

Science in the news

Gaining the readers' interests should not come at the expense of veracity. Getting the facts correct when communicating science to the general public is essential.

As we go to press, one of the most ambitious and complex scientific experiments in human history — the Large Hadron Collider (LHC) — is about to run its first experimental test. However, the turn on of the 27-km-long particle accelerator at the European Organization of Nuclear Research (CERN) in Geneva, Switzerland¹, on 10 September, has met with mixed reactions. Scientists eagerly anticipate the opportunity to address unresolved questions in particle physics and gain a better understanding of the Universe. At the same time, a fog of fear and doubt about its 'end-of-the-world' risks has been circulating around Internet chat rooms and daily newspapers.

Although such fears have been rebutted by researchers and scientific publications², it clearly shows that the communication of science with the public should be handled in a careful and responsible fashion. Part of the problem is the general media's need to reach a wider audience by making complex topics as simple, attention-grabbing and startling as possible. Yet, this approach can anger scientists who feel that their findings are being misinterpreted or manipulated.

Scares over giant experiments in particle physics may be making the headlines now, but photonics has also had its fair share of media problems, with news stories trivializing significant research achievements. For example, quantum teleportation³ — a technique first demonstrated in 1997, where the fundamental properties of remotely located light particles are transferred through quantum entanglement — was immediately associated with sci-fi films, for example *Star Trek*, obscuring the enormous potential and relevance of the findings for the information technology sector.



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Another recent example that has fired the imagination of scientists and non-scientists alike are the reports of invisibility cloaks made from metamaterials that can curve electromagnetic radiation around an object, thus rendering it potentially invisible^{4,5}. However, it needs to be understood that such a device is still a long way away from being a practical proposition. Although simplification of such scientific findings may help the general public relate to them more easily and, hopefully, titillate their curiosity in science, sensationalizing the results can lead to a false impression of their current capabilities.

Conveying the ambitions and successes of scientific research to the general public is of course important for many reasons. First, it is necessary to attract future generations to pursue careers in science and technology. Second, public funding is often a major source of revenue for research; hence it makes sense to report advances to tax payers. Finally, effective communication with the public can remove the feeling that science is inaccessible and hidden.

The truth is that researchers often strive to maintain the rigour of their work and may disapprove of a journalist's attempt at simplifying science to increase the appeal of their research. Einstein famously said,

“Things should be made as simple as possible, but not any simpler.” Although it is important to make science more accessible, important ideas, experimental methods, empirical observations and rational arguments should be well conveyed. It is vital to reach a true presentation of the facts without sacrificing scientific credibility.

The challenge of delivering rigorous scientific information is greater in this new era of Internet and cable television, as readers are flooded with information. Hence catching the attention of the public is proving increasingly difficult. General media are often forced to look for angles of the story that favour popular interest. One of the ways of boosting public attention, is through making science personally relevant and accessible to non-traditional audiences. Nevertheless, a narrative that can cause a stir in the public's imagination can lead to oversimplification and misinterpretation of the scientific achievement.

Is it necessary to simplify science so that it is more appealing to the general public? Does winning the attention of the public guarantee a long-term relationship between science and society? What can be done to raise the profile of science at no expense of veracity? Certainly open and continuous discussions between both journalists and scientists would help to reach a balanced view on how to report scientific developments to the general public without losing scientific credibility.

References

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