Tata Institute of Fundamental Research
Survey No. 36/P, Gopanpally Village, Serilingampally, Ranga Reddy Dist., Hyderabad - 500107

Webinar

Structure, Function and Evolution of Self-assembled Organismal Structural Colours

Vinod Kumar Saranathan

Yale-NUS College, National University of Singapore, Singapore

Colours can be produced either chemically by pigments, or physically, by interference of light scattered from biophotonic nanostructures. Such structural colours are ubiquitous in nature and frequently used in social and sexual communication, and crypsis. Using high throughput synchrotron Small Angle X-ray Scattering in a comparative evolutionary framework, I have structurally and optically characterized hundreds of biophotonic nanostructures that are overwhelmingly diverse in form and function. In this talk, I will summarise current knowledge about organismal structural colours in birds and insects and conclude with some preliminary results on the morphogenesis of biophotonic nanostructures and their biomimetic potential for inspiring next generation multi-functional technology.

Monday, Aug 3rd 2020

9:30 AM (Over Zoom)