

mances, costs, safety, etc. Information is also available on the Internet. A number of seminars are held to inform the specialists. A large number of scientific and technical papers are published on PFBR. Many visitors are taken around the nuclear facilities to learn about the role of nuclear energy, including safety. IGCAR is ready to discuss PFBR-related issues – the need, safety, technology and economy on any platform. For the first time in the country, a public hearing was held in July 2001 for obtaining clearance

to a nuclear power plant, i.e. PFBR. Therefore, it is wrong to say that it is being done in secrecy.

With regard to the Fast Breeder Test Reactor (FBTR), one needs to recognize that the fuel material and core configuration were modified successfully, when it became clear that the highly enriched uranium needed for the reactor would not be available due to political constraints. The indigenous plutonium–uranium carbide fuel has successfully attained a burn up of 92,000 MWd/t as against the origi-

nal design target of 25,000 MWd/t. The reactor has met its technological targets. The fact that even this very advanced technology reactor was built with 80% expenditure within the country should be a matter of pride for any Indian.

S. B. BHOJE

*Indira Gandhi Centre for Atomic Research,  
Kalpakkam 603 102, India  
e-mail: dir@igcar.ernet.in*

## Choosing research guides

In recent times there had been much correspondence in these pages discussing ways and means to attract students to science<sup>1,2</sup>. I want to draw attention to the next level – sustaining the interest of students and producing successful scientists. This is not only a problem of India, but of international dimension.

The required passport to the career of a scientist is a Ph D degree. For that, students register themselves in a research laboratory/university. The problems start with the selection of guides (research supervisors). Each prospective student has to choose a research supervisor to guide him through his dissertation work. This in many cases, is not by choice. If the student is lucky, like Barres<sup>3</sup>, he/she, would end up saying 'Mentors (*and I add research guides*) are made in heaven'. The general situation however, is as des-

cribed by Lawrence<sup>4</sup>. The student simply toils and if he really is a genius, his supervisor enjoys the fruits. Situations akin to those in the case of Barres are difficult to get.

The student's choice depends on job opportunities (the label of the guide helps here), fellowships available and the behaviour of the guide towards his students (this experience is distributed free of charge by the senior students). It is not necessary that even if a student gets a guide of his choice, he will really be able to get guidance from him. While, at the department level, more often than not, all the prospective guides of department sit together and distribute students among themselves, there are situations when the students are distributed through lottery. It often happens that a student is pushed into a field in which he/she is not interested.

Is it not time to think about the situation and devise a methodology, such that we generate scientists who are experienced and interested to continue research for the sake of science?

1. Virk, H. S., *Curr. Sci.*, 2002, **82**, 1308.
2. Unnikrishnan, M. K., *ibid*, 2002, **82**, 1195–1196.
3. Barres, B. A., *Nature*, 2002, **416**, 365.
4. Lawrence, P. A., *ibid*, 2002, **415**, 835–836.

E. V. DIVAKARA SASTRY

*Department of Plant Breeding and  
Genetics,  
S.K.N. College of Agriculture,  
Rajasthan Agricultural University,  
Jobner 303 329, India  
e-mail: evd\_sastry@yahoo.com*

## Some issues related to application procedure

A couple of issues relating to the application procedure have been raised recently in *Current Science* (see, for example, Subir K. Sen, *Curr. Sci.*, 2002, **82**, 245–246). One such issue is the attesting procedure. The attesting business is not only a burden for the attestation-empowered officers, but also a nuisance for the applicants. Those residing in far-flung rural areas have to struggle hard to find one such officer who can oblige by

putting his signature on a few xerox/true copies. Even in the cities, we face a lot of problems. Attestation of a document may generally take one day. A close look at this attestation business reveals the worthlessness of what is involved. In almost all the university hostels/student delegacies, we can find ready-made stamps of a number of authorized officers. These stamps are used freely whenever needed. The candidate presumes that unless the

statements being made are found false, the attestation will never be verified. I too feel that this is a distant possibility. So he puts some fake signatures freely. Without repeating Sen's views, I would like to make a few suggestions.

