

## Newsdesk

### ICOP 98

The International Congress of Ophthalmic Photographers (ICOP) was held at the Royal College of Physicians of Edinburgh (September 1998) and was attended by delegates from many countries with strong representation from the Ophthalmic Photographers Society (USA), the Japanese Ophthalmic Photographers Association, with the British Ophthalmic Photographers Association as hosts. This lively meeting had several highlights showing new developments in technology and in particular their application to fundal and anterior segment disease. Of special interest was a summary review of the results of the UKPDS (see Newsdesk, *BJO* 1998;82:1106) highlighting the special importance of both glucose control and hypertension management in the prevention of progressive retinopathy. In addition, some other very interesting data concerning reduction in stroke risk and albuminurias were presented. Discussion of the results, particularly with regard to the predicted preservation of vision by laser treatment suggested that the risk benefit for sight was not as good as it should be but the reasons for this are at present unclear. However, the great value of photographic recording and grading of retinopathy was emphasised and the main conclusion of the study design was that quantitative methods for sensitive reading of fundus pathology are needed.

Other highlights included a demonstration of the new hand held retinal camera (RetCam) which is currently in use in remote monitoring via the internet, of retinoblastoma in children (see Newsdesk, *BJO* 1998;82:987) and has potential value in detection and monitoring, retinopathy of prematurity. This remarkable instrument is very easy to use and has a wide field of view (over 120 degrees) such that with appropriate positioning the entire fundus as far out as the ora serrata can be imaged. Indeed, the use of the internet for transmitting information and especially images was fully discussed and, in general, this development was recommended. There is no doubt that the world of ophthalmic photography and imaging in general has been transformed from the time of the first successful attempt at producing a fundus photograph in 1887.

### Policing research in the UK

It seems contradictory that there should be a need for a system of monitoring research conduct since it begs the question of why research is done in the first place and what those who engage in misconduct expect to achieve through their misbehaviour. After all the test of time usually regulates whether a piece of research is of value or not. Be that as it may, the issues of research misconduct and fraud in particular continue to capture headlines in the scientific press. Now the Committee on Publication Ethics (COPE), established over a year ago by group of medical journal editors to discuss and advise on such issues, suggests that the scientific community in the UK would benefit from an agency similar to that currently functioning in the USA which goes under the somewhat pious name of the US Office of Research Integrity. Why is such an office necessary? It appears that COPE has

unearthed a worryingly large amount of misconduct including research fraud, fabrication of data, plagiarism, redundant publication, undeclared conflict of interest, and interauthor dispute. Driving this issue is the public interest and, in particular, responsibility to the public, not merely as an academic problem but because of the implications for public health and health care generally. Apart from the obvious implications leading from publication of false claims—for instance, with regard to drug safety or factual inaccuracy on screening, the responsibilities of reviewers in providing unbiased opinion on competitors' research and even less obvious "sins of omission", such as the importance of researchers making the effort to report their data after undertaking the research should be considered in this broad ranging field.

The major difficulties lie in providing means for the proposed agency to be effective in its policing efforts and this necessarily raises many legal issues. While some believe that it is not possible for universities or research institutes effectively to monitor the activity of their employees, it is also essential that these bodies are fully integrated into the process in a proactive manner.

### Artificial chromosomes for mammalian cells

Artificial chromosomes can be constructed from "off the shelf" components. Yeast artificial chromosomes have been in use for many years and have proved extremely useful to researchers in genetic studies, including human gene mapping, since they can be manipulated in the presence of the normal cellular genomic organisation without leading to cell dysfunction. Now researchers in Britain and Japan have constructed artificial chromosomes for mammalian cells which appear to be stable and remain intact after cell division. The value of such structures for the biotechnology field where whole sets of genes can be included in cells for study and harvesting of gene products is obvious. In addition, the physiology of chromosomes themselves and the factors which might affect their stability and regulation can be studied using direct manipulation.

### Research assessment exercise

The four to five yearly audit of research activity and output is fast approaching for the academic community in the UK. In essence, all university departments are invited to submit a specified and limited portfolio of their achievements in terms of grants obtained and research papers and are judged by a panel of their peers appointed through the government and research councils. Individual departments are normally grouped within units of assessment and have the opportunity to vary their submission in terms of proportion of staff submitted for evaluation and areas of research covered.

This wide ranging exercise has important implications for researchers individually and for universities as a whole since the level of funding meted out to the universities is largely determined by the research assessment exer-

cise rating. The procedure has evolved over the years to the point where the original five grades (one being lowest and five being highest) have been subdivided into seven or eight grades depending on such factors as star potential—for example, a unit of assessment might only rate 3b on the scale overall but some departments within that unit may be "starred". The system has repeatedly come in for criticism and it is likely that further refinements will occur—for instance, the question of whether departments should be required to submit a minimum proportion of their staff in order to achieve equality. Are the categories of assessment sufficiently diverse or sufficiently broad? Are universities playing the system by engaging in a football style transfer market in order to upgrade their status for the assessment? Although the next research assessment exercise is some time away, already universities are preparing for it as only published papers and papers in press will be considered.

### Eradicating dormant bacteria

A persistent problem in control of infection is dormancy. Since most antibiotics act on micro-organisms only during their growth phase many organisms which lie dormant—for instance, on the skin or mucosal surfaces, escape eradication and can take up to 6 months to clear. A good example of this problem is *Mycobacterium tuberculosis* which can remain dormant on carriers for years and is estimated to occur in at least one third of the population causing illness. Researchers at the University of Wales, Aberystwyth, have identified a cytokine or growth factor for *Mycobacterium luteus* which can wake up sleeping bacteria and appears to be active also with mycobacteria. This small protein has exciting potential for drug development so the researchers believe.

### Update on xenotransplantation

The continued shortage of donor corneas for transplantation might in time be solved by the use of xenotransplants, or so recent research has predicted (see Newsdesk, *BJO* 1998;82:341). However, the current moratorium on xenotransplantation in humans is not likely to be lifted in the near future although the government has now set out guidelines for such trials. The main difficulty is ensuring that transmission of retroviruses from animals to humans does not occur. The species most often considered for xenotransplantation at the present time, the pig, is thought to be sufficiently remote in the evolutionary tree to minimise risk of retrovirus transmission. Extensive study of pig pancreatic islet transplants to human diabetic patients has also failed to reveal any evidence of pig virus DNA or antibodies in the patients' blood or of the viral reverse transcriptase enzymes. These are encouraging signs and have led to predictions that solid organ xenotransplantation will be performed in humans within 5 years. Already there is considerable research into corneal xenotransplantation in animals and it has been suggested that the first human corneal xenotransplant is only a matter of time, particularly since the cornea with its immune deviated status offers a better chance of success over other solid organ transplants.