**Optics in Graphene and other 2D Materials**

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**Intended Audience:**

This course is intended for any scientists and engineers from academia and industry, interested in learning optical properties of graphene and other 2-dimensional materials. This lecture will also cover applications of graphene for optoelectronic devices.

**Benefits and learning objectives**

Upon completion of this course, the student should have an understanding of:

- Fundamental principles of band structure of graphene and the electronic transitions.

- Linear optical properties of graphene.

- How to control charge density on graphene and its tunable optical response.

- Synthesis of graphene and its integration with optical devices.

- Applications of graphene for optical modulators, detectors.

- Optics of other 2-dimensional materials.