1. Self-attestation by the candidate for the contained information be made legally valid, unless and until some extraordinary need arises for getting true

originals verified by other authenticated persons.

2. It is normally observed that the application forms are of as many types as the number of agencies seeking applications. Let us evolve a consensus on the contents of a bio-data/application format. Once the bio-data structure becomes uniform, the chances of misrepresentation of facts will be minimum. There will be

minimum trouble to the applicants too and verifying authorities as well.

The issue of acknowledgement/regret letters was raised by Divakara Sastry (*Curr. Sci.*, 2002, **82**, 611). In this context, I would like to suggest that a standard acknowledgement card be made mandatory to be enclosed with each application. Accordingly, once the appoint-

ment procedure is finalized, a regret letter can be issued to the not-so-lucky candidates.

MANISHA PANDEY

*C/o V. Pandey,  
Parbati HE Project,  
NHPC, Bhuntar,  
Kullu 175 125, India*

## NEWS

### Mathematics prizes

The four-yearly Fields Medals (the mathematician's equivalent of the Nobel Prize) and the Nevanlinna Prize were awarded on 20 August 2002, at the opening ceremony of the International Congress of Mathematicians, held in Beijing. The Fields Medals went to Laurent Lafforgue of Institut des Hautes Etudes Scientifiques in Bures-sur-Yvette, France and to Vladimir Voevodsky

of the Institute for Advanced Study, Princeton, NJ, USA. The Nevanlinna Prize was awarded to Madhu Sudan of the Massachusetts Institute of Technology, USA.

The work of Lafforgue is on the so-called Langlands programme, which concerns certain deep connections between number theory, analysis and group representation theory, while that of Voevodsky

is on 'motivic cohomology' (algebraic geometry). Madhu Sudan has worked on non-approximability of optimization problems and coding theory.

Madhu Sudan graduated with a B Tech degree from IIT Delhi in 1987. Both Lafforgue and Madhu Sudan are Adjunct Professors of the Tata Institute of Fundamental Research, Mumbai.

### Human brain bank at NIMHANS

A Repository for Human Brain Tissue is available in the form of a brain bank at the Department of Neuropathology, National Institute of Mental Health and Neurosciences (NIMHANS), Bangalore. This is a national facility jointly funded by the Department of Science and Technology, Department of Biotechnology, Indian Council of Medical Research and NIMHANS.

This brain bank collects, preserves and provides fresh human tissue for researchers, especially those in the field of neurosciences, with particular relevance to degenerative diseases, psychiatric diseases, neurobiology and neuroinfection. Research in these areas requires use of both animal models and human brain tissue for understanding several brain functions and disorders.

The genesis of this repository was in 1984, after a meeting in Bangalore

considered the overall direction of neuroscience activity in the country. One consequence of this meeting was the finding that although neuroscience research was spread all over the country, there was little interaction among various branches pertaining to neuroscience research. The Repository for Human Brain Tissue was then set up at NIMHANS in 1995.

The protocol followed at the brain bank in NIMHANS is to collect brain tissue following informed consent of close relatives. Brain tissue is collected after death, from people who had either suffered neurological diseases or after-accident trauma but are free from neuro-psychiatric disorders, with the latter serving as normal controls in research. The post-mortem time for collection ranges between 4 and 24 h after death. According to Shankar and Mahadevan of the Neuropathology Department at NIMHANS, 'one half of

the fresh brain from neurodegenerative and psychiatric disorders is frozen at  $-70^{\circ}\text{C}$ , while the other half and brains from infective conditions are formalin-fixed, which can be used for pathomorphological studies'<sup>1</sup>. Brain and tissue fluids such as serum and cerebrospinal fluids are also collected and preserved. Shankar is the project coordinator of the brain bank which is run as a non-profit facility.

An example of scientific work carried out utilizing the material collected at the brain bank is that from the laboratory of Vijayalakshmi Ravindranath, National Brain Research Centre, Gurgaon<sup>2</sup>, which has been conducting research for over a decade now on the topic of drug metabolism in the human brain. This is an area of research which has evinced keen interest for the role that the brain plays in drug-detoxifying capability and its rela-