



**HAL**  
open science

## Electronic Participation

Sara Hofmann, Csaba Csáki, Noella Edelmann, Thomas Lampoltshammer,  
Ulf Melin, Peter Parycek, Gerhard Schwabe, Efthimios Tambouris

► **To cite this version:**

Sara Hofmann, Csaba Csáki, Noella Edelmann, Thomas Lampoltshammer, Ulf Melin, et al.. Electronic Participation. Springer International Publishing, LNCS-12220, 2020, Lecture Notes in Computer Science, 978-3-030-58140-4. 10.1007/978-3-030-58141-1 . hal-03201953

**HAL Id: hal-03201953**

<https://inria.hal.science/hal-03201953v1>

Submitted on 19 Apr 2021

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



Distributed under a Creative Commons Attribution 4.0 International License

## Founding Editors

Gerhard Goos

*Karlsruhe Institute of Technology, Karlsruhe, Germany*

Juris Hartmanis

*Cornell University, Ithaca, NY, USA*

## Editorial Board Members

Elisa Bertino

*Purdue University, West Lafayette, IN, USA*

Wen Gao

*Peking University, Beijing, China*

Bernhard Steffen 

*TU Dortmund University, Dortmund, Germany*

Gerhard Woeginger 

*RWTH Aachen, Aachen, Germany*

Moti Yung

*Columbia University, New York, NY, USA*


More information about this series at <http://www.springer.com/series/7409>

Sara Hofmann · Csaba Csáki ·  
Noella Edelmann · Thomas Lampoltshammer ·  
Ulf Melin · Peter Parycek ·  
Gerhard Schwabe · Efthimios Tambouris (Eds.)

# Electronic Participation

12th IFIP WG 8.5 International Conference, ePart 2020  
Linköping, Sweden, August 31 – September 2, 2020  
Proceedings

*Editors*

Sara Hofmann   
University of Agder  
Kristiansand, Norway

Noella Edelmann   
Danube University Krems  
Krems, Austria


Ulf Melin   
Linköping University  
Linköping, Sweden

Gerhard Schwabe  
University of Zurich  
Zurich, Switzerland

Csaba Csáki   
Corvinus University of Budapest  
Budapest, Hungary

Thomas Lampoltshammer   
Danube University Krems  
Krems, Austria

Peter Parycek   
Danube University Krems  
Krems, Austria

Efthimios Tambouris   
University of Macedonia  
Thessaloniki, Greece

ISSN 0302-9743

ISSN 1611-3349 (electronic)

Lecture Notes in Computer Science

ISBN 978-3-030-58140-4

ISBN 978-3-030-58141-1 (eBook)

<https://doi.org/10.1007/978-3-030-58141-1>

LNCS Sublibrary: SL3 – Information Systems and Applications, incl. Internet/Web, and HCI

© IFIP International Federation for Information Processing 2020

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, expressed or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

This Springer imprint is published by the registered company Springer Nature Switzerland AG  
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

# Preface

Welcome to the third joint EGOV-CeDEM-ePart 2020! The conference presents the merger of the IFIP WG 8.5 Electronic Government (EGOV), the IFIP WG 8.5 Electronic Participation (ePart), and the E-Democracy and Open Government Conference (CeDEM). The conference is a well-known international venue for exchanging ideas among researchers and also practitioners in the field of e-Government, Open Government, eParticipation, and e-Democracy, as well as the role of social media, digital transformation in society, artificial intelligence, policy information, smart governance, and social innovation.

This year's preparation and execution of the conference have been heavily influenced by the COVID-19 pandemic. Originally planned to take place at Linköping University in Sweden, EGOV-CeDEM-ePart 2020 was held as a fully digital conference during August 31 – September 2. The authors recorded a short presentation of their paper beforehand so that during the conference the focus was on providing feedback, discussion, and learning from each other. While we lost some of the ad-hoc meetings and informal gatherings, we managed to have much interaction and participation.

EGOV-CeDEM-ePart 2020 attracted different types of submissions, including completed research, ongoing research, practitioner papers, reflections and viewpoints, posters, and workshops. In addition, the conference organized a PhD colloquium. EGOV-CeDEM-ePart welcomes individuals from academic and applied backgrounds as well as from business, public authorities, NGOs, NPOs, and education institutions. The submissions are distributed over the following tracks:

- General e-Government & e-Governance Track
- General e-Democracy & e-Participation Track
- AI, Data Analytics & Automated Decision Making Track
- Smart Cities (Government, Communities & Regions) Track
- Social Media Track
- Social Innovation Track
- Open Data: Social and Technical Aspects Track
- Digital Society Track
- Cybersecurity Track
- Legal Informatics Track
- Practitioners' Track

The ePart proceedings contain 11 completed research papers, which accounts for an acceptance rate of 33%. The papers are distributed among the General e-Democracy & e-Participation, Social Media, Legal Informatics, Digital Society, and Social Innovation tracks. Another 30 completed research papers are included in the LNCS EGOV proceedings (vol. 12219).

