

EUROPEAN UNION

RI AT CZ

Interreg
Austria-Czech Republic
European Regional Development Fund

Nanofabrication Facility

What we do

We develop recipes and new devices for different application. At the moment our facility is focused on two main research studies:

- spin qubits in Ge-based systems, self-assembled QDs and lithographically defined QDs in two dimensional hole gases (Katsaros's Group).
- developing novel types of superconducting and photonic devices using advanced MEMS fabrication technologies (Fink's group).

Services and Methodologies Provided

The IST Austria Nanofabrication Facility is a state-of-the-art cleanroom fabrication facility. These facility support excellence research aimed at nanotechnology applications. Both near-term and long-term projects are being pursued.

- Cleanroom equipped with the state of the art for micro- and nanofabrication processing
- Specialized staff who guarantee the availability of processing equipment and the development of new processing
- Training and availability for all users

IST Austria
Am Campus 1, 3400 Klosterneuburg, Austria
Lab Building West I21
www.ist.ac.at
nff@ist.ac.at



Plassys MEB 550S2 UHV
The MEB 550 S2 is a Ultra High Vacuum system evaporator with three chambers that works at 10^{-9}mbar.

http://ist.ac.at/ssus/list-of-facilities/nanofabrication-facility/equipment/uhv-and-hv-evaporators/uhv-evaporator/



MemsStart ORBIS Alpha Oxide Etch
HF vapor etch system is used to remove sacrificial silicon oxide layers, primarily to release silicon microstructures. The system allows the possibility of stiction-free etching and handles materials from sample sizes to 200mm.

http://ist.ac.at/ssus/list-of-facilities/nanofabrication-facility/equipment/vapor-hf/



RAITH EBPG5150 EBL
The EBPG5150 electron beam lithography system is designed for high-resolution and high-accuracy patterning of devices on semiconductor wafers.

- High current density Thermal Field Emission gun up to 100 kV
- Minimum feature size of less than 8 nm
- Rapid exposure 100 MHz pattern generator

http://ist.ac.at/ssus/list-of-facilities/nanofabrication-facility/equipment/electron-beam-lithography-ebl/

Equipment

The Nanofabrication Facility consist of two cutting-edge cleanrooms for a total of ~400 sqm, which feature ISO 5 (class 100), ISO 6 (1000) and ISO 7 (10000) facilities and include two characterization laboratories areas of ~86 sqm.

The Facility accommodate the following processes:

- Optical and electron lithography for pattern definition
- Thin-film deposition of metals and isolators
- Dry etching for material removal using reactive gases
- Wet chemical etching
- Rapid Thermal annealing
- Inspection and characterization with optical and electron microscopes
- Thickness measurements
- Dicing and bonding
- PDMS fabrication platform for microfluidics.

Contact and Location

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