# Smart Ferroic Materials Center

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The University of Arkansas is recognized for its expertise in the theoretical description of ferroic materials. The Smart Ferroic Research Center is a formal collaboration between U of A researchers and world-renowned experimental collaborators from CentraleSupélec, one of France's leading scientific schools and a founding member of Université Paris-Saclay. The collaboration positions both institutions and the Smart Ferroic Research Center to be among world leaders in this field. The center's mission is to strengthen international research collaboration around all areas of ferroic materials research.

The center pursues research priorities through four teams that each include faculty affiliated with the University of Arkansas and the CentraleSupélec:

- The *Topology in Ferroic Materials Team*, which focuses on the search, characterization and applications of topological polarization or magnetic textures such as skyrmions and vortices for future applications in high-density memory arrays and computing hardware.
- The *Neuromorphic Ferroic Materials Team*, which focuses on searching for, characterizing and applying materials with hidden states to mimic brain components such as neurons and synapses.
- The *Ferroic Materials for Energy Conversion Team*, which focuses on studying energy conversion mechanisms in ferroic materials, such as photovoltaic effects, piezoelectric effects or electrocaloric effects to create autonomous sensors, acoustic resonators, new efficient cooling or heating technologies, or ultra-precise positioning devices.
- The *Novel Nanoscale Ferroic Team*, which develops atomically thin ferroic materials for the next generation of high-speed electronics devices and sensors.