

## “A Critical Point of the Second Kind in Photonic Systems”

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### Abstract:

In this talk, let us introduce the ambitious challenge to observe a novel critical point in a photonic system, namely a critical point of the second point, where two loci of critical points merge. This endeavor involves an advanced combination of wave controlling tools and concepts. Main ingredients include light being peculiarly scattered when it hops on a three-dimensional (3D) superlattice of resonant cavities inside a 3D photonic band gap, called "Cartesian light". Further ingredients include critical phase transitions like the Anderson mobility edge and critical exponents that radically change when we enter a new universality class. Please fasten your proverbial seat belts as we try to guide you through this exciting adventure.