

## Community

# News from the European Optical Society

DOI 10.1515/aot-2014-0041

## SMETHODS free optical design training for SME engineers supported by EOS

During the last 2 years a European Support Action called SMETHODS has been carried out. SMETHODS is the acronym of “SMEs Training and Hands-on practice in Optical Design and Simulation” and its aim is to organize training sessions for European small and medium enterprises (SMEs) in the field of optical design. A longer introduction to the project has been published in *Advanced Optical Technology* Volume 2, Issue 3, Pages 207–208.

Optical design is no longer generally taught at European universities and consequently there is a huge demand for experts in this field. Whereas big companies often organize internal training or alternatively hire commercial trainers to educate their technical staff in optical design, SMEs often cannot afford this. A consortium of seven European academic institutes joined their expertise to organize training sessions:

TUD – Delft University for Technology, The Netherlands (Project Coordinator);  
 FSU – Friedrich-Schiller-Universität, Jena, Germany;  
 IOGS – Institut d’optique Graduate School, Orsay, France;  
 ITMO – Saint Petersburg State University of Information Technologies, Mechanics and Optics, Russian Federation;  
 VUB – Vrije Universiteit, Brussels, Belgium;  
 UEF – Itä-Suomen Yliopisto/University of Eastern Finland, Joensuu, Finland;  
 UPM – Universidad Politecnica de Madrid, Spain.

The content of the training sessions is arranged in four general topics:

1. Optical design for imaging systems.
2. Optical design for non-imaging systems.

3. Optical design of wave optics, micro-optics and laser systems.
4. Optical design for diffraction optics.

The sessions of 4 or 5 days were usually held in one of the partner institutes to minimize costs. It was found that sessions with a maximum of 15 trainees were most successful. As SMETHODS was funded by the EU, admission was free. However, in the case of overbooking, preference was given to the prime target group of employees of SMEs.

Topic 1 was concerned with what most people associate with the field of optical design, namely the design of imaging systems. This topic was indeed the most popular one, closely followed by topic 2 which addressed the newer field of non-imaging optics with applications in lighting and solar systems. Topic 3 focused on the design of beam shaping elements, polarization optics, propagation methods through optical systems and the design of laser systems. Finally topic 4 was dedicated to the design of small optical components of the order of the wavelength for which rigorous electromagnetic models are required. Topics 3 and 4 turned out to be very popular among PhD students.

The emphasis of the training sessions was always on teaching the principles of optical design instead of on promoting a particular software tool, as is usually done in commercial optical design training. In fact, several software tools were used in the same session in parallel and the preference for a particular tool expressed by the trainees was taken into account as far as possible. In several sessions, experienced optical designers from industry gave part of the hands-on training. The participation of these optical designers was highly appreciated by the trainees.

## “Excellent project” suggested for EOS support

SMETHODS was evaluated by the EU as an “excellent project”. The project was presented during the Photonics21 meeting on the 30 April 2013 in Brussels. Because of the success of SMETHODS the consortium of all seven participating universities decided to continue it as a self-financing activity after the ending of the support of the EU. It was decided to propose that the EOS Board would

continue SMETHODS under the umbrella of the EOS to emphasize the European scope and the non-profit character of the training. The Board will decide on this proposal at its meeting on Monday 15 September in Berlin. The consortium decided to continue SMETHODS with only little changes. In particular, experienced trainers from industry will continue to contribute. The difference with SMETHODS as a support action will be that a fee will have to be paid by the trainees to cover the costs. Furthermore, all applicants will be treated equally without preference for a particular category.

### **Registration for new courses coming soon**

For more information about SMETHODS please see the website [www.smethode.eu](http://www.smethode.eu). Calls for registration for new sessions will be published on this website soon. Once the EOS Board has agreed to make SMETHODS an activity of the EOS, a link to the SMETHODS website will be established from the home page of the EOS [www.myeos.org](http://www.myeos.org).

Paul Urbach  
President of the EOS