The volume starts with eParticipation Developments and the case of a district authority in Hungary that decided to build an eParticipation program from scratch presented by Csaba Csáki. He unveils challenges of using digital technologies in extended democratic decision making. Joachim Åström and Martin Karlsson take on a

new perspective of trust research in eParticipation. They analyze Swedish public managers' trust in citizens when collaborating with them in participation projects.

In the area of Digital Transformation, Efthimios Tambouris and Epameinondas Troulinos investigate the transformation of information systems in the jurisdiction. They explore how the governance structure of the Integrated Administrative Court Case Management System of Greece has affected the decisions regarding interoperability. Nitesh Bharosa, Silvia Lips, and Dirk Draheim analyze data exchange infrastructures, which are needed for transforming the public sector. In doing so, they compare the different approaches in The Netherlands and in Estonia. A more theoretical perspective on digital transformation is taken by Thomas Vogl. He discusses diverse perspectives to the study of technologically supported social innovation in the public sector.

Two papers deal with Open Government and Transparency. Noella Edelmann and Mary Francoli explore the connection between a government's membership in the Open Government Partnership initiative and their digital transformation. Another perspective of openness is pursued by Changwoo Suh, Byungtae Lee, Habin Lee, Youngseok Choi, and Sunghan Ryu. In their contribution, they identify what attributes of online games need to be disclosed to the market for policy makers.

Several papers in our volume consider the User Perspective. Charalampos Alexopoulos, Shefali Virkar, Michalis Avgerinos Loutsaris, Anna-Sophie Novak, and Euripidis Loukis analyze how to design effective and useful systems for the provision of legal information. In this context, they identify the legal information requirements of designers of public policies. Mariana S. Gustafsson, Elin Wihlborg, and Johanna Sefyrin consider the concept of citizenship and how it is mediated by technology. Their findings are based on a field study in Swedish libraries where they examine how citizenship is practiced in an advanced digital society. Karin Skill and Ahmed Kaharevic also consider the Swedish context. They explore digital participation and inclusion in eHealth in a marginalized neighborhood. The volume closes with a study on chatbots in public agencies. Linett Simonsen, Tina Steinstø, Guri Verne, and Tone Bratteteig present their findings from chat logs and identify different types of lack of domain knowledge.

We would like to thank all the contributors who have aided in making this year's conference a success. Our gratitude goes to the track chairs, the members of the Program Committee and the additional reviewers for their effort in preparing the conference as well as reviewing and selecting the accepted papers, and to the authors for submitting their papers. A special thanks goes to the local organizers at Linköping University for their preparation and their flexibility in these challenging times. The conference was only possible with the help and contribution from all of you.

August 2020

Sara Hofmann  
Csaba Csáki  
Noella Edelmann  
Thomas Lampoltshammer  
Ulf Melin  
Peter Parycek  
Gerhard Schwabe  
Efthimios Tambouris

# Organization

## Conference Lead Organizer

Marijn Janssen                      Delft University of Technology, The Netherlands

## General e-Government and e-Governance Track

Gabriela Viale Pereira              Danube University Krems, Austria  
Ida Lindgren                          Linköping University, Sweden  
Hans Jochen Scholl                  University of Washington, USA

## General e-Democracy and e-Participation Track

Noella Edelmann                      Danube University Krems, Austria  
Peter Parycek                          Danube University Krems, Austria  
Robert Krimmer                        Tallinn University of Technology, Estonia

## Smart Cities (Government, Communities and Regions) Track

Manuel Pedro Rodríguez              University of Granada, Spain  
    Bolívar  
Karin Axelsson                          Linköping University, Sweden  
Nuno Lopes                              DTx: Digital Transformation CoLab, Portugal

## AI, Data Analytics and Automated Decision Making Track

Habin Lee                                Brunel University London, UK  
Euripidis Loukis                        University of the Aegean, Greece  
Evangelos Kalampokis                  University of Macedonia, Greece

## Social Media Track

Sara Hofmann                            University of Agder, Norway  
Marius Rohde Johannessen            University of South-Eastern Norway, Norway  
Panos Panagiotopoulos                Queen Mary University of London, UK

