APL’s broad technology base is being recruited to help develop a variety of counterproliferation sensor systems as illustrated by (a) the portable suitcase bio-mass spectrometer, (b) an advanced portable chemical detection suite, (c) the MAGIChip bio-microarray, (d) a heating-ventilation-air conditioning pathogen neutralization system, (e) a buried ordnance detection and localization system, (f) the autonomous bio time-of-flight mass spectrometer system, (g) advanced gas chromatography mass spectral analysis, and (h) the metal-detecting robotic system being developed in collaboration with the Whiting School of Engineering.