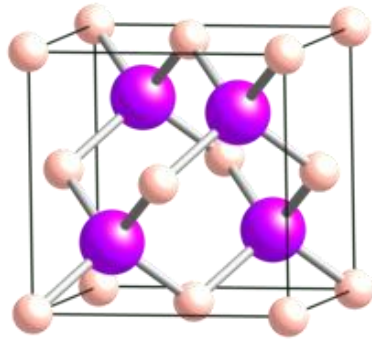


**IEEE Southeastern Michigan Presents:  
Distinguished Speaker Lecture on**

**“Cubic Boron Arsenide: Next Generation Semiconductors”**



Cubic boron arsenide (c-BAs) is an indirect bandgap (1.82 eV) semiconductor, it has a similar band structure as silicon, but its thermal conductivity is 10X higher and its carrier mobility is 3X larger at room temperature. This suitable bandgap, simultaneous high thermal conductivity and high carrier mobility have made c-BAs a promising material for next generation electronics, especially after recent experimental verifications of these excellent thermal and electronic properties. However, many challenges remain for c-BAs to realize its many promises. In this talk, I will first give a brief introduction to the history and basic properties of c-BAs, I will then explain its next-only-to-diamond high thermal conductivity. After that, I will show optical techniques that have been developed to measure thermal conductivity and carrier mobility. Finally, I will show photoluminescence and Raman spectra of c-BAs and discuss the challenges of using them to identify and characterize high quality c-BAs.

**Speaker Bio:**

Dr Jiming Bao is a Professor of ECE at the University of Houston, Texas. He graduated from the University of Michigan and is a Fellow of the Optical Society of America and American Physical Society.

**At A Glance**

- **When:**  
Date: May 14<sup>th</sup>, 2024  
Time: 06:00 – 7:15 PM (EST/EDT)
- **Where:**  
Online via Webex (to be shared only after you have a confirmed registration)
- **Audience: OPEN to ALL\***

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**\*Pre-Registration Required!**

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