

EIROforum declaration of support for International Year of Basic Sciences for Development

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Who among us does not use a mobile phone, and sometimes take advantage of its global positioning capability to help us navigate in unfamiliar places? Such devices are increasingly ubiquitous, yet how many people realise that the basic technologies underpinning them owe their existence to basic science? Without our understanding of quantum mechanics, the transistors that all modern electronic devices rely on could not exist. And without the theory of general relativity, global positioning systems would not be able to deliver the pin-point accuracy we rely on. It took the best part of a century for the basic knowledge to be developed in this way, but without the basic science of the early 20th century, much of the technology of the 21st would not exist.

Another example is the widespread use of antibiotics, made possible thanks to basic research in the early 20th century. Antibiotics have fundamentally changed our lives, but as we enter an age of increasing antibiotic resistance, we need to understand how bacteria become antibiotic resistant, allowing us to provide solutions – not just alerts – to global crises.

Basic science fosters creativity and technological development in many ways. Throughout the history of science, many big leaps forward, like medical therapies, transistors and the Galileo global navigation system, have come directly from the new knowledge that basic science brings. But that's not the only way basic science contributes. Basic science is also a driver of innovation as it stimulates the development of new technologies for research, which later go on to find applications in society as a whole. It attracts and trains bright, curious young minds to pursue careers in the STEM subjects of science, technology, engineering and mathematics. And it brings people from diverse cultures together to pursue common goals for the benefit of all.

Basic science has been the driving force behind immeasurable improvements in the human condition, and science holds the key to overcoming many of the challenges facing humanity today. Yet at the same time, science is perceived as increasingly remote by many of the people it benefits. An International Year of Basic Sciences for Development is an opportunity to put science at the heart of society, where it belongs. As the Directors of the eight EIROforum organisations, we support this initiative whole-heartedly.

<http://www.eiroforum.org>

EIROforum members:

CERN: European Organization for Nuclear Research

EMBL: European Molecular Biology Laboratory

ESA: European Space Agency

ESO: European Southern Observatory

ESRF: European Synchrotron Radiation Facility

EUROfusion: European Consortium for the Development of Fusion Energy

European XFEL: European X-ray Free Electron Laser Facility

ILL: Institute Laue-Langevin (Neutrons for Science)