teachers of the universities are facing, we find hardly any link to the editorial[1]. Though we endorse all her suggestions, we disagree that the young researchers are becoming poor teachers only because they are less paid or recognized. we stand by the concept that teaching is an art that only few are blessed with.

As Muthuswami[2] suggested, pay disparity is a major limitation to retain the best brains in the universities. An Assistant Professor (AP) joining a Central University (CU), despite having the same rank of Scientist-C of a research institutes is paid less Academic Grade Pay (AGP) (Rs 6,000 as against Rs 6,600). There is a drastic difference in the AGP structure and track between APs of CUs and other Indian academic institutes (IISc, IISER, NISER, etc.). The disparity in the salary structure accumulates from there. I find CUs of India are unique in the university system of India, and are at par to the premier Indian institutes under the Ministry of Human Resources and Development (MHRD). The faculties joining CUs are also at par with those in other prestigious institutes in India and are being selected through a rigorous national-level screening process. The salary structure and promotion of the faculty of CUs, therefore, may be treated like those of other prestigious Indian institutes. Although UGC has 'separate guidelines' for the salary and other benefits of college and university teachers, principally they are the same[3].

UGC/MHRD may brainstorm to consider the demand of equating the teachers of CUs with those of other premier academic institutes. UGC could also decrease the number of years required for promotion of an AP to Associate Professor through CAS on the merit basis from 12 to 8 years, which is suggested for direct recruitment of Associate Professors joined in a CU. An AP with several papers and postdoctoral experience is likely to accomplish the minimum required Academic Performance Index (API) score well before 12 years.

1. Balaram, P., *Curr. Sci.*, 2012, **102**, 953–954.
2. Muthuswami, R., *Curr Sci.*, 2012, **103**, 249.
3. Anon., UGC regulations 2010; http://www.abpcinfo.org/govorder/UGC%20Final%20-Regulation%202010.pdf (accessed 20 August 2012).

PALATTY ALLESH SINU[1,*]
E. PRASAD[2]
SWAPNA S. NAIR[2]
M. NAGARAJAN[3]

[1]*Department of Animal Science,*
[2]*Department of Physics, and*
[3]*Department of Genomics,*
Central University of Kerala,
Padennakad PO,
Kasaragod 671 328, India
**e-mail: sinupa@gmail.com*

Engineered nanomaterials-based pollution in India

Recent years have seen increased scientific focus on the occurrence of engineered nanomaterials (ENMs) in the environment and their associated ecological and human health risks[1–4]. These ENMs have become emerging contaminants (ECs) due to our improved analytical capability for detecting them in the environment, availability of preliminary information on their ecological and health risks and increasing regulatory and public awareness. Due to increased presence of ENMs in commercial products, a public debate is emerging on whether the environmental costs of nanotechnology outweigh its benefits. Similar to other countries, consumption of products consisting of ENMs has been increasing in India[5,6], indicating that there might be a possibility of these ENMs in their original form or in aggregated form or in derived form reaching the surface water bodies, air and soil media. These ENMs have also been reported to be biomagnified in the food chain, one of the causes of the presence of ENMs in food chain. Given these implications of the presence of ENMs in the environment, few research efforts (for example, toxicity of nanoparticles to the bacteria and cell lines; synthesis of nanoparticles and nanomaterials for biomedical applications, etc.) are underway in India to understand this issue. However, information on the presence of ENMs in the environment in a structured manner is not available for the Indian environment[2], limiting any efforts towards understanding the associated risks to environment and human health. Knowledge on the occurrence of nanomaterials in the Indian environment and the associated risk management lags far behind when compared to the developed countries and needs immediate action.

Thus there is a need for concerted efforts from all the stakeholders involved (i.e. participation and action from academia, industry, government and public). Academia needs to pursue research to develop analytical methodologies for detecting and monitoring ENMs in the environment. Government and industry should encourage these research efforts in terms of providing monetary and infrastructure support for getting long-term benefits in terms of better human health and less environmental pollution. The findings of research and industrial projects need to be communicated to the public to make them aware about the benefits and costs of the presence of ENMs in different products intentionally or unintentionally. Thus all the stakeholders need to come together for initiating research efforts and public communication simultaneously for improving risk perception of the public towards ENMs.

1. Kumar, P., Kumar, A., and Lead, J. R., *Environ. Sci. Technol.*, 2012, **46**, 7071–7072.
2. Kumar, A., *Environ. Sci. Technol.*, 2012, **46**, 5267–5268.
3. Wiesner, M. R., Lowry, G. V., Alvarez, P., Dionysiou, D. and Biswas, P., *Environ. Sci. Technol.*, 2006, **168**, 4336–4345.
4. Westerhoff, P., Song, G., Hristovski, K. and Kiser, M. A., *J. Environ. Monit.*, 2011, **13**, 1195–1203.
5. The Energy and Resources Institute (TERI). Project Report No. 2006ST21: D5, 2009.
6. Jayanthi, A. P., Beumer, K. and Bhattacharya, S., *Economic and Political Daily*, 2012, vol. 47.

S. BARANIDHARAN
ARUN KUMAR*

Department of Civil Engineering,
Indian Institute of Technology Delhi,
Hauz Khas,
New Delhi 110 016, India
**e-mail: arunku@civil.iitd.ac.in*