

Experimental kit brings research into the classroom

October 3 2016, by Sarah Bourquenoud

Toralf Scharf, a microengineering instructor, developed portable labs that allow large numbers of students to discover the various facets of optics for themselves. Thanks to this novel teaching approach, Scharf has just received the Credit Suisse Award for Best Teaching, which goes to the best EPFL teacher in 2016.

Understanding the ins and outs of optical engineering can be a source of apprehension for [students](#). To make this abstract subject more accessible for Bachelor's level students, EPFL teacher Toralf Scharf came up with an experimental kit. Rather than spending weeks in a lab, students can use this kit to immediately test what they learn. "Touching and handling are an important part of the learning process, which mustn't be solely theoretical," said Scharf.

With the kit, students can get a feel for complex subjects like imagery, spectroscopy and optical systems in just a few hours. This combination of classroom teaching and lab work means that experimentation can play a bigger role in the course. "Using sophisticated equipment specially designed for teaching purposes, the students gain a broad overview of everything that can be done in [optical engineering](#) research," said Scharf.

This unorthodox course requires a major time investment from the instructor, who evaluates and discusses every experiment with the students through a weekly report. But this investment has paid off: this optics course is popular among students and has received high marks since it was first given five years ago. In recognition of his success,

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Provided by Ecole Polytechnique Federale de Lausanne

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