

## CSIR/UGC (NET) exams suppress research enthusiasts

Nowadays, clearing the NET, SLET exams conducted by UGC, CSIR and state universities is a must for joining as a lecturer, teaching assistant or a research fellow in universities or colleges. Why are these exams considered as an important eligibility criterion for these vocations? The percentage of students clearing these exams is small. The reason for this state of affairs is because the syllabii of NET/SLET exams comprise the entire UG and PG level syllabii of botany, chemistry, zoology, microbiology, biotechnology, biochemistry, physics,

mathematics and computer science. But candidates writing the CSIR and UGC exams study only one subject as major in UG and PG level. Ninety per cent of the PG candidates do not clear the CSIR and UGC exams. Are they then not fit for research? Present day scholars may be thorough in one particular subject and may have many innovative research ideas. So filtering those who have not cleared UGC exams will lead to loss of research enthusiasts. Hence research institutes, universities and colleges should also consider candi-

dates who have not cleared these exams. They should be selected for lecturers' posts and Ph D courses based on research experience, method of teaching, research knowledge, interest in research, way of communication or by conducting tests in basic sciences and their major subjects.

S. NILAVU

*Department of Biotechnology,  
Thiagarajar College,  
Madurai 625 009, India  
e-mail: micro\_moon2003@yahoo.co.in*

## The American patent model

The editorial 'Patents, Laws and Science' by Balaram<sup>1</sup>, motivates a deeper look into the relationship between science and society. His concerns are captured in some key phrases such as 'property rights', 'aggressive monopoly', 'corporatization of universities', and the 'US patent system model'. These concerns extend beyond pharmaceuticals into natural resources and the environment.

Although patents and copyrights have existed for centuries, they have assumed magnified importance within the American business model, which believes in unlimited freedom to make profit, aided by fierce market competition. The sheer volume of the American business places tremendous pressures on other nations to conform to the American model. However, accumulating evidence from the earth and biological sciences raises serious questions about the sustainability of the American model in a finite earth, whose biological habitat is being seriously impaired by technology, driven by competitive business. How should countries such as India relate to the American model, as they formulate public policies in a changing world? It is useful to look at how the American model has evolved.

Some two hundred years ago, when the Old World was beginning to experience pressures of population density, the new immigrants of what is now the United States of America came in possession of a very vast land, rich in natural resources, little disturbed by the non-technological native peoples. The immigrants believed that it was their destiny to render the new land beneficial to humankind. Their enthusiasm was bolstered by explosive scientific

development in the wake of the Industrial Revolution. In this atmosphere, a natural outcome was that the immigrants gave themselves unlimited freedom to use human ingenuity to subdue nature, and exploit nature's bounty for human benefit and personal wealth. Aspiration for unlimited freedom gave rise to laws specially fashioned to vigorously promote economic prosperity. The spirit of these laws is latent in notions such as 'property rights', 'aggressive monopoly', and 'corporatization', which are now attributed to the American model.

By the turn of the 20th century, signs began to appear that unfettered exploitation of nature's bounty is untenable, even in what was seemingly a limitless land. Incipient non-government organizations such as the Sierra Club raised questions about what can be privately owned, and the need for balancing rights with responsibilities. Over the past century, explosive growth in economic prosperity has been accompanied by significant damage to the environment and the biological habitat. It has become apparent that systems engineered by humans to maximize economic benefit have come into direct conflict with nature's life-giving cycles (e.g. the hydrological and nutritional cycles), and the life cycles of living organisms.

At present, governments around the world are pulled in opposite directions by two conflicting goals. The first is the short-term goal of enhancing economic prosperity and standard of living, while the second is to slow down the alarming effects of human actions on the biological habitat and the environment. Against this backdrop, one finds that the contemporary American

model continues to be inspired by the primacy of short-term economic benefit, and by perceived rights to accumulate unlimited wealth. Unfortunately, these underpinnings are rapidly becoming untenable in America itself, not to speak of the crowded nations of the Old World.

How then should one approach patent laws and private property rights? Meaningful and lasting policies cannot be made unless governments recognize the boundedness of earth and biological systems, and the severe limitations (or even impossibility) of science and technology to predict or control these systems on large spatial and temporal scales. With burgeoning world population, and aspirations for improved quality of life the world over, the formidable challenge is to use science and social institutions to develop viable ways of adaptive living. Unfortunately, this view is not compatible with the American model. Unless this incompatibility is seriously addressed, it will be impossible to formulate equitable policies for pharmaceuticals, agricultural development, water management, or any other vital sector of society.

1. Balaram, P., *Curr. Sci.*, 2005, **88**, 1527-1528.

T. N. NARASIMHAN

*Materials Science and Engineering,  
Environmental Science, Policy and  
Management,  
322 Hearst Memorial Mining Building,  
University of California at Berkeley,  
Berkeley, CA 94720-1760, USA  
e-mail: tnnarasimhan@LBL.gov*