

August 11-14th at the Crowne Plaza Hotel in downtown Knoxville, TN



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Type: **Invited Talk**

AI enabled modeling of correlated quantum matter

Strongly correlated quantum materials promise to revolutionize many energy-related technologies, but owing to their complexity, their discovery process is rather slow. This talk will discuss how AI can help speed up this process: By accelerating expensive computational simulations and facilitating the conversion of abstract numerical data into experimentally accessible observables, AI can enable a tight integration between simulations and experiments, and thus significantly accelerate the quantum materials discovery process. This vision and proof-of-concept results will be demonstrated for ORNL's DCA++ research code, a quantum Monte Carlo application for advanced high-performance computing-based simulations of correlated quantum materials.

Topical Area

AI and data science

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