1. Developing Rare-Earth-Free Functional High-Entropy Oxide Ceramics for Energy Storage via Machine Learning-Assisted CALPHAD
2. AI-Assisted Surface Engineering of Oxide Glasses to Optimize Bonding and Chemical Release
3. Designing Damage-Tolerant Ceramics: AI-Assisted Multi-Objective Method to Achieve Contact Damage Resistance
4. Advanced Glass Technologies: Sustainable Innovation through Material Science and Design
5. Next-generation reference glasses for reliable chemical analysis of solid samples
6. Method development for evaluation of bio-activity of materials with laser ablation ICP-MS
7. High-Temperature Performance and Durability of Dy-Stabilized Zirconia Thermal Barrier Coatings
8. Sol–gel engineered bilayer coatings for multifunctional glass surfaces
9. Multifunctional antireflective coatings with tunable optical and mechanical properties via dual PVD–PECVD hybrid processing
10. Multilayers prepared by PECVD and PVD for applications as bandpass filters and anti-reflective coatings
11. 3D printed composites using wide-bandgap semiconductors for photocatalytic decomposition of pollutants in wastewater
12. Transparent ceramics with multi-wavelength excitation and emission properties
13. Near-zero and negative thermal-quenching phosphors for NUV converted w-LEDs
14. Functionalized melt-quenched metal-organic framework (MOF) glasses for opto-electroactive membrane applications
15. Development of a visible light responsive photocatalysts for green hydrogen production
16. Luminescent guests' materials in Metal-organic Frameworks for optical thermometry
17. Design of MOF Glass–Spinel Nanocomposites for Next-Generation Energy Storage Systems
18. Entropy-Driven Design of Multicomponent Oxide Glasses and Glass-Ceramics
19. Advanced 3D structures based on glass, ceramics, and glass-ceramics developed by multi-material additive manufacturing
20. Smart urban infrastructure: Robotic 3D printing of glass-ceramic structures from waste materials for energy-active and circular urban applications
21. Decarbonization Strategy for Glass Production through Process Innovation, Advanced Materials, and Integrated AI-Based Optimization
22. 3D printing of inorganic-biopolymer composites for bone regeneration
23. Smart Hybrid Materials for Biomedical and Responsive Applications
24. Multi-Material Scaffold Desing for Mechanically Reinforced Bioactive Composite Systems
25. Advanced functionalized magnetic silica-based theranostic nanocarriers for ionic medicine in cancer treatment
26. Design of stimuli-responsive metal-organic frameworks for multimodal antibacterial therapy