



Method tags: Characterization/Experiment, Modelling/Simulation, Processing/Nanofabrication.

Scientific tags: Material science, Nanoelectronics, Devices, Neuromorphic computing, Exploratory nanofabrication.

Supervisors: Mattias Borg, mattias.borg@eit.lth.se

<https://portal.research.lu.se/en/persons/mattias-borg>

Our group focuses on realizing materials and memristor devices for energy-efficient electronics that mimic the functionality of the brain (neuromorphic computing). In addition, we investigate methods of how these materials and devices can be 3D-integrated onto conventional electronics. Specifically, we work on ferroelectric tunnel junctions based on ferroelectric HfZrO₂ films and direct growth of III-V nanowires on metal thin films, and a project with us would likely include nanofabrication and materials/device characterization but could also be a pure simulation project.