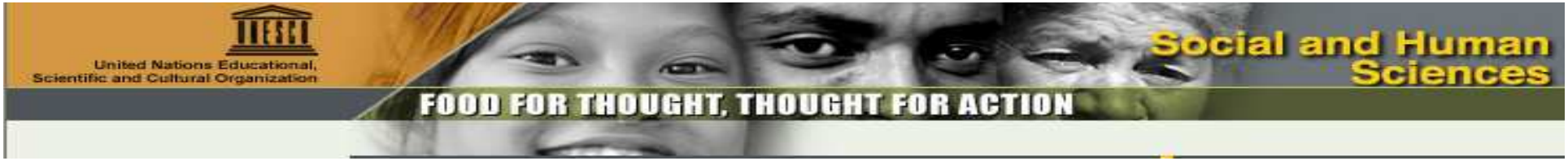
Division of Ethics of Science and Technology

The World Commission on the Ethics of Scientific Knowledge and Technology

COMEST



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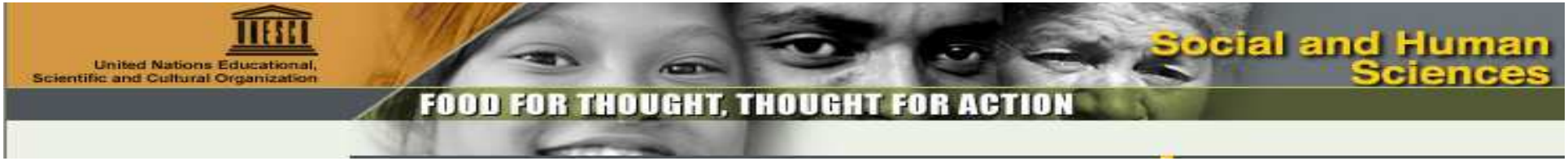
Background

- Created in 1998

- Advising the Organisation on its programme concerning the ethics of scientific knowledge and technology



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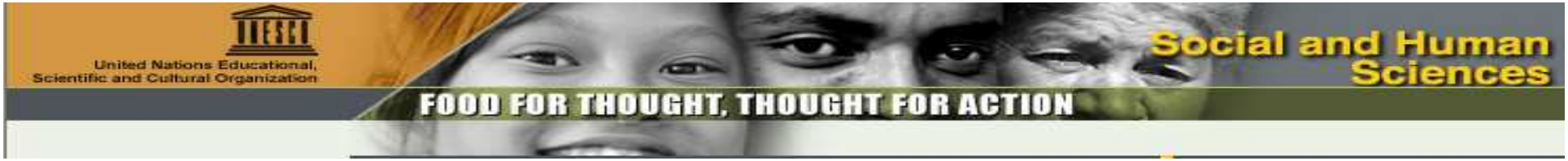
What is the task of COMEST?

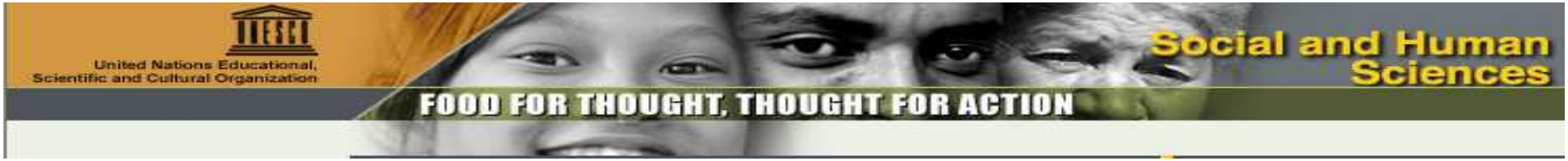
To formulate, **on a scientific basis**, ethical principles that can shed light on the various choices and impacts occasioned by new advancements in scientific and technological fields, thus fostering a constructive ethical dialogue on the values at stake.



COMEST

What is the mandate of COMEST?

