

June 3, 2008

TO: Colleagues at the Next Light Source Workshop

Dear Colleagues,

Welcome to Daresbury – home of the Cockcroft Institute, the Daresbury Laboratory and the Daresbury Science and Innovation Centre. I am aware that many of my friends and colleagues are present at this meeting. I regret that due to family travel commitment, I will miss saying hello and welcome you all personally, especially those of you traveling from around the world.

The workshop that you are a part of is a significant milestone for the researchers in the photon sciences throughout the UK and the world. Particularly, it is a major opportunity for accelerator and laser scientists to conceive something bold and yet responsibly so, within technical and fiscal reach associated with a high level of confidence. It will also have to be differentiated from existing facilities worldwide.

I have personally pledged my full support of the Cockcroft Institute and its stake-holding affiliated partners to the NLS project. Specifically, the Cockcroft Institute will fully support Jon Marangos (NLS Project Director), Justin Wark (Chief Scientist of the Photon Research Institute), Frances Quinn (NLS Project Manager), Richard Walker (Manager of the Photon Source Design) and Mike Dunne (Director of the Photon Sciences of STFC) in bringing about the best value in photon sciences in UK and globally, complementing the existing DIAMOND Light Source in areas where novel and exotic light pulses will show the way to new frontiers of science.

It is increasingly clear that for frontier science of the day, such a source will have to provide: a level of 'coherence' significantly higher than the existing low-emittance, high brightness synchrotron radiation sources both temporally and spatially; a reach into probing ultra-fast processes approaching femto- to atto-seconds by a combination of novel techniques; the most ambitious and brightest beam of electrons possible right from the source; suitable radio-frequency, linear accelerator, laser-plasma and undulator technologies with more than sufficient reach in the necessary energy, flexibility in pulse structure /shapes and peak/average fluxes; and highest attainable resolution in pulse synchronization schemes.

I wish the workshop leaders Richard, Jon and all of you the very best in a successful workshop that will get us started in the right direction. We have the advantage of standing on the able shoulders of many of you frontier designers who already have conceived the likes of LUX, BESSY-FEL, Arc-en-Ciel, 4 GLS, Laser-Plasma schemes, etc. Please enjoy the workshop and your brief but intense scientific interaction in this important venture.

With my best regards,

