The µSPAM (Micro Scanning Probe Array Memory) project is a research cooperation project between three research institutes in the areas of Micro- and Nanotechnology (MESA+), Computer Science (CTIT) and Mechanics and Control (IMPACT).
Within this project we look at various aspects of probe based data storage. This new storage architecture leverages the new fields of probe microscopy and MEMS to realize a high capacity, mechanically addressed storage device. We look into bit patterned magnetic media, electrostatic positioning systems, integrated probe arrays and system aspects such as power consumption and coding. In the further future we will see a transition from magnetic (hard disk) and optical (BluRay) storage towards molecular or even atomic storage. Probe techniques and MEMS positioning are the only technologies capable of reaching these densities.

The research has spin-off in other areas as well, especially in probe microscopy (MFM) and nano-positioning, where we investigate the use of electrostatic actuators and diamagnetic levitation in applications where high accuracy positioning is required.