

EDS DL Mini Symposium

Invited Talk

Fundamentals and Opportunities in Printed/Flexible Electronic Systems

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Abstract:

Major developments in materials science have resulted in solution based electronic materials such as metal inks and organic semiconductors and dielectrics. In turn, these developments have enabled the use of novel techniques for the fabrication of electronic devices, such as printing and coating. These techniques have several advantages over traditional electronics manufacturing, including the ability to fabricate devices on any substrate and possible production in high volume roll-to-roll environments. However, the use of solution deposition techniques also has several limitations, chiefly in material purity and feature dimensions.

This talk will introduce the concept of printed electronics, outlining the opportunities and challenges in this field. This will be followed by an overview of common printing techniques used for electronics fabrication, describing the principles of the techniques and providing examples of their use.

Speaker's Biography:

Dr. Neil Graddage received the M.Phys. degree in physics from the University of Exeter in 2008, and the Ph.D. degree from Swansea University in 2013. He was a researcher with the Welsh Centre for Printing and Coating from 2012 to 2013. Since 2013, he has been a Research Officer with the National Research Council of Canada. His current research interests include printed electronics and carbon nanostructures, with a particular emphasis on upscaling and manufacturability.