DOD – James Murday

1. How does the DOD view its research agenda as it relates to the environment?
In so far as possible, the DOD seeks to conform to US and other national environmental standards.
The DOD has several efforts to address the environment, with emphasis on prevention, remediation and compliance – basic research programs such as the Environmental Quality program at ONR, more applied research such as the Strategic Environmental Research and Development Program (SERDP), and demonstration programs such as the Environmental Security Technology and Certification Program (ESTCP). All these programs are open to the best possible ideas; when nanotechnology provides those ideas, it will certainly be welcomed.

2. Can the DOD research program be applied to an environmental problem or possibly prevent an environmental problem?
The simple answer is yes. To cite several examples –

- The Air Force Research Laboratory has begun a pilot basic research program to look at the potential bio-effects of nano-energetic particles, in collaboration with DoE Oak Ridge National Laboratory.
- Starting in FY04, DOD plans to invest about $1M per year for five years in a Multidisciplinary University Research Initiative (MURI) program to investigate the interaction of nanomaterial and cellular responses. The research will study the effect and response of cells following its interaction with nanoscale particles, including the size, shape, charge, and composition of the nanoparticle and their influence on the cellular, sub-cellular, and biomolecular levels. Computational models will be developed that can reliably predict the cellular response, whether the nanoparticle is toxic or benign or neutral.
- DOD programs addressing the detection, protection and decontamination of chemical and biological warfare agents will almost certainly provide either new insights or new technology to address environmental problems.

3. Might the research cause an environmental problem?
The DOD research efforts, in themselves, are unlikely to cause a problem because of the small amounts of materials usually involved. As with all new knowledge born of research, there is the possibility for harmful as well as beneficial impact.