- ✓ Advisory body of UNESCO
- ✓ Intellectual forum for the exchange of ideas and experience
- ✓ Detect early signs of risk situations associated with science and technology
- ✓ Promote dialogue between scientific communities, decision-makers and the public at large



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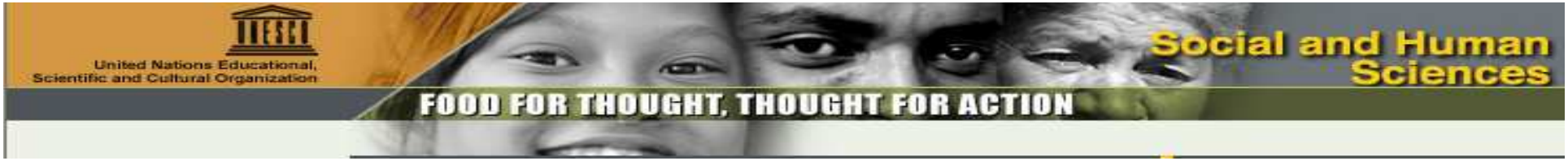
Membership of COMEST

- ✓ 18 members appointed by the Director-General
- ✓ Independent experts serving in a personal capacity
- ✓ Four-year term, renewable once
- ✓ "…*eminent personalities in the fields of science, professional engineering, law, philosophy, culture, religion or politics…*"



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Areas of work

- *Statutory activities*
- *Capacity building*
- *Ethics of the use of outer space*
- *Ethical code of conduct for scientists*
- *Environmental ethics*
- *Research programme*

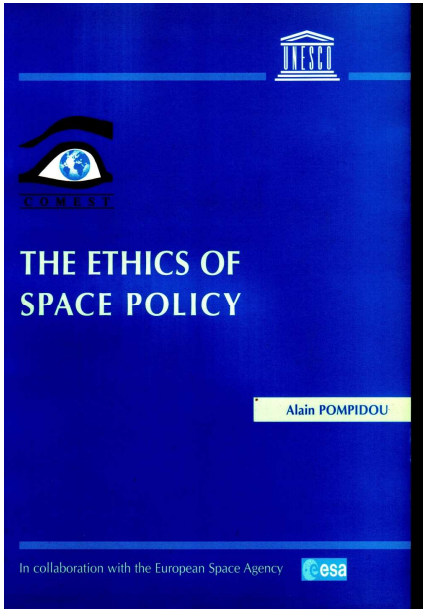
- Rotating conferences
- Global Ethics Observatory
- Ethics Education Programme
- Avicenna Prize for Ethics in Science

Areas of work

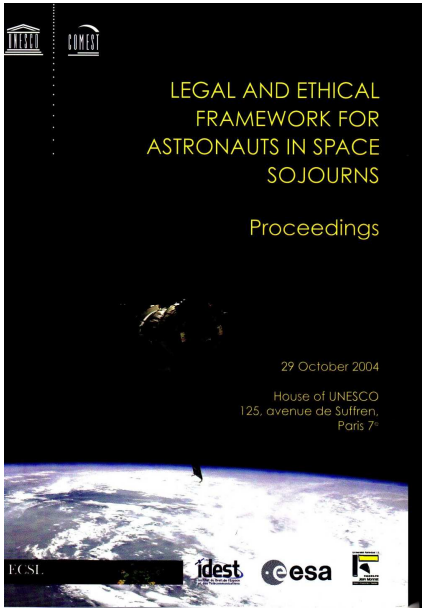
Ethics of outer space

- *awareness raising concerning ethics of outer space*
  - 24 October 2004: Paris: Conference “Legal and ethical framework for astronauts in space sojourns”
  - 26-27 October 2006: Paris: Conference “Legal and ethical framework for space exploration”
- *International cooperation*: COPUOS, ESA, ECSL, Space Agencies, IAF

2000



2004



Areas of work

Ethical Code of Conduct for scientists

- International consultations (NatComs; scientific organizations)
- Collection and analysis of existing Codes of Conduct

1974: UNESCO *Recommendation on the Status of Scientific Researchers*

Possible revision / implementation / updating in light of the changing context of science?

