ELECTRONICS RESURGENCE INITIATIVE
ERI SUMMIT
& MTO Symposium
2020 | Seattle, WA | August 18-20

WORKSHOP:
Security and Access - Reinventing Moore's Law through Desktop Manufacturing

PROGRAM MANAGER(S): Dr. Timothy Hancock, DARPA
Dr. Ronald G. Polcawich, DARPA

DATE: Thursday, August 20, 2020 | **TIME:** 2:15PM – 5:45 PM

DESCRIPTION

Moore's Law is defined by smaller transistors on bigger wafers to reduce the cost per transistor with the assumption that non-recurring cost is completely amortized away over the lifetime of a product. While the DoD has enjoyed the performance enhancement that smaller transistors have brought, the defense applications and other small volume, niche applications do not fit within these boundary conditions and would benefit from a different cost model where recurring cost was higher and production volumes much lower. This workshop will explore desktop manufacturing techniques that could apply device scaling in small volumes and to a broader set of devices than just digital CMOS. The workshop will begin by introducing and defining the problem, followed by several invited speakers from the field. The session will conclude with a program manager-led panel to brainstorm next steps and areas for potential investment.

AGENDA

2:15 PM	***Introduction*** Dr. Timothy Hancock, DARPA
2:30 PM	***Democratizing Micro and Nano Fabrication*** Dr. Mitchell Hsing, Inchfab, CEO & Co-Founder
2:55 PM	***Colloidal Nanocrystal Electronics*** Dr. Cherie Kagan, University of Pennsylvania, Professor
3:20 PM	***Ultrafast Pulsed Light Sintering of Thermoelectric Nanoparticles*** Dr. Rahul Panat, Carnegie Mellon University, Associate Professor
Afternoon Break: 3:45pm-4:00pm	
4:00 PM	***Directed Assembly-Based Printing of Monolithic Nano and Microscale Circuits*** Dr. Ahmed Busnaina, Northeastern University, Professor & Nano OPS, CTO
4:25 PM	***Selective Surface Functionalization via Two-Photon Polymerization*** Mr. Benjamin Richter, Nanoscribe, Sales Manager
4:50 PM	***Audience Questions and Panel Discussion with the Speakers*** All Presenters
Exhibit Hall Office Hours: 5:45pm-6:45pm	

QUESTIONS

Please contact the ERI Summit mailbox for more information following this workshop at ERI-Summit@darpa.mil.