
S E M I N A R
on
Semiconductor Physics and Nanotechnology

Mo, 22.05.2023, 11:15 Uhr,

**Seminar in
person in the Physics lecture hall or via Zoom**

“Dis/ordered photonic networks in insects”

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In the captivating world of nature, complex nanostructures grant butterflies, beetles, birds, and spiders their stunning visual displays. These photonic nanostructures exhibit varying degrees of local order, and their interactions with light determine the final appearance of these creatures. With diverse chemical compositions, these structures blend structural and pigmentary colors in unique ways. Insects, with their vast array of colorful displays, serve as particularly fascinating subjects. We present recent findings on insect species that showcase vivid colors by combining (dis)order and pigments. Employing light microscopy, FIB-SEM tomography, and FDTD simulations, we present and investigate into the mechanisms behind angle-independent color patterns and emphasize the significance of disorder in the creatures' final appearance. Our work demonstrates the intricate interplay between structural and pigmentary color, and thereby offers insight into the development of innovative optical materials. Indeed, there is much to learn from nature's mastery of color and light, particularly by imaging the metamorphosis of insects *in vivo*.

Zoom – Link:

<https://zoom.us/j/96375934537?pwd=RTIKTWWhSdzRHU211YTY1bGFxTUtpZz09>

[Meeting-ID: 963 7593 4537](#)

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