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He received his MSc and MPhil in electronics from the Quaid-i-Azam University, Islamabad, Pakistan. He received his Ph.D. in engineering science and mechanics from The Pennsylvania State University.

His research interests involve nanophotonics, semiconductor devices, bioinspired non-pigmented colored fabrics, and machine learning. He authored more than 30 journal and conference publications. He is the author of the book "*Theory of the graded-bandgap thin-film solar cells.*" He reviews well reputed journals, including *the Journal of Nanophotonics*, *Optik*, and *Journal of Physics: Photonics*.

Dr. Ahmad received multiple awards from the Department of Engineering Science and Mechanics at Penn State and the College of Engineering at Penn State including Dr. Paul A. Lester Memorial Award (2020), Fred A. and Susan Breidenbach Graduate Fellowship (2019), Robert A. Sebrosky Graduate Fellowship (2019), Longenecker and Associates Scholarship (2018), Robert A. Sebrosky Graduate Fellowship (2017), and College of Engineering award (2016-2017). He is also the recipient of the University Graduate Fellowship at Penn State (2016-2017).

*Dr. Ahmad's chief aim is to mitigate climate change and pollution through photovoltaic devices' efficiency improvement and bioinspired non-pigmented colored fabrics using his expertise in semiconductor device physics, computational modeling, optimization algorithms, machine learning, and device fabrication and characterization.*



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## Theory of Graded-Bandgap Thin-Film Solar Cells

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