

S7-2 Machine Learning (ML) in Ceramics and Glass— From Informatics to Autonomous Experiments

SHORT DESCRIPTION:

This symposium will focus on current achievements and challenges in the analyzing data and automating experiments of ceramics and glasses through powerful techniques of Machine Learning (ML) and artificial intelligence in both simulations and experiments. The symposium aims to explore innovative methods to combine automation for laboratories and machine learning to conduct materials research at or beyond the state of the art, and presents perspectives to improve efficiency, precision, and reproducibility in materials synthesis and characterization, accelerating breakthroughs in materials and processes.

SESSION TOPICS:

Ab initio simulations and classical modeling for structure and property prediction of materials
Informatics and machine learning for prediction of materials properties
High-throughput simulations and experiments to generate big data for informatics
Self-driving labs in chemical and material sciences
Machine learning for image analysis and computer-vision based automated experiments
Autonomous research data integration, management, and networking across the lab and countries

ORGANIZERS:

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