

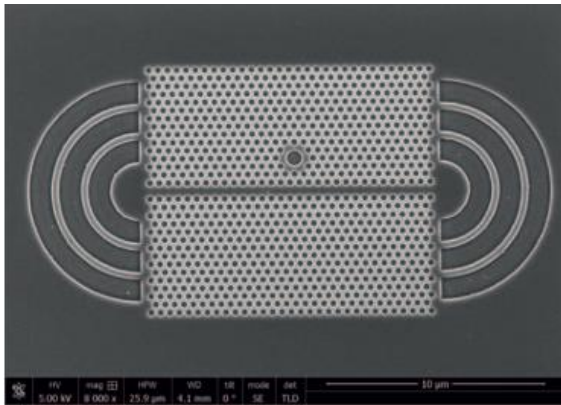
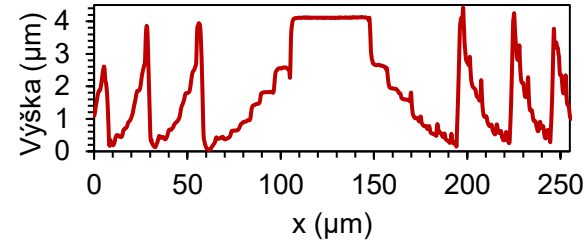
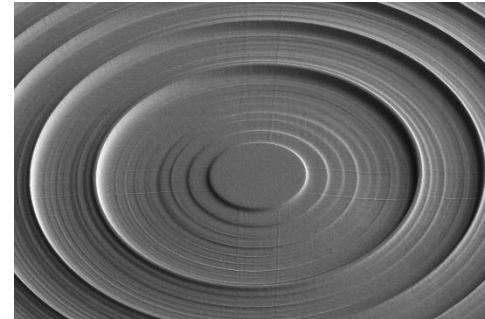
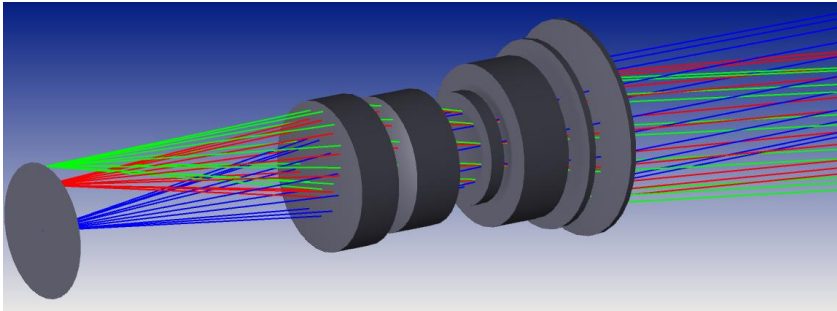