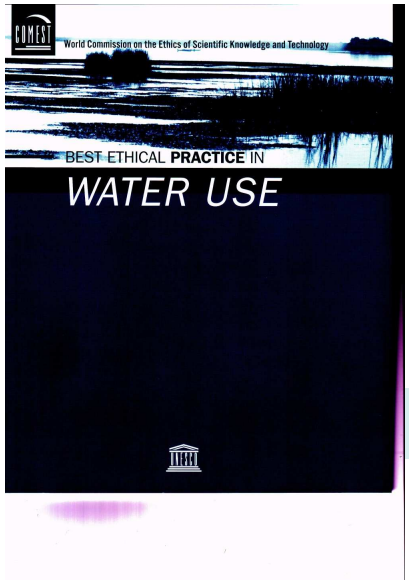
Areas of work

Environmental ethics

Previous work focussed on specific issues

- water and ethics
- energy and ethics

2004: Focus on moral framework



April 2004, 169 Executive Board:

Decision requesting the Director General to “keep it informed of the studies undertaken to examine the principles of environmental ethics and to identify possible international actions in this field

2004: *Best ethical practice in water use*

Areas of work

Environmental ethics: *Explorative studies 2004-2005*

Working Group on the Precautionary Principle

→ Aim: to clarify the PP for decision makers and scientists

Experts Group on Environmental Ethics

→ Aims:

- clarify what is the state of the art in environmental ethics
- examine what are issues for international policy

Environmental ethics: *Explorative studies*

Working Group on the Precautionary Principle

Sharon Bader (Australia)
Vittorio Hosle (Germany)
Matthias Kaiser (Norway)
Aida Kemelmajer (Argentina)
Ann Kinzig (USA)
Jeroen van der Sluijs (Netherlands

Paris, May 2004

Paris, September 2004

New York, November 2004

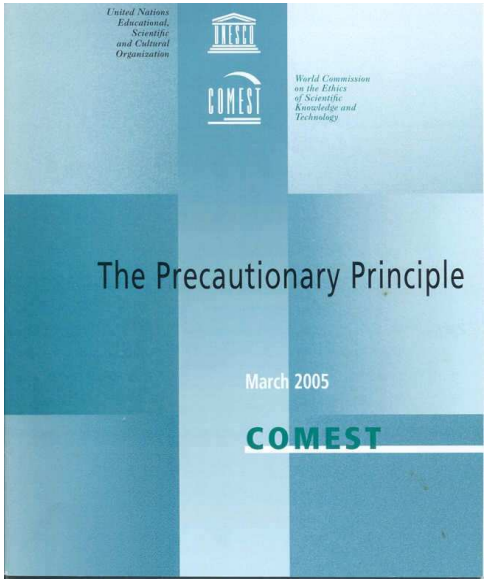
February 2005:

DRAFT REPORT ON PP

March 2005:

COMEST Bangkok

May 2005



Translations in 5 other languages: Arabic, Chinese, French, Russian, Spanish

Areas of work

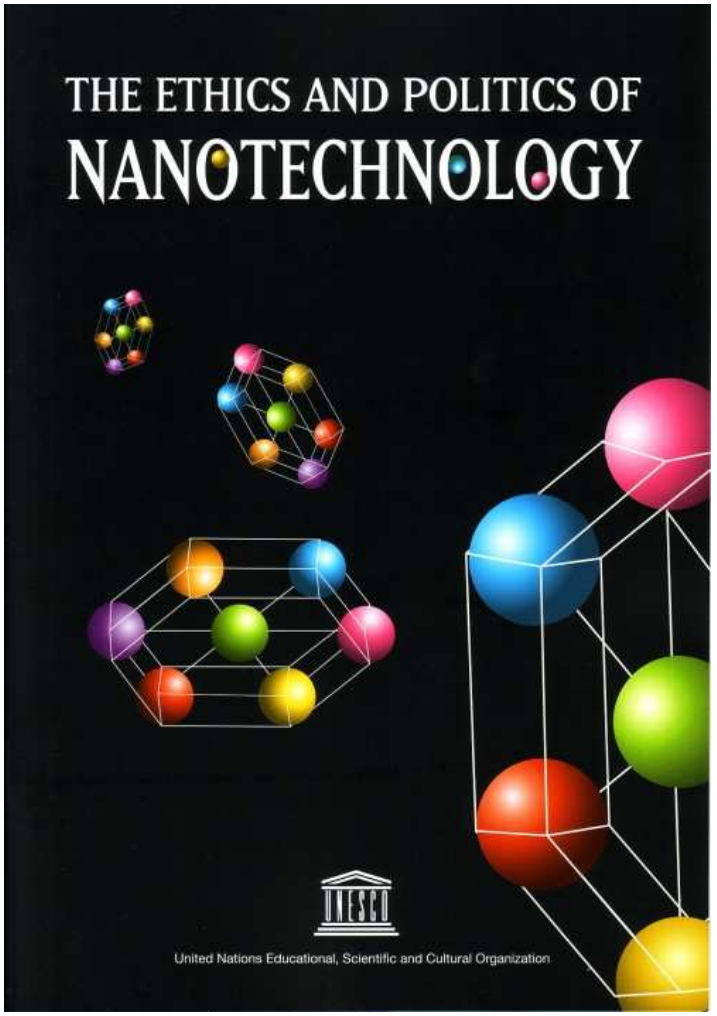
Research programme

Emerging technologies:

