

Invited Letter: National Network for Microelectronics Education (NNME)

Keywords: NNME, SEMI Foundation, microelectronics, community colleges

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From Chip Blindness to Career Awareness in Microelectronics

Growing up, I was fortunate to be surrounded by people who nurtured my curiosity. My parents encouraged me to ask questions, and teachers continually opened doors I didn't know existed. My Uncle Jimmy (James Freeman), an electrical engineer, introduced me to the fascinating world of technology long before I understood how deeply engineering shapes our everyday lives.

Years later, as a doctoral student, I was introduced to the concept of *plant blindness* by botanist Dr. James Wandersee. He described how people often fail to notice the plants that surround them, despite their essential role in sustaining life on Earth. This idea has stayed with me because I see a similar challenge today. It is one I often call *chip blindness*.

Semiconductors power nearly every aspect of modern life, from our phones and vehicles to healthcare, agriculture, energy systems, communications, and national security. Yet most people rarely think about the tiny chips that make these technologies possible or the thousands of people who design, manufacture, maintain, and advance them. We depend on semiconductors every day without recognizing the remarkable workforce behind them.

Today, I have the privilege of serving as Director of the National Network for Microelectronics Education (NNME) at the SEMI Foundation and leading a national effort to strengthen America's microelectronics workforce. NNME brings together education, industry, workforce systems, and government to expand awareness, strengthen educational pathways, and prepare more people for rewarding careers in microelectronics.

Community colleges are central to that mission. They respond quickly to workforce needs, develop industry-aligned programs, and create accessible pathways for learners at every stage of life. NNME is designed to support and strengthen that work by connecting regional partnerships through a coordinated national network that shares promising practices, strengthens employer engagement, and helps scale successful programs across the country.

The opportunities before us are remarkable. By increasing awareness of microelectronics and connecting curiosity to careers, we can help more learners see themselves in this field and contribute to the technologies that shape our future. Community colleges will continue to play a critical role as engines of innovation, access, and workforce development. I encourage educators, industry partners, and workforce leaders to continue sharing their innovations through forums such as J ATE and to engage with NNME as we build a stronger, more connected national ecosystem.

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