

Doug Kirkpatrick, CEO, Eridan Communications

“System Reliability for Small Cells Enable 5G”

The enablement of the next-generation, 5G cellular network is driving a major shift from large, macro base stations to the many small cells that will form heterogeneous networks (HetNets) utilizing the copious amounts of bandwidth unlocked by global spectrum governing bodies for use in frequency bands extending well into the mmWave spectrum. This means there is a requirement to deploy many more pieces of equipment, each of which has the potential to fail. Extremely careful management of small cell design to optimize for reliability is required to make these HetNets practical to maintain. This talk will explore the makeup of a small cell with a particular focus on reliability. Special focus will be on the biggest impact design challenge: decreasing system operating temperature without the added reliability risk of active cooling measures. Critical system design parameters will be identified, and some solutions proposed for a few of the most challenging aspects of design and deployment.

Dr. Doug Kirkpatrick is the co-founder and CEO of Eridan Communications, Inc., a Santa Clara based company developing transceiver products for the next generations of wireless communications – 5G and beyond. Dr. Kirkpatrick is also a founding General Partner of InnerProduct Partners (IPP), a San Francisco based early stage VC firm, and the acting CEO of a very early stage startup in rare-earth-free permanent magnets based in Cleveland. Previous to InnerProduct Partners, from 2010-2013 he was a partner at Vantage Point Capital Partners, and from 2002 – 2010 Dr. Kirkpatrick was a Program Manager and Chief Scientist at the Defense Advanced Research Projects Agency (DARPA). In addition to his DARPA role he was simultaneously the Senior Technologist for Technology Productization for the Undersecretary for Acquisition, Technology, and Logistics in the Department of Defense. Prior to his tour at DARPA he was the VP for R&D at Fusion Lighting, a lighting technology startup in the Washington DC area, and before that a VP and Division Manager for Science Applications International Corporation, also in the Washington DC area. Dr. Kirkpatrick is a Fellow of the American Physics Society, a Member of the IEEE, and a Member of the Materials Research Society. Dr. Kirkpatrick holds a BS degree in Physics and Mathematics (1980) from the College of William and Mary and a Ph.D. in Physics from M.I.T. (1988). He is a named inventor on 16 US patents.