



# DESIGN OF FPGA AND ASIC CIRCUITRY GROUP (ASICGROUP)

## Main objectives and activities of the laboratory

- basic and applied research in design and diagnostics of digital circuits,
- research in the field of modern methods of creating digital circuits on reconfigurable systems,
- development of customer solutions and service applications,
- providing expert consultancy and expert activity in the field of microelectronics.

## Professional focus of the laboratory

- design of ASIC and FPGA digital circuits,
- diagnostics of digital circuits with focus on methods of compression of test samples,
- aging and degradation processes in nanostructures of modern circuits,
- partial dynamic reconfiguration of programmable circuits,
- realtime image processing with an emphasis on infrared spectrum,
- design of special PCBs.

## Specific equipment

- Xilinx, Altera, Synopsys,
- top measuring instruments – including oscilloscopes and signal generators,
- last generation programmable development kits,
- laboratory of the production of printed circuit boards with the possibility of custom production.

## Offered technologies and expertise

- SoC design on FPGA
- design of custom cores, integration of complex systems with microprocessors,
- SW development (bare-metal, RTOS, Linux) for SoC,
- development of Windows / Linux utilities,
- design of systems and acceleration units for processing, signals (audio, video, etc.) obtained from high-speed AD converters,
- design of multi-layer and special printed circuit boards.

