Intersectional Symposium Artificial Optical Materials (SYOM)

lead by the Semiconductor Physics Division (HL)

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The past years have witnessed tremendous progress in micro- and nano-fabrication techniques and corresponding developments in modern spectroscopic tools and methods. In parallel, the theoretical description of wave propagation and light-matter interaction in complex photonic systems has seen comparable advances. Taken together, these elements provide a robust and mature platform that may be called Artificial Optical Materials which stretches across many disciplines such as physics, material science, and chemistry. Within physics, there are several sub- disciplines such as semiconductor physics, surface science, and quantum optics and photonics where artificial optical materials already play a prominent role and will become even more important in the future. It is the purpose of this symposium to summarize the current state-of-the-art in the quickly developing field of artificial optical materials and to discuss future directions from various viewpoints.

Overview of Invited Talks and Sessions

(lecture room HSZ 01)

Invited Talks

SYOM 1.1	Mon	14:30–15:00	HSZ 01	**Photonic Metamaterials and Transformation Optics: Recent Progress** — •Martin Wegener
SYOM 1.2	Mon	15:00–15:30	HSZ 01	**Keeping a tight focus on matter** — •Philip St. J. Russell
SYOM 1.3	Mon	15:30–16:00	HSZ 01	**The Physics of Photonic Crystals LEDs** — •Claude Weisbuch, Elison Matioli
SYOM 1.4	Mon	16:15–16:45	HSZ 01	**Using nanophotonic structures to overcome conventional limits in solar energy conversion** — •Shanhui Fan
SYOM 1.5	Mon	16:45–17:15	HSZ 01	**Plasmonic nanocavities: New design concepts and determination of the complete mode spectrum using electron-beam spectroscopies** — •Stefan A. Maier

Sessions

SYOM 1.1–1.5	Mon	14:30–17:15	HSZ 01	**Artificial Optical Materials**