Peer review not guaranteed

Michael Duff

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Feedback

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In his video interview with Matin Durrani (29 June), David Delpy, chief executive of the UK's Engineering and Physical Sciences Research Council (EPSRC), defends the council's policy of "blacklisting" failed funding applicants by saying "these are judgements that the academic's peers are making". However, Delpy fails to mention that the policy also applies to office-rejections, which are made by non-scientists without peer review.

Nor are these isolated incidents: in mathematical physics, five out of the 22 proposals for postdoctoral fellowships and all three full proposals for Career Acceleration Fellowships submitted in 2010/11 were office-rejected. I was informed by EPSRC that no qualified scientists were involved in these decisions.

I wonder if these rejected postdocs would share Delpy's view that "there is no evidence" these restrictions are penalizing young researchers. They might also be puzzled by the claim on the EPSRC website that "We make all [sic] our funding decisions based on expert advice so peer review is at the heart of our business."

Michael Duff
Imperial College London
m.duff@imperial.ac.uk

Implants for lucky few

In his article "Vision of beauty" (May pp22–27), Richard Taylor points the way to fractal design for retinal implants and makes an enthusiastic case for incorporating such features into the next generation of such implants. My own view is markedly less optimistic, and I am afraid that some readers may be misled.

As a sufferer from the "wet" form of age-related macular degeneration (AMD), I have undergone a range of therapies, including photodynamic therapy and, subsequently, multiple injections (in both eyes) of first Avastin and, more recently, Lucentis. I am now legally blind. Thanks to optical coherence tomography (OCT), I have well-resolved images of my macula, including the topology of the parasitic tissue that has formed and the damage to the underlying layer of photoreceptors. As a result of scar-tissue development, both macula are severely distorted, with a bumpy topology and a variable tissue thickness. It is technically possible to remove this scar tissue surgically, and an implant could be inserted to replace my damaged and missing receptors, but the issue of retinal distortion would remain, exacerbated by the need to accommodate the edges of the implant without affecting peripheral vision. (I haven't even mentioned colour vision!)

I am quite sure that some patients could benefit from existing implant technologies and that the use of fractal design could improve implant efficiency, but I would suggest that we are still a very long way from any treatment for AMD that could be recommended to any but a very few patients. I wish I were wrong.

David Brandon
Technion – Israel Institute of Technology
brandon@technion.ac.il

Promoting science together with art

The divide between science and art will forever be fuel for discussion, as two articles in the June issue of *Physics World* show. In the first, Leonardo Colletti (p16) calls for physicists to invite poets to conferences, while in the second (p19) Robert P Crease urges us to take insights from the study of culture when we try to promote science.

I suggest that one problem with promoting science is that it too often does not connect with people on a human or emotional level. We see evidence of this when members of the public ask "What's the point?" of certain scientific projects, meaning "What is the practical value of this work?". Yet no-one asks "What is the practical value of a symphony?" or "What use is that painting?". For these things, practical utility is not the most important consideration; instead, their worth is judged by how they affect us emotionally. So why should science be any different?

Most scientists are quick to defend the idea that they study science because it excites them. But increasingly, I have found that science is not being promoted by appealing to such qualities. Instead, we are turning to art – and, in the process, defeating our central message.

Consider the recent BBC TV series *Wonders of the Universe*, presented by the University of Manchester physicist Brian Cox. The programme drew many complaints from viewers who were annoyed not only by the show's use of "deafening" music, but also by what *Physics World* described as "excessive use of soaring scenic shots in far-flung locations" (May p3). It seems likely that the programme was trying to demonstrate the beauty of science through music and dramatic scenery. But might their use actually detract from that message?

If someone watches a programme that attempts to demonstrate the wonder of science through artistic means, they may very well walk away with a greater sense of appreciation for science and nature, and may also feel inspired or uplifted. But what conjured up these feelings inside this person? Was it the science – or the artistry? We cannot argue that science has value because of its "beauty" or other emotive qualities if science can only excite such feelings through the use of art.

Readers of *Physics World* will no doubt agree that science brings much intrinsic enjoyment – what Feynman called "the pleasure of finding things out". Moreover, despite what some believe, science does not destroy any romantic feelings we have towards the world. In fact, our appreciation of the world is increased by our understanding of it. The deeply human desire to understand things, and to take pleasure in discovery, are intertwined with science and the scientific process.

The use of soaring scenic shots, poetic terms or overpowering music is not always a problem, and I would welcome any attempt to invite poets to physics conferences. But we must not let ourselves believe that this is the only way, or even the best way, to promote science. Science ought to be presented for what it is. Cox's programme could have worked as well, if not better, if it had been more of a serious documentary – if it had included more science.

John Peacock
Glasgow, UK
john.peacock@physics.org

Physics begins in primary school

In his article "Breaking the vicious circle" (July p18), Mark Whalley pointed to the importance of enthusing children in science early, and stated that we needed to increase the uptake of initiatives such as the Physicists in Primary Schools (PIPS) project. This initiative is run by the Institute of Physics (which publishes *Physics World*) and provides detailed instructions for 12 fun presentations on topics that teachers have identified as being most difficult. These instructions are easily