



**Richard J. Genik II, PhD** is Director of Emergent Technology Research Division and Research Assistant Professor in the Department of Psychiatry and Behavioral Neurosciences at Wayne State University School of Medicine in Detroit, Michigan. His division runs three laboratories: Transportation Imaging Laboratory, concentrating on translating naturalistic interactions with motorized vehicle cockpits into research paradigms appropriate for study using advanced neuroimaging techniques, primarily functional Magnetic Resonance Imaging (fMRI) and Magnetoencephalography (MEG); Social and Cultural System Laboratory, concentrating on developing fMRI paradigms to measure subtle emotional reactions in cognitive tasks, and how these reactions are modulated

according to subdivisions of the population; and the Government Service Laboratory, a research entity concentrating on government applications of advanced neurofunctional technology. Dr. Genik recently served as a member and the technology subcommittee chair of the National Research Council's Committee on Neuroscience Opportunities for Future Army Future Application, and also served as Physics Consultant to the Chairman, Joint Independent Science Panel: Office/Undersecretary of Defense for Operations Research (DUSA/OR & Airforce ChemBio Defense & Bioterrorism / Homeland Security). Dr. Genik was previously a Special Advisor to the Chairman, National Academy of Sciences (NAS) Committee on Military and Intelligence Methodology for Emergent Physiological and Cognitive/Neural Science in the Next Two Decades, and has served as a consultant to various local and national organizations including the NAS Army Technical Assessment Board Neuroscience Group, the Vaitkevicius Magnetic Resonance Research, the Rehabilitation Institute of Michigan, and the Detroit Regional Institute for Clinical and Translational Research. He is an author on over 130 peer-reviewed publications, and several book and report chapters.

Prior to research in neuroimaging, Dr. Genik worked with the Department of Energy's Fermi National Accelerator Laboratory in Batavia, Illinois, where he was a resident member of the DZero Collaboration from 1992 to 2001. At Fermi, he developed real-time hardware and software data acquisition technology to analyze the simultaneous readout information from nearly a million electronic sensors in order to identify the 0.0001% candidate electromagnetic interaction events from proton-antiproton collisions that occurred 375,000 times per second. He also developed the software quality control system that verified performance of new online executables prior to release and successfully caught 100% of the errors in dozens of releases that occurred over a 26 month period of accelerator and detector operation. In addition, the approaches Dr. Genik developed in data mining and physics simulations are still in use today. Dr. Genik's contributions over these years were essential in the 1995 discovery of the top quark, his most cited publication. He concluded his work in experimental particle physics in 2001, travelling between Fermi and CERN in Geneva, Switzerland, working both on quality control of hardened silicon electronics for the 2002 restart of accelerator operations at Fermi (still ongoing in 2009), and planning for the ATLAS experiment at the Large Hadron Collider, set to begin collisions in 2009.

Prior to high-energy physics, Dr. Genik worked in physical chemistry research studying Raman spectroscopy using high-power pulsed, and low-power precision lasers (1986-89), as well as technology research in thin film high-temperature superconductivity of copper oxides (1988-91).

Dr. Genik earned a BS in Applied Physics from Wayne State, an MS in General Physics and a PhD in Experimental and Theoretical High Energy Physics from Michigan State University. He has also received post-doctoral fellowship support from CLRC/PPARC Rutherford Appleton Laboratory, Oxfordshire, United Kingdom, and McLean Hospital, Harvard Medical School.