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Scanning Microscopies 2011: Advanced Microscopy Technologies for Defense, Homeland Security, Forensic, Life, Environmental, and Industrial Sciences

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Introduction

The Scanning Microscopies 2011: Advanced Microscopy Technologies for Defense, Homeland Security, Forensic, Life, Environmental, and Industrial Sciences (SCANNING) meeting brought microscopists from all aspects of scanning microscopies (from scanned optics and probes to scanned particle beams) together in a single forum to discuss current research and new advancements in the field. This year, the SCANNING 2011 meeting joined the SPIE Defense, Security, and Sensing 2011 (DSS 2011) conference in Orlando, Florida. On the surface this does not seem intuitive but the past SCANNING meetings have had a large forensics following which is strongly supportive of both defense and homeland security. Scanned microscopies are also key investigative and research tools in all three of the topics encompassed by the meeting, as evidenced by attending other presentations of DSS 2011. It became clear that scanning microscopies are used across the gamut of topics covered by this overall symposium and merging SCANNING with this symposium was an appropriate move for the future.

Spring conferences on scanning microscopy have a history going back to 1967 with the "IITRI Scanning Electron Microscopy" series started by Dr. Om Johari. Following Dr. Johari's retirement, the SCANNING series of conferences organized by Ms. Tony Bourgholtzer of the Foundation for Advances in Medicine and Science (FAMS), continued this tradition. Early in 2007, FAMS decided to discontinue sponsorship of future SCANNING meetings. Since the FAMS announcement, a substantial amount of work went on in the background to find a solution to keep the meeting alive. SCANNING 2009 was ultimately organized through SPIE (the International Society for Optical Engineering) and as a bridge to that meeting, a highly successful spring scanning microscopy meeting was held at the National Institute of Standards and Technology (NIST) in Gaithersburg, Maryland in 2008. Subsequently, SCANNING 2009 and SCANNING 2010 were held in Monterey, California but it became clear that it was advantageous for SCANNING 2011 to ally itself with a larger meeting. Thus, it became a part of the SPIE Defense, Security, and Sensing 2011 conference in Orlando, Florida. In 2012 the SPIE Defense, Security, and Sensing conference will move to Baltimore, Maryland where the scanning microscopies research and user base is quite large. We are highly optimistic about this change in venue.

The SCANNING 2011 conference was quite successful. Sessions encompassed papers covering forensics applications, scanning electron microscopy, helium ion microscopy; scanned probe microscopy, scanned optical microscopy and particle beam microscopy. In addition, the Particle Beam Interaction Workshop was held for the 17th year. This workshop has been responsible for the rapid development of accurate models for particle beam, microanalysis, and scanned probe microscopy. The Scanning Microscopy in Forensic Science Short Course was also offered for the 16th year and has proven to be valuable in the training of forensic scientists across the world.

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