

## In this issue

### Editorial Board Members

#### *Scientific output of universities*

Does having a large number of editorial board members lead to increase in output from a university?

Though editorial board members may be important to universities and there may be some relationship between the number of editorial board members and the scientific output of universities, the causality in this relationship is not clear. Xing Wang from the Shanxi University of Finance and Economics and the Shanghai Jiao Tong University, China settled the issue. He took 9 top journals from chemistry and examined the top 20 universities in chemistry according to Shanghai Ranking. He manually recorded editorial board members from 1998 to 2017 and, using the Web of Science, extracted data on publications by the universities. He put the data through the Granger causality test.

The Granger causality test only tells us whether there is a cause-effect relationship or not. But the mechanism of causation, if any, will not be revealed. So Wang undertook an unstructured e-mail interview with the editorial board members. Though only a little over 10% of the editorial board members contacted responded, the results are revealing.

Turn to the General Article on **page 35** in this issue to know more about the test and the results of the analysis of the interviews with the editorial board members.

### Neuroanatomy of Saltiness

We differ in our perceptions of saltiness. Some are comfortable with salt content that others feel is unpleasant. Are these individual differences apparent in the structure of our brain?

There are studies showing that the differences in the sense of olfaction between individuals are related to the grey matter volume in the olfactory bulb. But there are none such for taste, the least explored of our senses, though most vital.

Andy Wai Kan Yeung from the University of Hong Kong attacked the

problem with voxel-based morphometry, an automated method used to segment the brain into grey matter, white matter and cerebrospinal fluid volumes.

He took 34 young people with no recognisable pathology related to taste or life style diseases. And, after getting informed consent and passing the project through the ethical committee, asked them to hold 2 ml of 0.5 M salt solution in their mouth for 3 sec and then spit it out. Then they had to record the pleasantness or unpleasantness of the experience on a zero to ten visual scale.

The participants underwent magnetic resonance imaging also. The images allowed 1 mm × 1 mm × 1 mm voxels. After normalisation to allow comparison between subjects and the variations in brain size, 1.5 mm voxels were used for analysis.

In a Research Article in this issue, Yeung presents his findings: the larger the grey matter volume of the insula, the more intense the sensation of saltiness. The same is the case with the thalamus. The grey matter volume of the amygdala, especially the right amygdala, is correlated with the pleasantness score. Smaller volume of amygdala made the sense of saltiness more unpleasant. The grey matter volume of the orbitofrontal cortex is correlated with the intensity of saltiness. Turn to **page 69**.

### Radiopharmaceuticals

#### *Approvals and regulation*

For the last more than seven decades, radioactive isotopes have been used for the diagnosis and treatment of various diseases. A Review Article on **page 47** in this issue lists some of the commonly used radiopharmaceuticals and their varied applications to focus on issues related to the approvals needed for radiopharmaceuticals and problems related to their regulation.

The authors, from five different institutions in India, point out the complexity of the regulations and approvals needed to bring out a radiopharmaceutical in India. Besides the Drug Control Authority that regulates

pharmaceutical products, the Atomic Energy Regulatory Board also has a hand in regulating radiopharmaceuticals. Radiopharmaceuticals have short half-life and are released for use before completion of all quality control tests – a parametric release. The presence of radionuclides mandates a regulatory set up to ensure radiation safety.

In order to rationalise and overcome the problems encountered in the use of radiopharmaceuticals, the authors examine parallels from the US and Europe. It is imperative to examine the present regulatory landscape for radiopharmaceuticals approval in India, say the researchers.

### Using E-waste

#### *Metals from black powder*

The Moradabad district in Uttar Pradesh is an important node for recycling e-waste. More than 50,000 people are engaged directly or indirectly in the activity. Researchers from the Shriram Institute for Industrial Research, Delhi, concerned about the crude methods of recycling adopted there, searched for a method to overcome the increasing heavy metal pollution caused by the recycling industry.

They collected the black powder produced by the e-waste recycling process and brought it to their lab to conduct a series of experiments. They find that more than 20% of the dry weight of black powder is copper, a metal that is useful for the electrical and electronic industry. Calcium and silica, the other major constituents, are useful too. Black powder can be used for making useful products such as pavement blocks, embankment bricks or radiation-shielding concrete panels in Moradabad, say the researchers.

The Research Communication on **page 104** in this issue is a wakeup call to the Government of Uttar Pradesh to step in and improve the management of e-waste processing. Besides generating more employment in the area, it will reduce the harm done to the environment.

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