

# Crosslight Software Tutorial on Optoelectronic Device Simulation

The tutorial gives an introduction to high-end simulation tools for electronic and optoelectronic devices (APSYS, LASTIP, PICS3D by Crosslight Software Inc., see [www.crosslight.com](http://www.crosslight.com)). These software packages combine electrical, thermal, optical, and quantum-mechanical models in two or three dimensions. They can be applied to a large variety of semiconductor devices such as laser diodes, light-emitting diodes, solar cells, photodetectors, modulators, amplifiers, and transistors. The tutorial explains and demonstrates the basic operation of these software tools. Model options and material parameters are discussed, and strategies for obtaining realistic simulation results are outlined. Deep insight into micro- and nano-scale physical processes is provided using realistic device examples.

## INTENDED AUDIENCE

Students, device engineers, and researchers who are interested in using advanced simulation software for designing and analyzing modern optoelectronic devices.

## COURSE LEVEL

Introductory

## COURSE LENGTH

Half-day (3.5 hours)

## INSTRUCTOR

**Joachim Piprek** has been using Crosslight Software tools for more than 10 years in design and analysis of practical devices. He has published three books on semiconductor device simulation, co-chairs the annual conference on Numerical Simulation of Optoelectronic Devices, and gives device simulation courses at universities and companies worldwide. Dr. Piprek is currently president of the NUSOD Institute ([www.nusod.org](http://www.nusod.org)).

## NOTE

Attendees receive a free Crosslight Software training license. To register for the tutorial, please send an e-mail with complete contact information to [piprek@nusod.org](mailto:piprek@nusod.org).