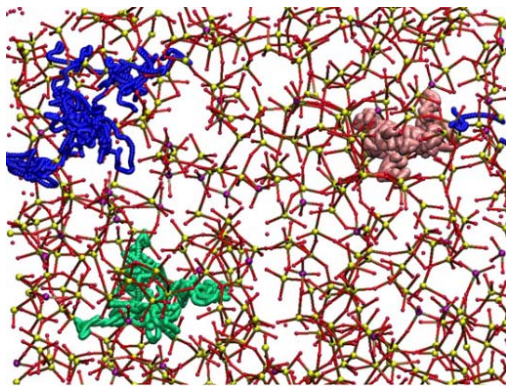
Computational Material sciences

Atomistic computer simulations of glass and amorphous materials

First principles calculations of defects and electronic structures

Material interface and interfacial reactions

Simulations of plasma/surface integrations and radiation effects



Functional Materials

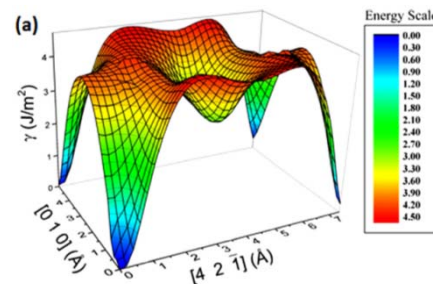
Glasses for biomedical applications

Solid state electrolyte for lithium ion batteries

Durable glass for nuclear waste disposal and dissolution mechanism study

Electronic materials: low k / high k dielectrics, transparent conducting oxides

Catalyst and catalytic reactions of metal oxides



Structure-Property relations

Structures and structure origin of properties of glass and amorphous materials

Defects and imperfections in materials

