The University of Florida Robotic Program for Advanced Reactors

James Tulenko, Emeritus Professor at University of Florida

Professor Tulenko was very fortunate on a timing basis to make a transition from reactor design to the utilization of Robotics and Remote Systems just as DOE was stepping up technology support for developing robotic solutions to DOE technical challenges. In spring of 1986 DOE offered research contracts for basic research on the use of Robotics in DOE cleanup activities at any University interested in proposing such research. Professor Tulenko, who had just transfer from head of engineering for B&W to Chair of the Nuclear Engineering Sciences Department at the University of Florida (UF), immediately proposed Development of Robotic systems capable of operating in radiation environments. DOE announced four University winners: University of Florida (Tulenko -PI), University of Michigan, University of Texas (Austin) and University of Tennessee. The four winning teams were called to Washington and told they could operate on an individual school three-year contract or they could come together as the University Research Program in Robotics assisting the DOE National Laboratories which would become a multiyear contract. The contract with the four schools was initiated in 1986 and was renewed through 2006, (20 years). During this period, Professor Tulenko was listed as an author on more than 54 Technical papers concerning Radiation technology for Robotic operation in radiation fields and was a true leader in the field. The Technology Tracking company (Academia.com) lists Professor Tulenko as being referenced 1,556 times in technical papers showing the interest in the technology developed. Professor Tulenko's research was focused on developing radiation hardening technologies for robotic systems for EM facilities cleanup. The UF robotics laboratory developed for this research included four operating robots which were used as platforms for testing and two radiation test chambers (cobalt and cesium), which can be monitored during operation and were used to demonstrate the benefits of the technology developed. During this period Professor Tulenko twice chaired the Robotics and Remote Systems Division of the American Nuclear Society, (1998 and 2013). In addition, over Professor Tulenko's tenure at UF there were 45 students who were funded and received degrees from the Nuclear and Mechanic Engineering program with a balanced focus between basic and applied research driven by DOE needs. Professor Tulenko continues to have an impact on the Robotic and Remote Systems through the ongoing contributions by his former students.