

## Committee on human rights

Some time ago, when Binayak Sen, an eminent health activist and Vice-President of the People's Union for Civil Liberties, was sentenced by a Chhattisgarh court to life imprisonment for sedition and criminal conspiracy, nine former presidents of the three principal Academies of science in India had endorsed an appeal by more than 50 Nobel laureates belonging to different fields of sciences and humanities, supporting Binayak Sen and urging his immediate release.

The initiative to support Sen had been taken by the Human Rights Office of the US National Academy of Sciences and

the International Human Rights Network, spearheaded by it. Several of us have felt that Indian scientists, especially those belonging to India's principal Academies need to form a committee on human rights, which can deal with such matters. We have discussed this matter with past and current presidents of these Academies. Most agree that it is necessary to have such a group, but are of the view that the group need not be formally constituted by the Academies. It is preferable to have an open group of 'elder' scientists who are willing to do the work.

We have therefore, decided to constitute ourselves into a human rights group. The present membership is only a nucleus which we plan to expand into an effective human rights group that will take up issues related to the rights of scientists and other intellectual workers. We seek the hospitality of *Current Science* to make this known to the scientific community and invite opinions on the subject.

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## Flames and understanding combustion

The recent editorial by Balam<sup>1</sup> on communicating science, mentions about Faraday, candles and flames. The subject of flames and combustion has changed significantly over the last 50 years, similar to the developments in other fields of science. Communicating the science of combustion should be on the agenda of educational institutions. Combustion science has relevance over a wide range of applications – from cook stoves to industrial systems to rocket engines. Sometimes, in conversations, while attempting to state that something is not complex, we say 'it is not rocket science'. It is little realized that designing cook stoves can be even more complex than designing a rocket, the specifications to which it has to be designed for it to be modern and acceptable, it is far more difficult; I say so since I have engaged my time in dealing with both the subjects over several decades.

Combustion is an essential ingredient when there are flames. Phenomena like exothermic char oxidation, flameless combustion in industrial systems or laboratory propellant combustion processes occur without visible flames. There is, in fact, a dearth of academics who understand the commonality of the basic processes, and combustion science is not a subject that is taught in most undergraduate science or engineering schools. Recognizing this serious lacuna and the absence of scientifically instructive educational material in the field, I sought a project from defence sources to make a video to illustrate the principles of ignition and combustion in gases, liquids and solids. A book that carries the still photographs illustrating the phenomena, with a foreword by R. Narasimha, has also been put together (somewhat similar to Milton van Dyke's book on fluid dynamics). The video has been made with the

help of research students in our laboratory, and has been uploaded in three sections (for gases, liquids and solids) on YouTube. It can be accessed on the Internet by searching 'understanding combustion and YouTube'. I am using this medium to reach out to all scientifically minded readers to bring this subject to the attention of those concerned. Any comments can be sent to me.

1. Balam, P., *Curr. Sci.*, 2012, **102**, 655–656.

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## Who needs to reply to e-mails?

A recent letter by Sharma *et al.*<sup>1</sup> assessed the e-mail responsiveness of faculty in several top-tier institutions in India and abroad. The authors e-mailed an application for a research internship, including a CV, etc. Broadly, less than half as many Indian faculty responded (16%, range

43–0%) compared to faculty from institutions abroad (36%, range 60–13%). One reason the authors suggested as a contributing factor was that 'Indians occupying senior positions have been probably influenced by the old Indian tradition, which disregards upward

communication'<sup>1</sup>. This study reveals an inadequacy in our system that hampers our collective progress. It also makes one think about several related issues, which I discuss below.

First, students who receive replies to their queries feel encouraged about

science, even if the reply is not positive. They want advice, sometimes just a pointer as to where to begin looking, and often are encouraged just because a scientist wrote back to them. Some scientists feel that the dozens of such e-mails one receives each week only hamper what they (somewhat narrowly) see as their primary role – to do research. Others feel that generic ‘form letter’ e-mails from students that are sent to lists of faculty do not deserve a reply, because the student has not put in the effort to visit their website and figure out what it is they work on. Yet others may reasonably argue that they have their own M Sc and Ph D students to train in terms of how to write an application, and that its too much to engage with the vast numbers of students that write to them or show up to meet them without even having visited their websites.