Nanotechnology

- **Brochure for information**
- **Expert committee for exploration:**

  book + policy possibilities
- **COMEST: draft policy document**



Systems of technology assessment:

- ***narrow vs broad concept of assessment***
- ***models, instruments, examples***

Areas of work: Nanotechnology

Group of Experts on Nanotechnologies and Ethics

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 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**, former 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 Woman University of Seoul, Korea

Mr **Jixing Liu** is researcher at the Institute of Theoretical Physics, Chinese Academy of Sciences, Beijing, People Republic of China

Areas of work: Nanotechnology

Outline of a Policy Advice on Nanotechnologies and Ethics

Structure of the document:

As an output of the early steps of the working methodology, a characterization of nanotechnologies by its interdisciplinary approach emerged as a possible area of consensus. Proposals based on the discussion among ethics experts can be divided in four kind of actions: awareness-raising, education, research and policy.

Areas of work: Nanotechnology

Working Methodology

First phase: identification of the moral dimensions

UNESCO established a multidisciplinary group of experts, whose mandate was:

-To review the state-of-the-art of ethical considerations of nanotechnologies; and

-To identify opportunities for international action.

The group of experts met in UNESCO on 5-6 July 2005 and 6-7 December 2005.

The papers of the experts will be published in a book "Nanotechnologies: science, ethics and policy issues" in the "Ethics of science and technology" series of UNESCO.

Areas of work: Nanotechnology

Working Methodology

Second phase: testing the relevancy of potential international actions

Representatives of the various sciences involved in the development and application of nanotechnologies will examine the strategies and options proposed. The draft policy document, once developed into a COMEST document, will be circulated to a selected group of individual scientists.

Areas of work: Nanotechnology

Working Methodology

Third phase: enhancing the political feasibility of potential actions

Consultations with major significant stakeholders regarding the political feasibility of potential actions identified in the two previous phases.

On the basis of this preliminary consultation process, a draft document will be prepared for the UNESCO General Conference.

Areas of work: Nanotechnology

A - Central features of nanotechnologies

- Interdisciplinary and crossdisciplinary dimensions
- Nanotechnologies as an opportunity (enabling technologies.)

Areas of work: Nanotechnology

B - Need for awareness-raising and debate on nanotechnologies

- Science fiction, apocalyptic and utopian scenarios to be dismissed
- Environmental impact and health issues
- Nanomedicine issues
- Privacy and confidentiality
- Intellectual property

Areas of work: Nanotechnology

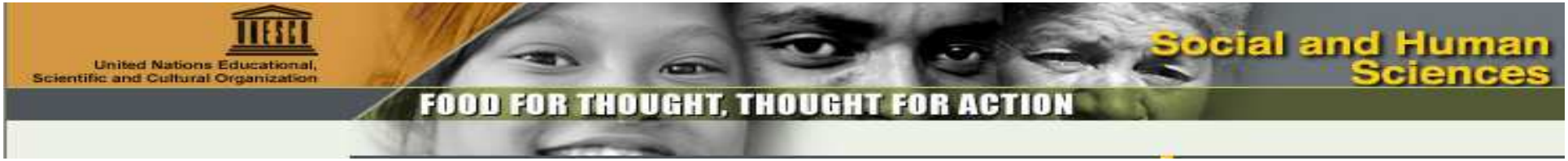
C - Need for ethics education

- General need for ethics education reinforced in nanotechnologies
- Specific additions to content of the programmes
- Guidelines

Areas of work: Nanotechnology

D - Need for research and development policies

- Scientific and technical knowledge
- Social sciences research to guide policy
- Ethical research and ethics in connection with legal issues
- Nanotechnologies and development
- Voluntary guidelines
- Institutionalisation



COMEST

COMEST Secretariat

UNESCO Social and Human Sciences Sector

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