**Title**

Optical structure engineering for thin-film photonics

**Abstract**

Flow of light waves propagating inside an optical medium is affected by the light-induced polarizability and interfacial dipolar response of materials. In addition, since the light is electromagnetic waves of which governing equations are generally reducible to wave equations, the wave mechanics of light can be employed to design optical structures integrable on thin films. Here, I will introduce the concept of optical structure engineering of thin films, which has been a key ingredient in modern photonic technologies, for example, in developing thin-film waveguides and their applications to confine, direct, and modulate light waves for thin-film photonics. In this talk, I will present this approach using two examples that address challenges in on-chip light sources and waveguide dispersions.

**Reference**

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