Chemistry of Anisotropic Materials

Research Topics

• Rubisco biomimetics for CO₂ capture from air
• Ferroelectric materials for nonlinear optics
• Oscillating chemical reactions: Video-based kinetic analysis and simulation by dynamic methods
• Layer models of enzyme activity: P450, Rubisco
• STEM Education: Scientific writing, peer review, science communication, science globalization

Key Words

From Electronic Structure Theory to New Concepts in Chemistry is the guiding principle of our research. This principle is applied to studies of Chemistry in Anisotropic Media, and all efforts are benefitting from the Synergy of Tightly Coupled Theoretical and Experimental Studies. Organic • Physical • Theoretical • Materials • Education

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Funding (after 2016)

• NSF, CHE: Biomimetic CO₂ Capture from Air
• NSF, MRI: Nonlinear Optical Materials
• ACS, PRF (ND): Polymerization Catalysts
• Carey Bottom Ethics Initiative

Selected Publications


