



# *Distinguished* LECTURE SERIES

## **WAITING FOR ACT 2: THE FUTURE OF ORGANIC ELECTRONICS BEYOND OLED DISPLAYS**



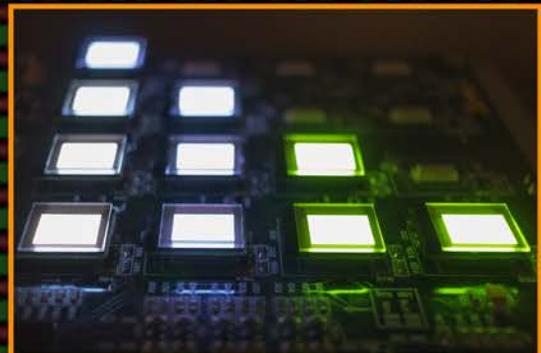
**ORGANIC  
LIGHT  
EMITTING  
DIODE**

**OCT 22  
2019  
11 AM**  
IN THE JUNKER CENTER

*OLED lighting*



*Organic solar cells*



*Multifunctional organic  
transistor-based circuits*

**Presented by:**

**Stephen Forrest**

Peter A. Franken Distinguished University

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# Waiting for Act 2: The future of organic electronics beyond OLED displays

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Organic light emitting devices (OLEDs) have catalyzed a revolution in the information display industry. Today, more than 35% of all mobile displays employ OLEDs, and TVs are emerging as a powerful new market. Indeed, OLED displays today constitute a rapidly growing, \$20 billion (US) industry. But what is next? Despite decades of promise that organic electronics will create an entirely new technological platform that will transform our lives, little of this dream has been realized beyond displays. In this talk, I will provide an overview of the current state of OLEDs, and the remaining deep technological and scientific challenges that remain in the face of this explosively growing industry. Then, I will take a look forward, and try to answer the question of what's next? Possibilities include OLED lighting, organic solar cells, and multifunctional organic transistor-based circuits. To address these topics, I will delineate what makes organic electronics special, and how its attributes create exciting new opportunities to finally realize its promise after 70+ years of basic and applied research.

## ABOUT

### Stephen Forrest

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B. A. Physics, 1972, University of California, MSc and PhD Physics in 1974 and 1979, University of Michigan. In 1985, Prof. Forrest joined USC and, in 1992, moved to Princeton University. In 2006, he rejoined the University of Michigan as Vice President for Research, where he is the Peter A. Franken Distinguished University Professor. A Fellow of the APS, IEEE and OSA and a member of the National Academy of Engineering, the National Academy of Sciences and the National Academy of Inventors, he has received numerous awards and medals for his invention of phosphorescent OLEDs, innovations in organic LEDs, organic thin films, and advances in photodetectors for optical communications. Prof. Forrest has authored ~600 papers and has 338

patents. He is co-founder or founding participant in several companies, including Sensors Unlimited, Epitaxx, NanoFlex Power, Universal Display and Apogee Photonics, and is on the Board of Directors of Applied Materials. He is past Chairman of the Board of the University Musical Society and served as Chairman of the Board of Ann Arbor SPARK, the regional economic development organization and is now on its Board of Directors. He has served on the Board of Governors of the Technion – Israel Institute of Technology where he is a Distinguished Visiting Professor of Electrical Engineering. Currently, Prof. Forrest serves as Lead Editor of Physical Review Applied and recently joined the Air Force Studies Board.