Bio

Dr. John A. Carlisle

Dr. John A. Carlisle is a co-Founder & Chief Technical Officer of Advanced Diamond Technologies. Prior to founding ADT in late 2003 he was a Physicist at Argonne National Laboratory from 2000-2006, and from 1996-2000 was an Assistant Professor of Physics at Virginia Commonwealth University. From 1993 to 1996 he was a postdoctoral research associate at Lawrence Livermore National Laboratory. He received his B.S. in Physics & Mathematics from Texas A&M-Commerce in 1986 and Ph.D. in Physics from the University of Illinois at Urbana-Champaign in 1993. Most of his work has spanned the basic-applied-commercial continuum in the area of nanostructured carbon materials, with particular focus on the synthesis and applications of ultrananocrystalline diamond (UNCD) thin films. He is a four-time R&D 100 award winner for UNCD-based product development, and Advanced Diamond Technologies was named a Technology Pioneer in 2007 by the World Economic Forum. He has authored about 130 publications in peer-reviewed journals.

Abstract

The past, present, and future of thin, smooth diamond (and how to be an entrepreneur and a physicist at the same time without losing your sanity)

Since ADT was spun out of ANL nearly ten years ago there have been many exciting advances in the science of CVD diamond films and products based on them. In this presentation I will highlight the progress that's been made in ADT and elsewhere with an emphasis on several future products we are developing for which considerable development work is ongoing. Work on biomedical implants, electrochemical electrodes for biosensing and water treatment, as well as wafer-scale fabrication of devices for thermal management and MEMS applications, will be highlighted. During my talk I will also comment on my own personal journey from scientist to entrepreneur and answer any questions the audience might have regarding the pros and cons of taking a technology out of the lab and into the market.