letter

The Leeds/Bradford/Durham IRC in Polymer Science and Technology

The initiation of the Interdisciplinary Research Centre (IRC) in Polymer Science and Technology will be of some interest to readers of *Polymer*, and this article is intended to give an indication of its objectives together with some informal impressions of the present state of play.

Although IRCs are inevitably the subject of controversy, the possibility of an IRC certainly stimulated the polymer community and several contending groups put their bids in to SERC. The perception that the IRCs do indeed represent extra money, and hence are a good thing for the scientific community does appear to have been borne out. There are no indications so far that either polymers or materials in general will be disadvantaged by having an IRC. On the contrary, the Leeds/Bradford/Durham IRC intends to help other groups wherever this is possible, so that the new resources will be utilized to the optimum extent.

Although setting up an IRC represents some inevitable dislocation of activities, in our experience this has been more than outweighed by the enormous stimulus of initiating new programmes of research and interacting with a much wider range of colleagues than had been possible hitherto. Although it will be several years before the effectiveness of the IRC can be assessed, the short-term benefits in terms of new research interests and more positive interactions between colleagues with different but complementary disciplines in other universities are already with us.

It appeared to our consortium from Leeds, Bradford and Durham that the IRC would require a significant infrastructure for the management of resources to prevent the academic staff from being unnecessarily diverted from their research, which was, after all, the main purpose of the exercise. We felt that this was particularly desirable for a three-centre IRC on three different university sites. In the event, we have been extremely fortunate in assembling a smooth running management structure, led by an experienced Assistant Director/Management Co-ordinator. The management team interacts strongly with the relevant university administrations and underpins the scientific activities. Our overall view that an IRC in Polymer Science and Technology needed a very wide range of experience and ability, much more than a single university could have drawn together, has been totally vindicated. Moreover, the three-site operation, far from being a disadvantage, has added very positive stimuli in both scientific and organizational terms.

Our colleagues in the three universities must have had initial qualms about the diversion of resources required to set up the IRC. It is particularly important to emphasize that the contribution of the three universities to the IRC is very substantial in terms of secondment of academic, technical and secretarial staff, space and support for existing research programmes in terms of capital expenditure and running costs. We naturally took particular trouble to safeguard our new IRC colleagues' interests, and this has been amply repaid in terms of co-operation and support. A very important concession, which SERC has agreed to, is that the full-time IRC staff should still undertake limited teaching. This teaching makes a vital contribution to the teaching of polymer science and technology in the three universities, and has helped to offset serious problems in Leeds Physics due to the considerable increase in undergraduate numbers. We see the teaching role of the IRC as extremely important, and have set into operation new teaching programmes for our postgraduate students and Research Fellows.

The research programmes of the IRC were finally brought together, following the SERC Panel visits with the express intention of satisfying the following criteria.

1 They represent new research, building on our existing experience, but not duplicating or merely extending existing research programmes.
2 The research should be genuinely interdisciplinary, linking chemistry, physics and engineering.
3 The research should bring together complementary interests at the three universities, fusing the separate groups into a highly tuned responsive single group.
4 Because physics and engineering have been comparatively well organized in the UK, there should be an emphasis on chemistry-led programmes.

Essentially we regard the IRC research programme as akin to a large new rolling grant, embracing many aspects of polymer science and technology, but with chosen themes many of which involve innovative chemistry for new materials, to be developed in collaboration with polymer physics and polymer engineering.

Although the IRC already has extensive interaction with industry, through collaborative research programmes, SERC CASE studentships, personal consultancies etc., we have formed an IRC Industrial Club to strengthen and extend the links with industrial concerns with whom we already have realistic substantial collaboration. We are determined that the IRC programme *per se* will remain in the public domain but nevertheless, it is regarded as essential that pure and applied research should go on side-by-side. For example, we will continue to develop prototype engineering processes as has been done in the past for high modulus polyethylene fibres and die-drawn pipes. The licensing of inventions not only provides valuable income for the universities, but also produces a very real interaction with the industrial sector, and serves to sharpen our perception.

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