

October 2014

Yearly Report of the Swissphotonics National Fiber Lab

The activity of SNFL is centered towards coordinating and incentivating the activities of the 5 partner Labs to improve and open their offer towards industry.

The efforts of **EPFL, BUAS, UniBE** towards finding a solution to keep the only Swiss commercial fiber drawing plant (Silitec) active were unfortunately not successful. However there is no doubt for all involved parties that the ability to draw at least prototypes of passive and active optical fibers in Switzerland should be preserved.

BUAS and UniBE (Romano/Ryser) are investing about 200kFr. into their fiber drawing tower to be able to better match standards with their silica fibers. At the moment about half of the work has been completed. A new fiber pulling unit and winding unit have been installed with a significant financial contribution from Swissphotonics and have been taken into operation. After revision of the power supply taking place this October first fibers can be drawn in the frame of a CTI project starting on November 1st. Both groups are heavily working on enhancing their equipment for fiber handling and characterisation to better serve the industrial community.

EPFL-GFO (Luc Thevenaz) is focussing on the study of Nyquist pulse transmissions in optical fibres. GFO has organized a summer school in September 2014 on "Optical fiber sensors: from research to real world", dedicated to early stage researchers in academies and industries, in the framework of the European COST Action TD1001.

EPFL-FIMAP (Fabien Sorin): develop further the field of multi-material fibres, where innovative optical fibres (mostly polymer microstructured fibres) as well as optoelectronic and multifunctional fibres are investigated. The laboratory is now up and running, with a draw tower that has a furnace for temperatures up to 500 C (polymers) and the ability to switch furnaces to reach temperatures up to 1100 C. This complements well the capabilities of the group of Valerio Romano who can process glasses with higher softening points such as Silica.

NTB (Markus Michler): has been working on the acquisition of new CTI projects in the field of integrated single mode waveguides. They were able to define an innovative idea together with Neutrik AG (FL) and vario-optics (CH) in the field of thermo optical switches realized in single mode polymer waveguide technology.

SNFL has successfully organized the Swissphotonics workshop in Losone (June 26) on optical connectors in collaboration with the company Diamond SA. The next steps will be to strengthen the group as a whole with 2 SNFL focus meetings until December.