

DSTL

February 2011 – December 2003

Consultant: Algorithm Research, Design, Development and Implementation

- Research into multipath mitigation algorithms for complex waveforms. Using blind system identifications, higher order statistics and correlation methods.
- Development of a modified Bancroft algorithm to determine transmission positioning using Time Difference of Arrival.
- Clustering algorithm investigation with irregular background clutter using Affinity Mapping, Joint Factor/I-Vector Analysis and Gaussian Mixture Modelling to calculate maximum log likelihood associations for candidate feature vectors multivariate spaces.
- Paper on 'Low Cost Size Weight And Power Direction Finding via Interferometry' presented to 7th Electronic Warfare Symposium, Defence Academy, Cranfield University.
- Managed a small team to design, develop and implement an experimental RF direction finding system. Development of various forms of Eigen Structure algorithms, such as MUSIC and ESPRIT, implemented in Matlab; integration of an Ettus Research USRP SDR, local signal generators, amplifiers and filters into test equipment and the development of a Python GUI for use with the system.
- UAS flight path modelling and guidance project.
- Completed Core 1 & 2 of LabVIEW RF Application Development Course. Designed algorithms for OFDM Wi-Fi signal Direction Finding.