Oppgave **Nanomechanical testing of Micro-Electro-Mechanical Systems (MEMS)**

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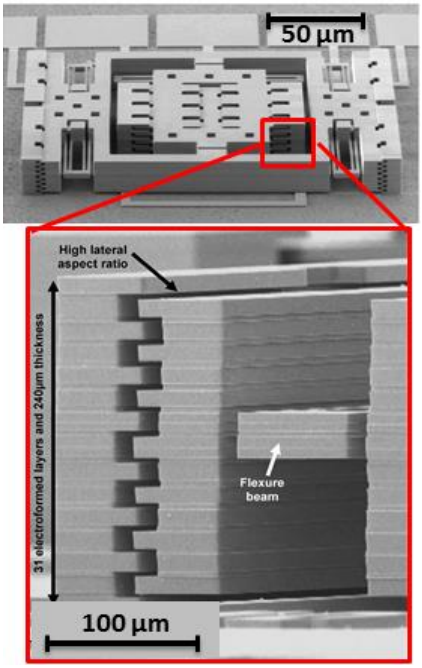
The aim of this project is to investigate the mechanical properties of the nano and micro components in the MEMS as a function of the fabrication method. The NTNU NanoLab will be used intensively during this project, and the necessary training will be given.

Nanotechnology is the study, design, creation, synthesis, manipulation, and application of functional materials, devices, and systems through control of matter and energy at the nanometer scale. One of the well-known examples of nanotechnology devices are MEMS (Micro-Electro-Mechanical Systems), components typically include microelectronic integrated circuits (the "brains"), sensors (the "senses" and "nervous system"), and actuators (the "hands" and "arms"). The mechanical properties of the components in these MEMS is an important parameter and aside from the material used to depend on the fabrication method as well. These components are typically produced using microfabrication technologies including electron beam lithography, focused ion beam lithography, and nanoimprint lithography.

Nanoindenter



Gyroscope made by electrodeposited nickel through EFAB[9]