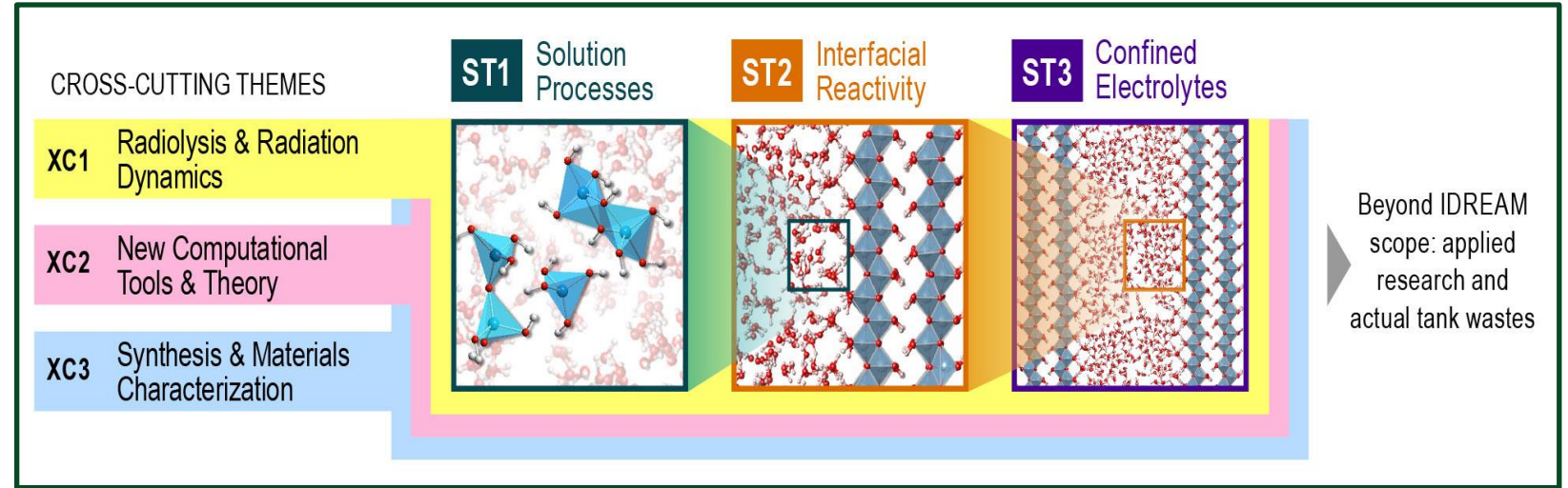


Interfacial Dynamics in Radioactive Environments and Materials (IDREAM)

Carolyn Pearce (Pacific Northwest National Laboratory); Class: 2016-2024

MISSION: To master fundamental chemical phenomena and interfacial reactivity in complex environments characterized by extremes in alkalinity, low-water activity, and ionizing radiation.

<https://efrc.pnnl.gov/idream>



RESEARCH PLAN

IDREAM research leads to discoveries of chemical, physical, and radiolytic processes that occur in complex highly alkaline radioactive waste at DOE nuclear legacy sites. Our integrated experiments and computational modeling span atomic to macroscopic length scales of solution speciation, interfacial reactivity, and confined electrolytes, and temporal scales from sub-picoseconds to long-lived collective phenomena. Fundamental research within IDREAM enables improved technologies to process and stabilize the radioactive waste.



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