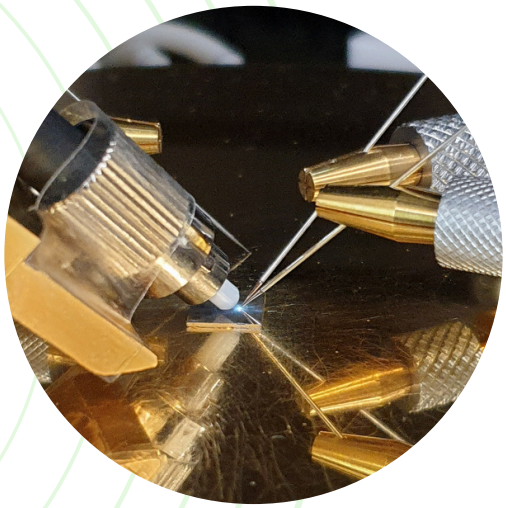
Microelectronic Processing and Fabrication



- **HEMTs Transistors**
- **Photonic crystals for LED technology**
- **T-gate, air bridge, via holes for HEMTs**
- **Micro- and nano-3D structures**
- **Diffractive optical elements**
  - Single microlens and arrays (spherical, cylindrical, elliptical)
  - Diffraction gratings, fan-out elements Computer generated holograms Apodised diffractive elements

We offer

- Performing individual technological steps or process sequences to fabricate microelectronic, optoelectronic and photonic devices
- Lithography, plasma etching, thin film deposition ion implantation, RTP (rapid thermal processing)
- Master and working stamp fabrication
- Performing UV-NIL (ultraviolet nanoimprint litography) and Hot Embossing processes
- Photolithography mask: design and fabrication

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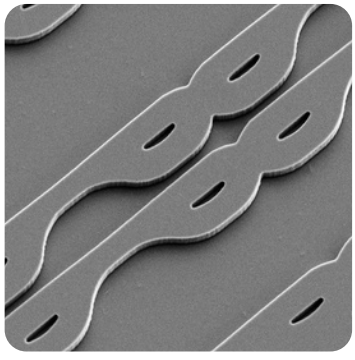
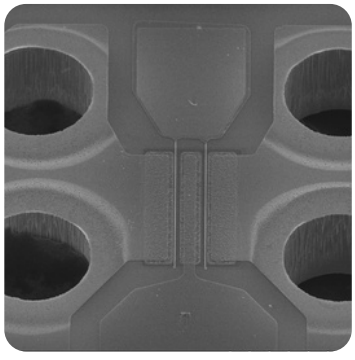
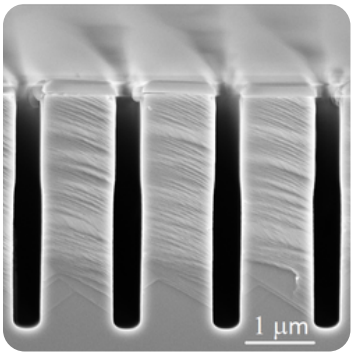
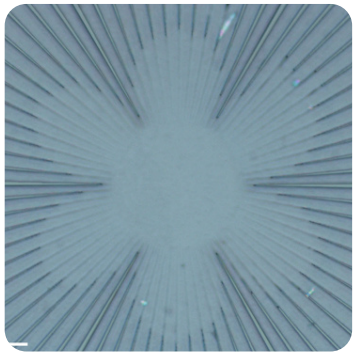
Applications

- Optoelectronic and photonic devices: LEDs, LDs, VCSELs, optical fiber sensors
- Microelectronic devices: Transistors (HEMTs, MOSFET) and Diodes (Schottky, p-i-n)





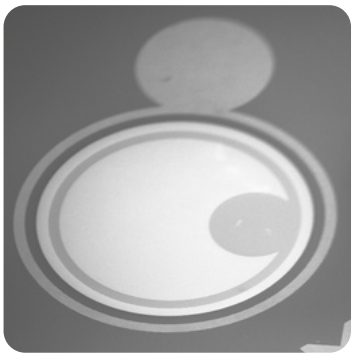




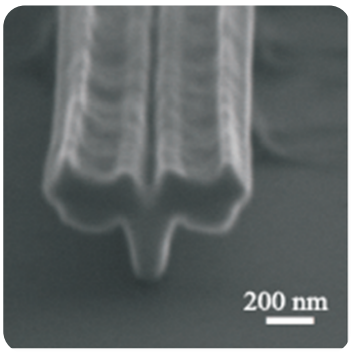
- **Electron Beam Lithography**
- **DUV Photolithography**
- **Direct Laser Writing Lithography**
- **Plasma Etching**
- **Nanoimprint**

Our team competences in the field od electronics, physics technology of structures and devices, material science, biomedical engineering:

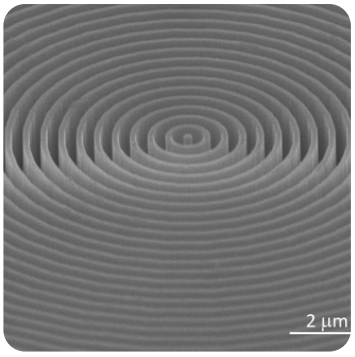
- Physics and optics of semiconductors,
- Technology and designing of GaN, Ga_2O_3 and SIC devices
- Characterization of structures nad semiconductor devices,
- Sensors, Thin film structures and Surface modification – (bio) sensors,
- Design and fabrications of porous materials,
- Fabrications of the diffractive optics,
- Technology of semiconductor light sources: VCSEL, LEDs and more



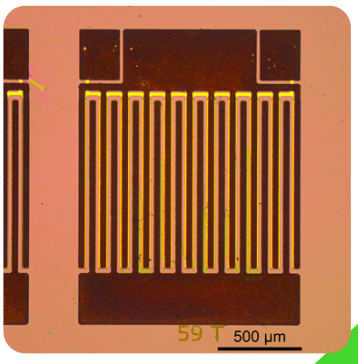
Lights sources: LEDs



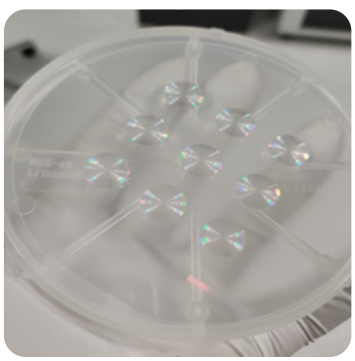
T-Gate



Photonics Crystals



(U)WBG Power Devices: Transistors, Diodes



Diffractive Elements

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GaN technology, sensors, thin-film structures & porous materials Research Group

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