In recent years, graphene has emerged as a potential material in optoelectronic devices ranging from optical modulators, photodetectors to saturable absorbers for mode-locking lasers. Significant effort has also been made to develop graphene-based materials and devices for biotechnological applications such as biosensors, drug delivery, cell imaging and detection.

The aim of this talk is to introduce the optoelectronic properties of graphene and possible applications to various devices. The devices covered will range from nonlinear optical devices such as optical limiters and saturable absorbers for mode-locking lasers, to graphene field effect transistors (FETs) for chemical sensing.