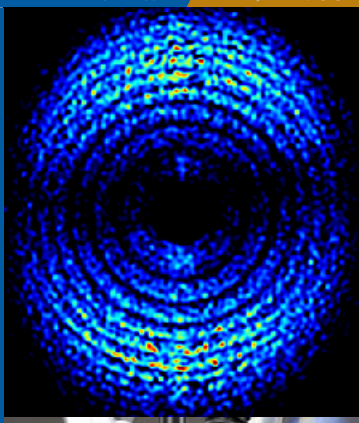

Lund university
P.O. Box 117
SE-221 00 Lund
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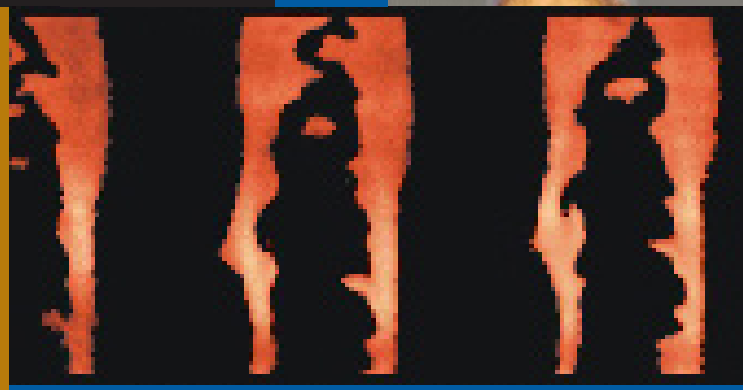
Photonics

▶ Engineering ▶ Communication ▶ Diagnostics



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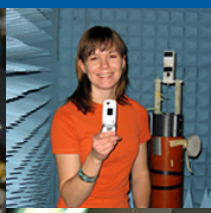
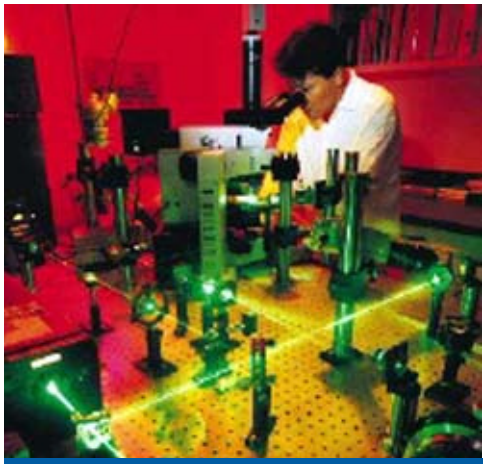


PHOTONICS
ENGINEERING COMMUNICATION DIAGNOSTICS

LUND UNIVERSITY



▶ PHOTONICS

Photonics is the science and technology of generating and controlling photons. The science of photonics includes the emission, transmission, amplification, detection, modulation, and switching of light.

Applications of photonics include light detection, telecommunications, information processing, illumination, metrology, spectroscopy, holography, medicine, laser material processing, visual art, biophotonics, agriculture, robotics, and defense.

We offer a programme in the three major photonics areas: engineering (generation & manipulation of light), communication (transport of information by optical & microwave techniques) and diagnostics (utilisation of light in industry, health care, etc).

Lund Laser Centre

This education programme is coupled to world-leading research activities in optics, lasers and their applications, performed at the Lund Laser Centre (LLC). LLC is the largest unit in the Nordic countries within the field of lasers, optics and spectroscopy, and a large scale facility of the European Union, part of Laserlab-Europe. LLC has recently been selected as one of the twenty best research environements in Sweden, getting a prestigious Linné grant.

The Programme

For students staying one year, we recommend two of the "engineering, communication, diagnostics" lines, or an appropriate combination of courses. There are also possibilities to be part of research and development projects at the Lund Laser Center and to get ECTS points for laborative work.

All the courses are "advanced" according to the Bologna classification, except for "Optics and optical design" and "Radio" which are introduction courses.

The courses "Optics and optical design", "Lasers", "Photonics and optical communication", and "Advanced optics and lasers" are based on the same book "Fundamentals of Photonics", by Saleh & Tech.

To follow this program, students should have a Bachelor in Physics, Engineering Physics, Electrical Engineering or the equivalent, corresponding to three years of University studies.

Diploma work

The programme also offers possibilities to do a 30 ECTS diploma project. To choose a project, the students will benefit from contacts with the Lund Laser Centre and with local industrial partners (Ericsson, Anoto, and spin-off companies like Opsis, GasOptics, SpectraCure).

Course package

PHOTONICS

www.photonics.fysik.lth.se

▶ Engineering ▶ Communication ▶ Diagnostics

Fall term 1	Fall term 2	Spring term 1	Spring term 2
▶ Engineering			
Optics & optical design 7,5 ECTS FAFF01	Lasers 7,5 ECTS FAFN01	Laser-matter interaction 7,5 ECTS FAFN05	Advanced optics & lasers 7,5 ECTS FAFN10
▶ Communication			
Electromagnetic wave propagation 6 ECTS ETE071	Microwave theory 6 ECTS ETE091	Photonics & optical communication 7,5 ECTS FAF095	Antenna technology 6 ECTS ETE100 Radio 6 ECTS ETI030
▶ Diagnostics			
Atomic & molecular spectroscopy 7,5 ECTS FAF080	Multispectral imaging 6 ECTS FAF141	Laser-based combustion diagnostics 7,5 ECTS FBR024	Medical optics 7,5 ECTS FAF150