## Social Innovation Track

Csaba Csáki                                Corvinus University of Budapest, Hungary  
Gianluca Misuraca                        European Commission's Joint Research Centre, Spain  
Marijn Janssen                            Delft University of Technology, The Netherlands



## **Open Data: Social and Technical Aspects Track**

Anneke Zuiderwijk	Delft University of Technology, The Netherlands
Ramon Gil-Garcia	University at Albany, SUNY, USA
Efthimios Tambouris	University of Macedonia, Greece

## **Digital Society Track**

Thomas Lampoltshammer	Danube University Krems, Austria
Christian Østergaard Madsen	IT University of Copenhagen, Denmark
Katarina L. Gidlund	Mid Sweden University, Sweden

## **Cybersecurity Track**

Natalia Kadenko	Delft University of Technology, The Netherlands
Marijn Janssen	Delft University of Technology, The Netherlands

## **Legal Informatics Track**

Peter Parycek	Danube University Krems, Austria
Anna-Sophie Novak	Danube University Krems, Austria

## **Practitioners' Track**

Francesco Mureddu	The Lisbon Council, Belgium
Peter Reichstädter	Austrian Parliament, Austria
Francesco Molinari	Politecnico di Milano, Italy
Morten Meyerhoff Nielsen	United Nations University, Portugal

## **Chair of Outstanding Papers Awards**

Noella Edelmann	Danube University Krems, Austria
Evangelos Kalampokis	University of Macedonia, Greece

## **PhD Colloquium Chairs**

Gabriela Viale Pereira	Danube University Krems, Austria
J. Ramon Gil-Garcia	University at Albany, SUNY, USA
Ida Lindgren	Linköping University, Sweden

## **Program Committee**

Suha Alawadhi	Kuwait University, Kuwait
Karin Ahlin	Mid Sweden University, Sweden
Valerie Albrecht	Danube University Krems, Austria

Laura Alcaide-Muñoz	University of Granada, Spain
Karin Axelsson	Linköping University, Sweden
Ana Alice Baptista	University of Minho, Portugal
Peter Bellström	Karlstadt University, Sweden
Flavia Bernardini	Universidade Federal Fluminense, Brazil
Lasse Berntzen	University of South-Eastern Norway, Norway
Radomir Bolgov	Saint Petersburg State University, Russia
Paul Brous	Delft University of Technology, The Netherlands
Luiz Paulo Carvalho	UFRJ, Brazil
Walter Castelnovo	University of Insubria, Italy
Alexopoulos Charalampos	University of the Aegean, Greece
Youngseok Choi	University of Southampton, UK
Wichian Chutimaskul	King Mongkut's University of Technology Thonburi, Thailand
Antoine Clarinval	Université de Namur, Belgium
Andreiwid Sheffer Corrêa	Federal Institute of São Paulo, Brazil
J. Ignacio Criado	Universidad Autónoma de Madrid, Spain
Joep Crompvoets	KU Leuven, Belgium
Peter Cruickshank	Edinburgh Napier University, UK
Jonathan Crusoe	Linköping University, Sweden
Csaba Csáki	Corvinus University of Budapest, Hungary
Frank Danielsen	University of Agder, Norway
Lieselot Danneels	KU Leuven, Belgium
Todd R. Davies	Stanford University, USA
Athanasios Deligiannis	International Hellenic University, Greece
Edna Dias Canedo	Universidade de Brasília, Brazil
Bettina Distel	University of Münster, Germany
Noella Edelmann	Danube University Krems, Austria
Montathar Faraon	Kristianstad University, Sweden
Margarita Fourer	Danube University Krems, Austria
Sabrina Franceschini	Regione Emilia-Romagna, Italy
Gangadharan G. R.	IBM, India
Yingying Gao	Delft University of Technology, The Netherlands
Luz Maria Garcia	Universidad de la Sierra Sur, Mexico
Francisco García Morán	European Commission's Joint Research Centre, Belgium
Elisabeth Gebka	University of Namur, Belgium
J. Paul Gibson	Institut Mines-Télécom, France
J. Ramon Gil-Garcia	University at Albany, SUNY, USA
Dimitris Gouscos	University of Athens, Greece
Malin Granath	Linköping University, Sweden
Stefanos Gritzalis	University of Piraeus, Greece
Christine Große	Mid Sweden University, Sweden
Divya Kirti Gupta	Indus Business Academy, India
Martijn Hartog	Delft University of Technology, The Netherlands
Marcia Hino	FGV EAESP, Brazil

