



e-conversion



Seminarankündigung

**Dienstag, 25. Mai 2021
17:00 Uhr**

ONLINE via ZOOM

“Symmetries, quantum analogies and thermodynamics in optics and photonics”

Abstract: The prospect of judiciously using symmetries and quantum analogies has been actively pursued in recent years as a means to control the flow of light. In this talk, we will show that by harnessing notions from quantum field theories like parity-time symmetry and supersymmetry, it is possible to synthesize novel structures and devices with counter-intuitive properties and functionalities. Quantum inspired accelerating optical wavepackets like Airy beams with applications in microscopy, extreme nonlinear optics, and biology will be discussed. Finally, a thermodynamic theory of highly multimoded nonlinear optical systems will be presented.

Biography: Demetrios Christodoulides is the Cobb Family Endowed Chair and Pegasus Professor of Optics at CREOL-the College of Optics and Photonics of the University of Central Florida. He received his Ph.D. degree from Johns Hopkins University in 1986 and he subsequently joined Bellcore as a post-doctoral fellow. Between 1988 and 2002 he was with the faculty of the Department of Electrical Engineering at Lehigh University. His research interests include linear and nonlinear optical beam interactions, synthetic optical materials, optical solitons, and quantum electronics. He has authored and co-authored more than 430 papers. He is a Fellow of the Optical Society of America and the American Physical Society. He is the recipient of the 2011 Wood Prize and 2018 Max Born Award of OSA.

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