

**Reflections on the Science and Technology Facilities Council (STFC)'s announcement on December 16, 2009 about its re-prioritised science programme**

*– Prof. Swapan Chattopadhyay, Director, Cockcroft Institute and Sir John Cockcroft Chair of Physics, Universities of Lancaster, Liverpool and Manchester*

“I was grateful upon receiving a direct telephone call from the STFC's Office of Science Programmes yesterday, December 16, 2009 around 13: 30 hrs, confirming STFC's continued commitment to the Cockcroft Institute till 2017 at the level announced in early autumn this year. This decision maintains the necessary sense of long-term stability and enhances the spirit of forward momentum. For the globally acknowledged team of international scientists and technologists at the institute, this signifies an acknowledgement and vindication of their contributions to science and society, as already pointed out by the international peer review of the institute early this year.

“It was also reassuring to read and learn in the official STFC Press Release, which went public at 14:00 hrs shortly after my conversation with the STFC programme office, about the increased focus on integrating accelerator science and technology by STFC at its Daresbury site. The Cockcroft Institute is privileged and derives immense benefits by having STFC's Daresbury Laboratory (and its ASTeC accelerator centre in particular) as a collaborating and founding stakeholder, equally matched to the academic stakeholders of the three primary and other affiliated universities since its foundation. Thus it is that we do not have an 'ivory tower' academic institute but one that is grounded in the realities of experimental laboratory infrastructure and facilities serving national and international aspirations in accelerator science and technology.

“After reading the STFC's published plans however, I am finding it very difficult to rejoice on this occasion -- I am deeply saddened. This is so since the plan, by design, cripples drastically the very sciences that our field of accelerator science and technology aspires to enable in the first place --- particle physics and nuclear physics being particularly affected at an alarmingly high level, with photon and neutron sciences being affected as well. The plan severely limits participation in international science projects, no opportunity on the horizon to join or create new facilities in UK or abroad, is constrained to barely able to pay the international subscriptions and has just limited enhanced operation of the two existing mid-sized facilities -- DIAMOND and ISIS locally in UK.

"I truly feel depressed that a shortfall of £55M in one particular year, coupled with other possibly very difficult financial and structural constraints in the system, has led to this supposedly robust decision by the STFC Council, following advice from its Science Board, that mortgages and stifles the nation's scientific potential significantly over the next decade. Given the disparity in the amount of shortfall and its long-term grave consequences, I question whether this was necessary or even the best possible plan forward in an admittedly difficult situation.

"First of all, I find it difficult to accept the reduced investment in the future generation which will determine' UK's place in science globally in future. Surely every little bit helps, but hurting the studentship by 25% will make UK pay in future in the vibrancy and health of its scientific standing. It is hard to deny that the skills base in the physical sciences that STFC supports will be vital in a large measure to address the critical global problems of the day in energy, environment, health and security. Aside from the skills base and the young minds necessary to affect change, I wonder how we can contemplate a science programme targeted at solving these problems directly, without the necessary sustenance of the fundamental science that motivates the necessary innovations in the first place, as witnessed historically.

"Of course I can always say callously that the shortfall is small change and could have been avoided , in comparison to other large societal transactions that we hear about such as maintaining 'warring' position with unfriendly nations, keeping our banks and financial enterprise afloat, sending yet another object that breaths to space etc. But the fact of the matter is that we have been hearing about this shortfall for the third year in a row in various forms. Not being within the system it is not my place to question the financial realities faced by the council, which I must accept as real.

I however cannot close these reflections without commenting upon and reporting, my observations, still as a relatively new import to the UK scene, on the science administration by its research councils in general but particularly by STFC. My arrival in the UK in April 2007 coincided exactly with the merger of the CCLRC and PPARC into STFC. While I followed the dialogues and discussions behind the rationale of this merger from USA as much as I could before my arrival, it is clearly evident today that this took place without a proper and robust business plan in the true sense of the term. This latter would have meant a thorough appreciation and comprehension of the remit of the new organization, its obligations to society and the scientific community both nationally and internationally and a well-founded grasp of the associated necessary costs with demonstrable early apprehension and negotiations. I even wonder whether the structure, organization and its deliverables are understood well enough to even define the qualities necessary for its true stewardship ..... a flawed grasp of the composer and the music to be played by the orchestra and the conductor does not lead to a symphony

harmonica! I am reminded over and over again the statement by Omar Bradley: 'we must learn to navigate by the stars and not by the light of every passing ship!'

“The Cockcroft Institute remains committed to working with our scientific colleagues in the UK and abroad, with national and international collaborators and funding agencies, UK Research Councils including STFC in deriving maximum value for the investment in the institute. It is my sincere hope that our aspiration to be an international exemplar in integrating academia, national facilities and economy under one umbrella in the Cockcroft Institute will also help the agency, at least peripherally as best as possible, to balance its range of different priorities, from international subscriptions to the management of large facilities and the distribution of grants, without affecting the future generations of ‘dreamers and doers’. As the American poet Carl Sandberg said: ‘Nothing happens unless first a dream!’”