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Experience

Dr. Bingham is the group leader for the Imaging, Signals & Machine Learning Group at the Oak Ridge National Laboratory. In the twelve years he has been working at ORNL, he has been involved with many aspects of image processing for applications in industrial inspection and national security. In 2009, he received an early career award from the US Department of Energy for a 5 year program to develop high resolution neutron radiography capabilities using coded source imaging. Prior to this effort, he participated in and led a multi-lab initiative on air cargo inspection which investigated the application of a wide range of inspection techniques to the challenge of locating threats in air cargo. At ORNL, Philip has gained experience in development of systems and algorithms for radiography and computed tomography with both x-ray and neutron sources and development of holographic imaging systems and algorithms with applications in semiconductor wafer defect detection, mask inspection, ballistic matching, and cellular imaging. Previous to joining ORNL, he attended Georgia Tech and worked as a research assistant in the Computer Engineering Research Laboratory (CERL). In that role, he was involved in both the software and hardware development of custom computing systems ranging from parallel computing systems to custom ASICs. Philip's research interest is in the combination of image/signal processing techniques with unique sensor systems to develop new measurement capabilities.

Education

Ph.D. Electrical and Computer Engineering, Georgia Institute of Technology, Atlanta, Georgia, 1999.
Dissertation: The Effect of Message Length Distribution on the Performance of Fully Connected Switches.
M.S. Electrical and Computer Engineering, Georgia Institute of Technology, Atlanta, Georgia, 1991.
B.S. Electrical and Computer Engineering, University of Tennessee, Knoxville, Tennessee, 1989.

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Awards
- Oak Ridge National Laboratory Awards Night Finalist for Inventor of the Year Award for work in extending the Direct to Digital Holography portfolio, November 2003.
- National Federal Laboratory Consortium Award for Excellence in Technology Transfer, "Direct-to-Digital Holography for High-Speed, High Resolution Defect Inspection", March 2002.
- Oak Ridge National Laboratory Awards Night Recognition for Engineering Development by a Team for developing a first of a kind direct to digital holographic prototype wafer defect detection system, November 2001.
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