Lukas Silhan, ISI CAS, Brno

Femtosecond laser micromachining and spectroscopy systems development

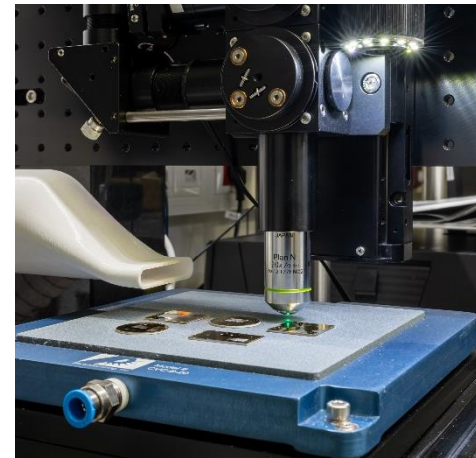
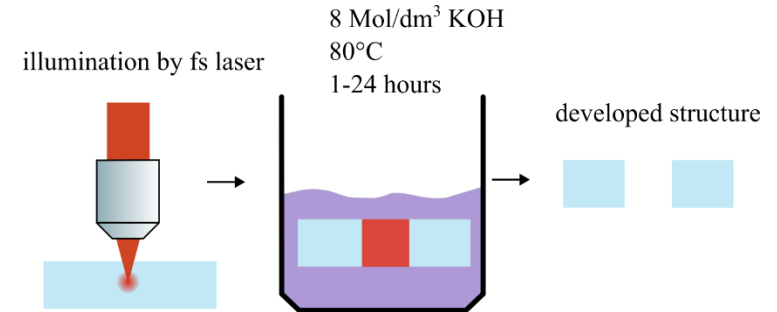
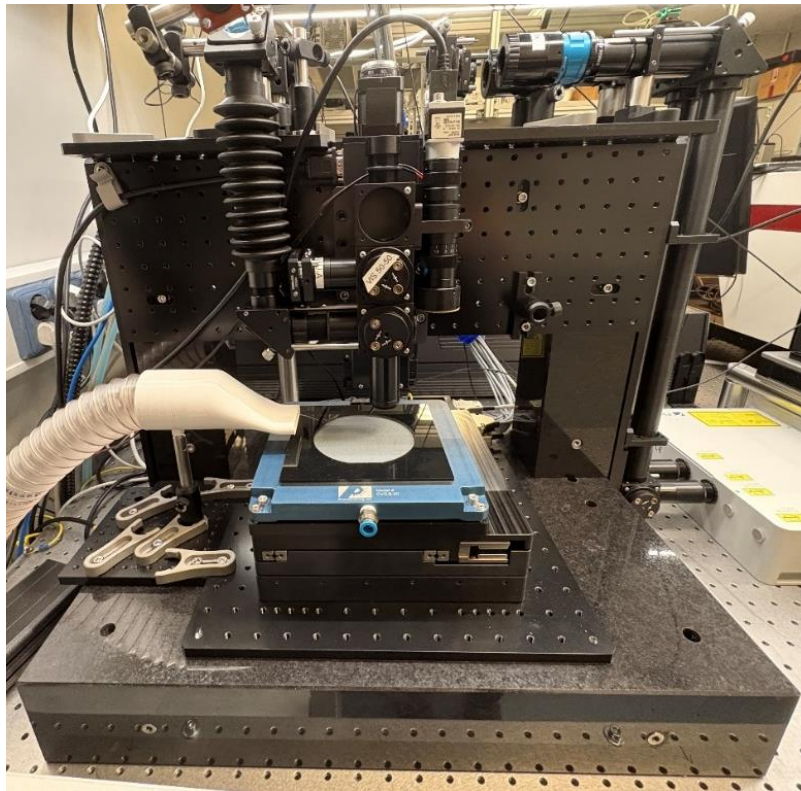
Introduction of Applied and Integrated photonics

- Group of 14 people, head of group Dr. Mojmir Sery
- Expertise in field of optical design, precise mechanics, spectroscopy and lithography



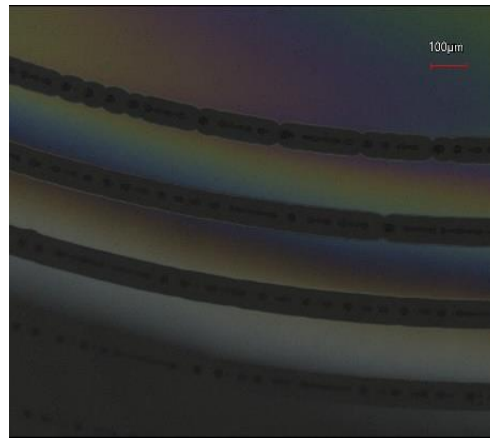
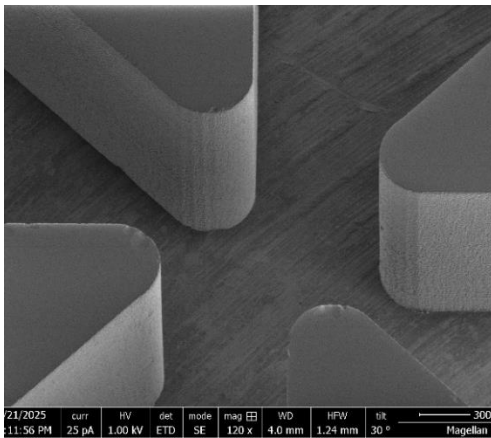
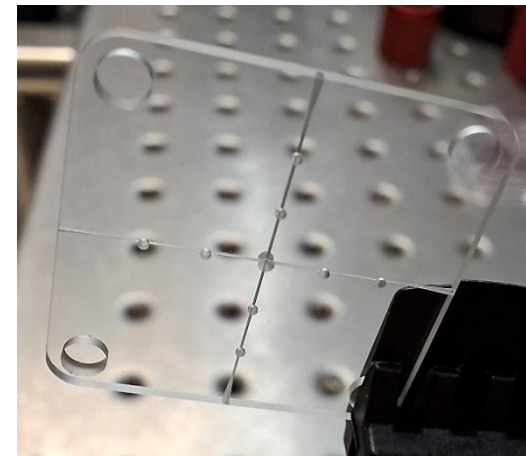
Femtosecond laser micromachining at ISI I

- From the scratch built micromachining station at ISI
- Precision in $xy \pm 0,5 \text{ um}$ and in $z \pm 1 \text{ um}$
- Currently available: **Selective Laser Etching, Microablation, Microwelding**



