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## Digital Transformation for a Sustainable Society in the 21st Century

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## **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. A federation for societies working in information processing, IFIP's aim is two-fold: to support information processing in the countries of its members and to encourage technology transfer to developing nations. As its mission statement clearly states:

*IFIP is the global non-profit federation of societies of ICT professionals that aims at achieving a worldwide professional and socially responsible development and application of information and communication technologies.*

IFIP is a non-profit-making organization, run almost solely by 2500 volunteers. It operates through a number of technical committees and working groups, which organize events and publications. IFIP's events range from large international open conferences to working conferences and local seminars.

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 generally smaller and occasionally by invitation only. Their purpose is to create an atmosphere conducive to innovation and development. Refereeing is also 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.

IFIP distinguishes three types of institutional membership: Country Representative Members, Members at Large, and Associate Members. The type of organization that can apply for membership is a wide variety and includes national or international societies of individual computer scientists/ICT professionals, associations or federations of such societies, government institutions/government related organizations, national or international research institutes or consortia, universities, academies of sciences, companies, national or international associations or federations of companies.


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Ilias O. Pappas · Patrick Mikalef ·  
Yogesh K. Dwivedi · Letizia Jaccheri ·  
John Krogstie · Matti Mäntymäki (Eds.)


# Digital Transformation for a Sustainable Society in the 21st Century

I3E 2019 IFIP WG 6.11 International Workshops  
Trondheim, Norway, September 18–20, 2019  
Revised Selected Papers

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## Preface

During the 18th International Federation of Information Processing (IFIP) Conference on e-Business, e-Services, and e-Society (I3E), which was held in Trondheim, Norway, during September 18–20, 2019, we made efforts to offer the opportunity for discussing up-to-date topics under the broad umbrella of e-Business, e-Services, and e-Society. Nonetheless, there are specific topics that require increased attention. This was accomplished by hosting several workshops in parallel with the main conference.

The workshops allow the researchers to present their working ideas and ongoing projects, while at the same time offer the opportunity to discuss research ideas with a highly focused audience. Based on the feedback received during the presentations and the workshops activities, the authors had the opportunity to edit the workshop articles for the current publication.

Four workshops took place during the 18th IFIP I3E 2019 conference. We were proud to host DTIS, TPSIE, 3(IT), and CROPS. Each workshop focused on different topics, with all being connected to the main theme of the I3E 2019 conference “Digital Transformation for a Sustainable Society in the 21st Century.” They focused on Digital Transformation for an Inclusive Society (DTIS), Trust and Privacy Aspects of Smart Information Environments (TPSIE), Innovative Teaching of Introductory Topics in Information Technology (3IT), and CROwd-Powered e-Services (CROPS). A message from the chairs of each workshop is included below.

We would like to express our gratitude to everyone who made the I3E 2019 workshops successful. First of all, our workshop chairs, the members of the workshop Program Committees, authors of submitted papers, invited speakers, and finally all workshop participants.

November 2019

Ilias O. Pappas  
Patrick Mikalef  
Yogesh K. Dwivedi  
Letizia Jaccheri  
John Krogstie  
Matti Mäntymäki

# Conference Organization

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Patrick Mikalef	Norwegian University of Science and Technology (NTNU) and SINTEF, Norway
Yogesh K. Dwivedi	Swansea University, UK
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