







PhD Position in Physics (M/F): Control of Topology and Functionality of Ferroelectrics through Thermal Patterning

-  **Location:** Strasbourg, France
-  **Supervisor:** Riccardo Hertel
-  **Start Date:** October 1, 2025
-  **Duration:** 3 years – Full-time
-  **Monthly Salary:** €2,200 gross
-  **Application Deadline:** July 1, 2025

About the Project

We invite applications for a fully funded PhD position in theoretical physics, focusing on the simulation of topological textures in ferroelectric materials. The research will explore the formation, stability, and control of polarization structures—such as domain walls, vortices, and skyrmions—via thermal patterning.

This work involves:

- Developing finite-element simulation software
- Performing continuum-scale numerical modeling
- Collaborating with the Luxembourg Institute of Science and Technology (LIST)

Research Environment

The PhD will be based at IPCMS (Institute of Physics and Chemistry of Materials of Strasbourg), a CNRS research facility. The project targets novel applications in nanoelectronics by understanding how temperature gradients influence ferroelectric topologies.

Candidate Profile

Required:

- Master's degree (Master 2 or equivalent) in physics, materials science, nanoscience, or equivalent.
- Solid background in solid-state physics
- Proficiency in English

Preferred:

- Familiarity with ferroic systems (magnetism, ferroelectrics, or liquid crystals)
- Programming experience (C++ or Python)
- Skills in numerical simulation or modeling

Application Instructions

Submit the following as a single PDF:

- CV
- Cover letter
- Academic transcript (Master 2 or engineering school)
- At least one letter of recommendation

Send applications and inquiries to: riccardo.hertel@ipcms.unistra.fr