

MAR12-2011-009309

Abstract for an Invited Paper
for the MAR12 Meeting of
the American Physical Society

George E. Pake Prize Lecture: Pulsed Laser Deposition and the Oxide Electronics Revolution

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The discovery of the Pulsed Laser Deposition (PLD) Process at Bellcore was followed by a stream of advances in the epitaxial growth of oxides and a variety of heterostructures and interfaces. Today Oxide Electronics is a fascinating field with a great deal of new Science and potential for applications. Following a discussion of these events, my talk will focus on the adventure involved in creating a new company, Neocera, and, at the same time, pushing ahead in the evolving field of oxide electronics. There, electron spin, pairing, and alignment to create superconductivity and magnetism have opened up new frontiers for research and materials development.