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# EDUCATION AND THE KNOWLEDGE SOCIETY

## **IFIP – The International Federation for Information Processing**

IFIP was founded in 1960 under the auspices of UNESCO, following the First World Computer Congress held in Paris the previous year. An umbrella organization for societies working in information processing, IFIP's aim is two-fold: to support information processing within its member countries and to encourage technology transfer to developing nations. As its mission statement clearly states,

*IFIP's mission is to be the leading, truly international, apolitical organization which encourages and assists in the development, exploitation and application of information technology for the benefit of all people.*

IFIP is a non-profitmaking organization, run almost solely by 2500 volunteers. It operates through a number of technical committees, which organize events and publications. IFIP's events range from an international congress to local seminars, but the most important are:

- The IFIP World Computer Congress, held every second year;
- Open conferences;
- Working conferences.

The flagship event is the IFIP World Computer Congress, at which both invited and contributed papers are presented. Contributed papers are rigorously refereed and the rejection rate is high.

As with the Congress, participation in the open conferences is open to all and papers may be invited or submitted. Again, submitted papers are stringently refereed.

The working conferences are structured differently. They are usually run by a working group and attendance is small and by invitation only. Their purpose is to create an atmosphere conducive to innovation and development. Refereeing is less rigorous and papers are subjected to extensive group discussion.

Publications arising from IFIP events vary. The papers presented at the IFIP World Computer Congress and at open conferences are published as conference proceedings, while the results of the working conferences are often published as collections of selected and edited papers.

Any national society whose primary activity is in information may apply to become a full member of IFIP, although full membership is restricted to one society per country. Full members are entitled to vote at the annual General Assembly, National societies preferring a less committed involvement may apply for associate or corresponding membership. Associate members enjoy the same benefits as full members, but without voting rights. Corresponding members are not represented in IFIP bodies. Affiliated membership is open to non-national societies, and individual and honorary membership schemes are also offered.

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Information Technology supporting human  
development

Edited by

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## **Preface**

### **Engineering the Knowledge Society (EKS) - Event of the World Summit on the Information Society (WSIS)**

This book is the result of a joint event of the World Federation of Engineering Organisations (WFEO) and the International Federation for Information Processing (IFIP) held during the World Summit on the Information Society (WSIS) in Geneva, Switzerland, December 11 - 12, 2003. The organisation was in the hands of Mr. Raymond Morel of the Swiss Academy of Engineering Sciences (SATW).

Information Technology (or Information and Communication Technology) cannot be seen as a separate entity. Its application should support human development and this application has to be engineered. Education plays a central role in the engineering of Information and Communication Technology (ICT) for human support. The conference addressed the following aspects: Lifelong Learning and education, e-inclusion, ethics and social impact, engineering profession, developing e-society, economy and e-Society. The contributions in this World Summit event reflected an active stance towards human development supported by ICT. A Round Table session provided concrete proposals for action.

The International Programme Committee of this WSIS event was formed by:

- Jean-Claude Badoux (WFEO, SATW)
- Leszek J. Bialy (WFEO)
- Pierre-André Bobillier (IFIP, SFI, SI, SISR)
- Fulvio Caccia (SATW)

- Louis-Joseph Fleury (SATW)
- Raymond Morel (IFIP, SATW, SFI, SI, SISR)
- Andreas Schweizer (SATW)
- Tom van Weert (IFIP, SATW)

The International Program Committee of Engineering the Knowledge Society (EKS) wishes to thank the following partners who made this event of the World Summit on the Information Society possible:

- WFEO (World Federation of Engineering Organisations);
- SATW (The Swiss Academy of Engineering Sciences);
- The Hasler Stiftung;
- SUN Microsystems;
- SWITCH (Swiss Academic and Research Network or Swiss education & Research Network);
- SVI-FSI (Swiss federation of Informatics Societies);
- SI (Swiss Informatics Society);
- ICT Switzerland;
- SISR (Société d'Informatique de Suisse Romande).

## Papers

This book has been produced from papers by invited authors from Belgium, Canada, Finland, France, Germany, Malaysia, Mali, The Netherlands, Switzerland, United Kingdom and the USA. In addition the book contains project proposals for taking action. Also included are the UNESCO - IFIP World Computer Congress 2002 Youth Declaration, UNESCO - IFIP Vilnius Declaration, the World Federation of Engineering Organisations (WFEO) Carthage Declaration on the Digital Divide and the European Academy of Sciences and Arts (EASA) Declaration on security of Wireless Lans.

## Foreword

This book presents a cross-section of educational implications of the Knowledge Society (or Information Society), an emerging society in which Information and Communication Technology plays an important role. In the words of Klaus Brunnstein, the IFIP president: “Renowned experts address essential aspects such as the engineering of ICT-applications for the Knowledge Society, as well as the vulnerability of such applications. Also the concept of a networked economy and an example of telemedicine in Mali are presented. Sustainability is addressed, thus linking Rio to Geneva. More general, very basic aspects of knowledge-based systems are addressed: roles and preservation of information, education and lifelong learning, the development of ICT-skills and professionalism, social engineering, as well as questions related to ethics in the information society.

With such richness in detail an essential basis is built for understanding the relation between the concept of the ‘Information Society’ and the educational aspects of the ‘Knowledge Society’ as discussed in the 2003 General Conference of UNESCO with special reference to the needs of developing knowledge societies.”

The papers are structured according to the following themes:

- Lifelong Learning and education;
- e-Inclusion;
- Ethics and social impact;
- The role of engineering;
- Developing e-society;
- Economy and e-Society;
- Project proposals.

**Editor**

Tom J. van Weert holds the chair in ICT and Higher Education of the Hogeschool van Utrecht, University of Professional Education and Applied Science, Utrecht, The Netherlands. Earlier he was managing director of Cetus, centre of expertise for educational innovation and ICT, of the same university. Before that he was director of the School of Informatics (Computing Science) at the University of Nijmegen, The Netherlands. Tom has studied applied mathematics and computing science. He started his working career in teacher education and software engineering. He has been chair of the International Federation for Information Processing (IFIP) Working Groups on Secondary Education and Higher Education. He currently is vice-chair of IFIP Technical Committee 3 (TC3) on Education. He is also member of the TC3 Taskforce on Lifelong Learning.