

Computational Electromagnetics for Photonics

SCOPE: This course reviews numerical and analytic techniques in the frequency and time-domains, and it includes some recent work by the instructors on, e.g., hybrid methods (use of different methods to solve different parts of a given problem) and (non-linear) materials modelling. The methods are illustrated by some specific case studies, e.g. micro-resonators, optimisation/synthesis, etc. Other generic problems and emerging trends are discussed.

BENEFITS AND LEARNING OBJECTIVES

This course will enable you to

- appreciate a range of numerical and analytical techniques;
- understand the basic principles of and motivation for computational photonics;
- understand the practical scope and limitations of some of today's algorithms.

COURSE LEVEL

Intermediate

INTENDED AUDIENCE

Students, postdocs., device engineers and researchers who are interested in an introduction to computational photonics.

INSTRUCTORS

Trevor Benson, Phil Sewell, and Ana Vukovic are members of the George Green Institute for Electromagnetics Research, University of Nottingham, UK.