



MESSAGE FROM THE WORKSHOP CO-CHAIRMEN

It is with great pleasure that we welcome you to the 2003 KASSPER Workshop in Las Vegas, NV. This year's focus is on the KASSPER architecture as an engine for the transformation of demanding multidimensional adaptive sensors systems. The challenges of real-world complex clutter and interference environments all but preclude conventional "fixed" algorithmic approaches. By incorporating a dynamic environmental knowledge database along with robust space-time filtering, a far more effective architecture emerges than any purely adaptive statistical algorithm. In particular five critical areas will be highlighted during this workshop: knowledge sources, knowledge-aided data pre-whitening, synergies between ownship SAR-GMTI, advanced HPEC architectures, and performance/military utility metrics. These key topics represent the "long poles" in the technology development path towards robust GMTI.

During the last year, significant progress has been achieved in DARPA's KASSPER program, and this workshop is an attempt to share that information with the sensor signal processing community. Because GMTI tracking performance is the final metric, Mr. Jon Jones, AFRL/IFEA, will open the second day with a detailed presentation defining the necessary performance for tactical grade tracking. Mr. Jones leads the "GMTI Exploitation Center of Excellence" and is a nationally recognized expert in GMTI tracking. In addition to DARPA and AFRL funded work, other organizations have continued their related work – some of which will be presented today and tomorrow. Because we could not accommodate all who wished to present, we strongly encourage discussions during the breaks and social events as yet another means of fostering community interaction.

DARPA and AFRL believe this series of annual workshops is necessary to address the development and real-time use of 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 released a simulated GMTI data cube containing targets in a stressing clutter environment at the KASSPER 2002 workshop. This data set provided a common reference point for discussion and will be supplemented with other sets at future workshops.

Again, welcome to the 2003 KASSPER Workshop. We hope you enjoy your time in Las Vegas and find the workshop insightful and helpful. Remember, KASSPER is the only opportunity in Las Vegas for the odds to be stacked in your favor.

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

Mark Novak
KASSPER Agent
Radar Signal Processing Branch
Air Force Research Laboratory