

New Public Understanding of Science Website

By

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Our civilisation runs on science-based technology and important public debates regularly arise that have a significant scientific dimension. It is important in a democracy that the general public be engaged with science in a two-way process of communication and education. One powerful way to do this is through science websites. The Faculty of Science at UCC has now extended its science promotion programme to include a new public awareness and understanding of science (PAUS) website (<http://understandingscience.ucc.ie>) launched by Minister Micheál Martin, T.D., on 13th June. We hope that this new website will become a valuable national resource for the general public and for first and second level school pupils.

I built the PAUS website with the assistance and advice of faculty colleagues and I am the editor of the site. It is designed like a magazine with editorial and 'letters to the editor' sections where the content will be renewed on a regular basis. The other sections of the site are: Understanding the Natural World; Famous Irish Scientists; Science in the News; Science and Humour; Scientific Quotations; UCC Faculty of Science Public Lectures; Quizzes and Puzzles; Careers and Courses in Science and Technology; Diary of Events.

The largest section of the site, Understanding the Natural World, provides an overview of what science has discovered about the natural world. It is subdivided into sections entitled: The Universe at Large; The Solar System and the Earth; Some

Laws of Physics; The Theory of Evolution; Modern Genetics; Medicine and Disease; Diet and Nutrition; The Environment; Science and Religion; Technology. The level of the articles is suitable for senior second level school pupils and general adult readers. Many of the articles in this section are Science Today Irish Times columns I have written over recent years and the most of the rest are the scripts of public lectures delivered by various UCC lecturers over the last few years in our annual UCC Faculty of Science Public Lecture Series. This section also contains links to science websites suitable for general adult and second level student consultation and also links to science websites appropriate for primary levels students.

The new UCC site is the biggest Irish site dealing with the public awareness and understanding of science, but, of course, it is not the only Irish site targeted on this objective. The Government sponsored programme for the public promotion of science, Discover Science and Engineering (administered by Forfas), hosts a good website www.irishscience.ie. The science faculties of all the Irish Universities (e.g. www.ucc.ie/faculties/science) and Colleges of Technology all have their own web sites and the interuniversity science website may be found at www.universityscience.ie. Many individual university Science Departments have very interesting web pages on their university websites, e.g. The Physics Department at TCD.

There are several good reasons to enhance public understanding and engagement with science. Some of the more compelling reasons are: (a) the cultural imperative; (b) to abolish technological bewilderment; (c) to encourage our brightest young people to take up careers in science.

Science has discovered the most wonderful knowledge over the past 400 years about how the world works. We now know how the world began, how the stars and planets formed, how the 92 natural elements were made, the 4 fundamental forces that rule the universe, how life began on earth and how it evolved, how our sun will die 5 billion years from now, and how in the unimaginably distant future the entire universe will become a frozen wasteland. It is everybody's birth-right to know and understand this story.

Up until about the 1930s, the technology that ran the world was, to a large extent, understandable to the non-scientist who took the trouble to examine it carefully – steam engines, clockwork mechanisms and so on. But understanding how modern technology works is open only to those who know a little science. If you peer into the workings of a clockwork clock you can easily see how it works, but if you take the back panel off your TV set, your DVD player, mobile phone, etc., etc., the appearance of the components tells the non-specialist little or nothing about how the device works. It must be very alienating not to understand how any of the technology that runs the world works.

Finally, we have a very worldly reason for encouraging people to engage more fully with science. Our Celtic Tiger economy has been powered largely by our efficiency at manufacturing other peoples ideas – mainly electronic and chemical products of multinational corporations. Ireland was an attractive location for these companies because of the lenient tax regime, modest wages and location within the EU. In 2003, seventy seven percent of the value of total Irish exports was accounted for by

manufactured products of multinational companies. However, our very success has now made us a high wage economy and, if things remain as they are, most of our multinational manufacturing will drift away to low-wage locations in Eastern Europe and elsewhere. In order to maintain our economy at its present level we must move up the value chain and start to generate our own ideas. We must persuade the multinationals to locate significant research and development facilities in Ireland. And all of this must be serviced by a big increase in the output of Irish science and engineering graduates and postgraduates. Unfortunately, the 1980s and 1990s witnessed a declining interest in science subjects, particularly chemistry and physics, amongst second level students. This trend must be reversed if we are to maintain our living standards. We must engage more with science.

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