This brings me to my second point: While it is important for scientists to reply to students (or indeed to anyone), an entirely different issue is how students should apply for an internship to improve their chances of a positive reply. I wrote a blog about this triggered by the dozens of generic e-mails that I receive each week for internships (<http://www.indiabioscience.org/node/258>). Students do not seem to have even the basic idea as to how they should write for positions. Blatant cc lists, generic salutations ‘Dear Professor’ or ‘Dear Sir/Madam’ are followed by claims to be interested in the scientist’s work, or even worse, claims to have read their papers! And yet these students are genuinely grateful for any guidance – as the many thankful comments to my blog reveal. Given this, it is the least we could do to help them out. I now just forward the link to my blog to any student who writes me a generic e-mail. It is a part of our jobs to encourage a group of young people who, with a little guidance could be on the road to doing science. However, this is a job that really needs to be done at the college level (which is why my blog is entitled ‘Calling all teachers, please help’). Surely, a good undergraduate training should include a discussion on how students might prepare for the next stage in their careers. My own view is that training students for their future careers is a job that is begun at the school/college level, and continued at the postgraduate/Ph D level.

If college teachers do not take this on, then scientists face the current scenario of being flooded with generic e-mails. But it is surely part of a scientist’s job to engage in the training of future scientists to whatever extent possible, including at least a reply to their e-mails, which may make all the difference in terms of encouraging their interest in research.

A broader question to think about is who needs to reply to e-mails? Is it just Indian professors who do not reply to e-mails because they are busy, or for any other reason? It is unprofessional for *anyone* to ignore a work-related e-mail – scientists, students or support staff in the administrative structure of an institution, many of whom have begun to use e-mail only a few years ago, and some of whom may still feel awkward about sending a professor an e-mail. In general, the mindset does not seem tuned to the idea that when an e-mail is received, the ball is now in the recipient’s court, and he/she so needs to reply before the matter proceeds further. Usually, e-mailing someone for a work-related issue also means one has to make a telephone call to follow-up. There are of course, people within the administration who do respond promptly and responsibly, and it is a pleasure to work with them. The unfortunate thing is these people are exceptions rather than the norm. A rather cynical view, shared by many, is that we are still suffering from a fear of ‘putting things in writing’. If one replies to an e-mail, one can be held accountable for what one says – it is better to express misgivings or agreements verbally. So not replying to e-mails becomes but a symptom of a broader problem that makes our system operate in an unprofessional manner.

Can we not begin at the individual level – all of us who are part of the system? Can we agree that not replying to an e-mail – whoever it may be from – within a reasonable period, is simply unprofessional? The length of time one takes to respond may vary depending on what the issue is, or how closely it is tied to one’s job or a responsibility one has taken on. An office such as that of a Director, Registrar or Department Chair needs to reply within 24 h at least to acknowledge an e-mail. Routine administrative work by all employees should be responded to ideally during the course

of the same working day, or the next day in case of unusual circumstances. Also, a vacation responder is useful for all employees. It is part of all our jobs to let people know when we will not be available, so they can plan their work accordingly.

A final, even broader point is that our systems seem to be only slowly acclimatizing to the computer age. Even though at TIFR our purchase and accounts systems have finally become computerized, the only real change is that the material from ledgers has been put into a computer. The power of a computer to correlate entries, have multiple users access files, and process data electronically in a paperless manner still seems a distant goal. A real-life example is that 8 ply carbon paper purchase orders in our system have been replaced with eight photocopies of a printout from a so-called ‘computerized’ purchase system.

To summarize, all categories of staff in the Indian network seem to need a little push towards achieving a good level of responsible e-communication and to consider it as a required part of their jobs. The penetration of computer usage into daily functioning will only help matters – computer training needs to be speeded up and systems need to be revamped to keep up with the times. There may be mental blocks, technology comfort issues, language issues, or other reasons, but I think the primary problem is that we as individuals need to see e-mail communication as part of our professional responsibilities. Efficiency of e-communication is the beginning of making other processes efficient in India.

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1. Sharma, A., Malhotra, A. and Sharma, P., *Curr. Sci.*, 2012, **102**, 9–10.

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