



MESSAGE FROM THE WORKSHOP CO-CHAIRMEN

It is with great pleasure that we welcome you to the 2002 KASSPER Workshop in Washington, D.C. This year's focus is on the impact of real-world clutter on space-time adaptive processing (STAP) for GMTI radars. Sensor systems are increasingly challenged with more complex clutter background. Current statistical methodologies attempt to characterize interference from the very same data used to detect targets. While sufficient in benign environments and less-stressing applications, this circa 1950's signal processing framework suffers enormously in the nonstationary and complex clutter environments associated with surface target engagement.

The genesis for this workshop is the DARPA Knowledge-Aided Sensor Signal Processing and Expert Reasoning (KASSPER) program. KASSPER aims to radically alter the fundamental "front-end" signal processing architectures through the real-time integration of intelligent signal processing and dynamic environmental knowledge – dramatically improving clutter and interference rejection while significantly enhancing sensor product accuracies. Briefings and discussions today will include knowledge-aided algorithms, environmental modeling, high performance embedded computing, plus test and evaluation of knowledge-aided adaptive signal processing.

DARPA and AFRL will jointly conduct a series of annual workshops to address the prior knowledge of complex clutter, intelligent signal processing algorithms, and real-time processing architectures for GMTI as well as other disciplines using adaptive processing techniques to isolate targets from clutter. To support the signal processing community awareness, DARPA is making available a simulated data cube containing targets in a stressing clutter environment. This data set is intended to provide a common reference point for discussion and will be supplemented with another set at each annual workshop. Additionally, DARPA is planning to make available a multi-phase center data collection at the April 2004 workshop.

Again, welcome to the 2002 KASSPER Workshop. We hope you enjoy your time in Washington and find the workshop insightful and helpful.

Dr. Joseph Guerci
Deputy Director, Special Projects Office
Defense Advanced Research Projects Agency

William J. Baldygo, Jr.
Technical Advisor
Radar Signal Processing Branch
Air Force Research Laboratory