

## Teaching in universities

Apropos the editorial in *Current Science*<sup>1</sup>, wherein the point was made regarding young researchers wanting to focus on research rather than on teaching, I would like to enumerate a few problems that a university faculty encounters:

(1) Pay disparity: To begin with there is a pay disparity between the universities and the research institutes as though the university faculty are second-class citizens, even though the universities and colleges train the manpower in this country.

(2) Promotion: The promotion opportunities in universities are abysmal. The recent revisions in promotion policies ensure that an Assistant Professor has to serve 12 years before being promoted to Associate Professor. Most of the faculty who join after completing postdoctoral fellowship are in their mid-thirties. By the time they become Associate Professors they are in their mid-forties, while their peers in other institutes have already become professors.

(3) Funding: Most universities do not have any intramural funding. Additionally, there are no or very little funds to set up a laboratory. Most of the newly recruited faculty wait for at least one year, if not more, to start their research work. In fact some wait for even longer periods as laboratory space may not be available, grants are not forthcoming, etc. The research work done in the universities is totally dependent on extramural funding.

(4) Awards: Finally, awards are given by the Government of India to promote scientific excellence. However, to be eligible for awards we need to publish. Given the teaching load and the lack of funding support, researchers in the universities find it difficult to compete with their peers in the institutes. Needless to say most of the awards are given to researchers in the institutes.

(5) Lack of administrative support: The university administration is extremely unsupportive of the research programme.

It does not understand the concept of a PhD programme and often forgets that the programme can neither be run on the contingency given to research scholars nor on the meagre laboratory running expenses is provided to the faculty.

These are just a few of the problems that I have enumerated. Until universities are strengthened as an attractive workplace on par with the institutes, our young researchers are going to seek out research institutes and not pay attention to teaching.

---

1. Balaram, P., *Curr. Sci.*, 2012, **102**, 953–954.

---

ROHINI MUTHUSWAMI

*School of Life Sciences,  
Jawaharlal Nehru University,  
New Delhi 110 067, India  
e-mail: rohinimuthuswami@gmail.com*

## Physiology and engineering

The recent editorial by Balaram<sup>1</sup> on interdisciplinary research brought back several memories of my association with engineers. I was looking for a small 5 cm bath for recording the contractility of a frog muscle in the physiology laboratory at Christian Medical College, Vellore. D. Suresh from IIT Bombay visiting us at that time picked up a disposable plastic syringe lying there, cut off the front portion, plugged the opening with a cork and gave it to me saying 'here is your bath'. Watching me use the smoked drum for recording, he made a force transducer and resuscitated the polygraph. This electro-mechanical device has been acquired by almost all the medical colleges and majority of them are languishing primarily due to lack of interest on the part of teachers of physiology! I thought that the acquisition of computers will change this attitude because you

have a tool that can be readily converted into an oscilloscope to record any parameter with suitable transducers – if only you can persuade an engineer to help you out.

Later when I moved to Kasturba Medical College, Manipal, I wanted to look at the shrinkage of a section of the aorta under the microscope, when a drop of adrenaline is added. G. Ramesh heading the Biomedical Engineering Department at Manipal Institute of Technology, Manipal, placed a small camera on the eye piece and connected it to the computer. With a special software written by him, we could take a series of pictures at short intervals and merge them to find the aorta contracting in response to vasoconstrictor agents.

It is high time that departments of physiology in India realize that unless they have the help of engineers they can-

not do any experimental research. This is not too difficult a task. For, there are at least three engineering colleges close to each medical college in South India. If students of engineering can build satellites or design racing cars, I am sure that with proper encouragement they can build devices to monitor the activity of a cell or a membrane. It is time that physiologists extend their hands and build friendships.

---

1. Balaram, P., *Curr. Sci.*, 2012, **102**, 1345–1346.

---

J. PRAKASA RAO

*Department of Physiology,  
American University of Antigua Medical  
College,  
Antigua  
e-mail: JRao@auamed.net*