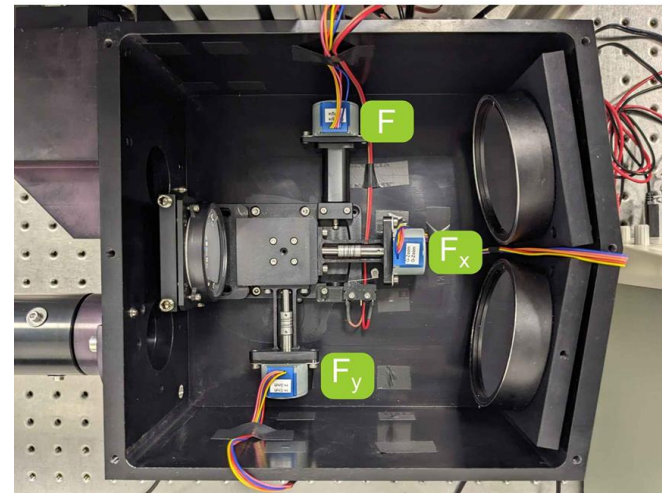
Femtosecond laser micromachining at ISI II

- Use cases: selective laser etching, 3D lift-off lithography, microwelding, fiber loading



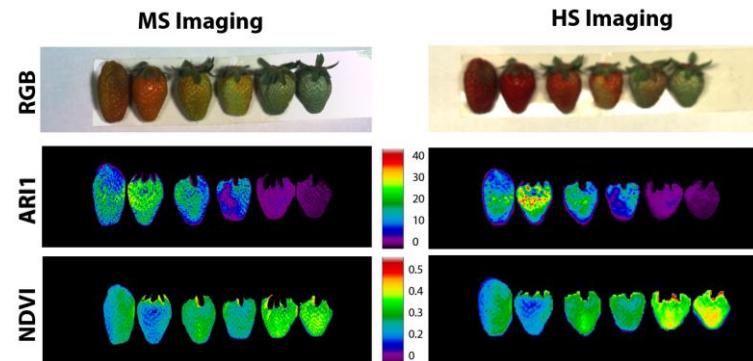
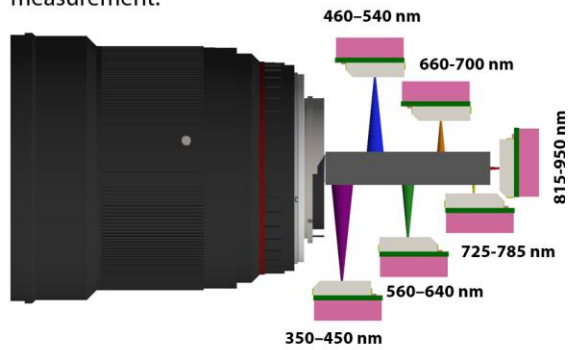
Spectroscopy systems development I

- High resolution hyperspectral camera based on Offner configuration



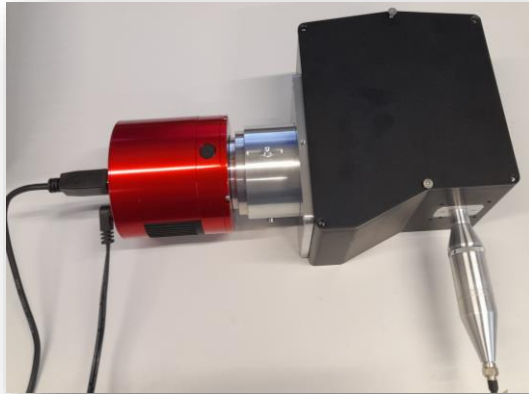
- Multispectral camera for plant phenotyping

measurement.

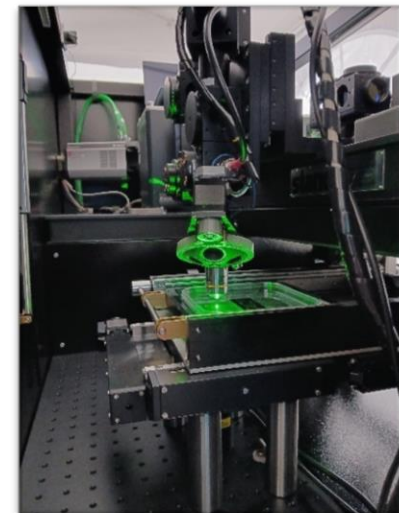


Spectroscopy systems development II

- Design and fabrication of custom spectrometers for visible, IR and SWIR range
- Transmission or reflective design



- Design of Raman spectroscopy systems



Thank you for your attention!