

Overview of Activities on Nanotechnology and Ethics

Through the EST Research Programme, UNESCO has been carrying out anticipatory studies regarding ethical and social impacts of nanotechnology and its applications.

An ad-hoc expert group on ethics and nanotechnology was established in 2005 with the participation of the following experts:

- Mr. Jun Fudano, member of COMEST and Director of the Applied Ethics Center for Engineering and Science at Kanazawa Institute of Technology (KIT), Japan. At KIT, he also holds a position as Professor of the History of Science and Technology, and of Science and Engineering Ethics.
- Mr Bert Gordijn, professor at the Department of Ethics, Philosophy and History of Medicine of the Radboud University Medical Center in Nijmegen, The Netherlands.
- Mr Peter A. Singer, Professor of the Department of Medicine, University of Toronto, Canada, Director of the Joint Center for Bioethics of the University, and Staff Physician at the University Health Network.
- Mr Abdallah S. Daar, Professor of Public Health Sciences and of Surgery at the University of Toronto, where he is also Director of the Program in Applied Ethics and Biotechnology, Co-Director of the Canadian Program on Genomics and Global Health at the University of Toronto Joint Centre for Bioethics, and Director of Ethics and Policy at the McLaughlin Centre for Molecular Medicine.
- Mr Joachim Schummer, Heisenberg-Fellow at the Technical University of Darmstadt, Germany, studying philosophical and ethical aspects of nanotechnology. He is also adjunct professor of philosophy at the University of South Carolina, USA.
- Mrs Margareth Spangler Andrade, has a PhD in applied sciences and is professor of metallurgical engineering at the Federal University of Minas Gerais, Brazil. She is currently director of technological development at the Fundação Centro Tecnológico de Minas Gerais.
- Mrs. Michele Jean, Chair of the International Bioethics Committee, has been the Canadian Deputy Minister for health from 1993 to 1998, vice chair of the Quebec Health Research Fund; she is a member of the Quebec Commission on Ethics of Science and Technology, and an historian by training.
- Mr Donald Evans is Director of the Bioethics Centre, Dunedin School of Medicine, University of Otago, New Zealand.
- Mrs. Kyunghee Choi, is a Professor in the Department of Science Education at the Ewha Womans University of Seoul, Korea.
- Mr Jixing Liu, researcher at the Institute of Theoretical Physics, Chinese Academy of Sciences, Beijing, People Republic of China.

The group of experts is mapping the ethical dimensions of nanotechnology from a global perspective and exploring the respective implications for UNESCO Member States. The expected outcomes of this activity are:

- The elaboration of a UNESCO Policy Document on Ethics of Nanotechnology (see attached), comprising four kinds of actions: awareness raising, education, research and policy. This document will propose international actions to be undertaken by UNESCO.
- The publication of a book “Nanotechnology: science, ethics and policy issues”, in the “Ethics of science and technology” series of UNESCO, that will be translated in the six official languages (English, French, Spanish, Arabic, Russian and Chinese).
- Recommendations of the expert group will be transmitted to COMEST consideration at its Extraordinary Session in June 2006.

The expert group met in UNESCO, Paris, on 5-6 July and 6-7 December 2005, and reports of both meetings can be found in the Ethics of Science and Technology webpage:

- http://portal.unesco.org/shs/admin/ev.php?URL_ID=8958&URL_DO=DO_TOPIC&URL_SECTION=201
- http://portal.unesco.org/shs/admin/ev.php?URL_ID=9435&URL_DO=DO_TOPIC&URL_SECTION=201

Enc.: List of member of the expert group
UNESCO Policy Document on Ethics of Nanotechnology – first draft