



2022 SPIE-MRSEC Seminar Series

Kamran Forghani

Next Generation of (Opto-)Electronic Materials: Manipulating Strain, Stability, Dimensionality



Wednesday, Feb. 16th, 2022

12:00 PM ~ 1:00 PM (CDT)

ITW Classroom (1.350)

Abstract: The technical aspect of this presentation will focus on the most efficient blue/UV LEDs and solar cells ever created. We present how engineering atoms in a bottom-up approach can boost the performance of such an opto-electronic device. Furthermore, the application of such revolutionary devices will be discussed in the fields of solid-state lighting and telecom, and space exploration. It

will be discussed how engineering such novel materials at atomistic scale will not only have huge scientific impact but also societal and economical impacts. In this talk, the Lab-to-Market journey is discussed with some specific examples mainly from the multi-disciplinary field of opto-electronic materials devices.

Bio: Kamran Forghani received his Ph.D. (Dr.-Ing.) from the Institute of Opto-Electronics at the University of Ulm in Germany (2012). He served as a Postdoctoral Research Scientist at the University of Wisconsin-Madison (USA) through a joint position at the departments of Chemical and Biological Engineering (CBE), Electrical and Computer Engineering (ECE). Currently, he is a Research Associate at the Department of Electrical and Computer Engineering (ECE) at Northwestern. He is also the founder of NanoSystems Laboratory LLC, a startup dedicated to realize the most efficient power conversion systems for defense, renewable energy, and e-mobility market sectors.

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