Mathematical and Numerical Modeling in Optics

This workshop will bring together researchers interested in the mathematical and numerical modeling of optical phenomena, especially spectral problems arising in photonics involving dispersion relations and band structures, eigenfunctions, and scattering resonances. Specific areas of focus will include: (i) efficient computational methods for scattering and spectral problems and (ii) properties and optimal design of extreme materials and photonic devices. These problems arise in the study of photonic crystals and periodic media, diffraction gratings, metamaterials, graphene and related materials with Dirac points, and cloaking devices.