Sara Hofmann	University of Agder, Norway
Roumiana Ilieva	Technical University of Sofia, Bulgaria
Tomasz Janowski	Danube University Krems, Austria
Marijn Janssen	Delft University of Technology, The Netherlands
Marius Rohde Johannessen	University of South-Eastern Norway, Norway
Gustaf Juell-Skielse	Stockholm University, Sweden
Yury Kabanov	National Research University, Russia
Natalia Kadenko	Delft University of Technology, The Netherlands
Muneo Kaigo	University of Tsukuba, Japan
Evangelos Kalampokis	CERTH, Greece
Eleni Kanellou	NTUA, Greece
Evika Karamagioli	Université Paris 8, France
Areti Karamanou	University of Macedonia, Greece
Ilka Kawashita	University of Minho, Portugal
Jongwoo Kim	Hanyang University, South Korea
Fabian Kirstein	Fraunhofer Institute, Germany
Helena Korge	Tallinn University of Technology, Estonia
Robert Krimmer	Tallinn University of Technology, Estonia
Thomas Lampoltshammer	Danube University Krems, Austria
Habin Lee	Brunel University, UK
Hong Joo Lee	The Catholic University of Korea, South Korea
Azi Lev-On	Ariel University Center, Israel
Johan Linåker	Lund University, Sweden
Ida Lindgren	Linköping University, Sweden
Nuno Lopes	DTx: Digital Transformation CoLab, Portugal
Euripidis Loukis	University of the Aegean, Greece
Rui Pedro Lourenço	INESC Coimbra, Portugal
Nikolaos Loutas	European Commission's Joint Research Centre, Belgium
Edimara Luciano	Pontifical Catholic University of Rio Grande do Sul, Brazil
Luis F. Luna-Reyes	University at Albany, SUNY, USA
Bjorn Lundell	University of Skövde, Sweden
Ahmad Luthfi	Delft University of Technology, The Netherlands
Cristiano Maciel	Universidade Federal de Mato Grosso, Brazil
Christian Østergaard Madsen	IT University of Copenhagen, Denmark
Johan Magnusson	University of Gothenburg, Sweden
Ricardo Matheus	Delft University of Technology, The Netherlands
Keegan Mcbride	Tallinn University of Technology, Estonia
John McNutt	University of Delaware, USA
Rony Medaglia	Copenhagen Business School, Denmark
Fritz Meiners	Fraunhofer Institute, Germany
Ulf Melin	Linköping University, Sweden
Tobias Mettler	University of Lausanne, Switzerland
Morten Meyerhoff	United Nations University, Portugal

Jeremy Millard	Third Millennium Governance, Denmark
Yuri Misnikov	University of Leeds, UK
Gianluca Misuraca	European Commission's Joint Research Centre, Belgium
Francesco Molinari	University of Rijeka, Croatia
Francesco Mureddu	Lisbon Council, Portugal
Michael Möstl	Danube University Krems, Austria
Alessia Caterina Neuronì	Bern University of Applied Sciences, Switzerland
Hanne-Westh Nicolajsen	IT University of Copenhagen, Denmark
Mille Nielsen	IT University of Copenhagen, Denmark
Peter Axel Nielsen	Aalborg University, Denmark
Anastasija Nikišforova	University of Latvia, Latvia
Anna-Sophie Novak	Danube University Krems, Austria
Panos Panagiotopoulos	Queen Mary University of London, UK
Darcy Parks	Linköping University, Sweden
Peter Parycek	Danube University Krems, Austria
Sergio Picazo-Vela	Universidad de las Americas Puebla, Mexico
Sofie Pileman	Linköping University, Sweden
Luiz Pereira Pinheiro Junior	Universidade Positivo, Brazil
Kerley Pires	United Nations University, Portugal
Florin Pop	University Politehnica of Bucharest, Hungary
Anisah Herdiyanti Prabowo	Delft University of Technology, The Netherlands
Peter Reichstädter	Austrian Parliament, Austria
Nicolau Reinhard	University of São Paulo, Brazil
Taiane Ritta Coelho	Federal University of Parana, Brazil
A. Paula Rodríguez Müller	KU Leuven, Belgium
Manuel Pedro Rodríguez Bolívar	University of Granada, Spain
Alexander Ronzhyn	University of Koblenz-Landau, Germany
Athanasia Routzouni	University of the Aegean, Greece
Boriana Rukanova	Delft University of Technology, The Netherlands
Per Runeson	Lund University, Sweden
Michael Räckers	University of Münster, Germany
Rodrigo Sandoval-Almazan	Universidad Autonoma del Estado de Mexico, Mexico
Günter Scheffbeck	Austrian Parliament, Austria
Hans Jochen Scholl	University of Washington, USA
Hendrik Scholta	University of Münster, Germany
Harrie Scholtens	European Institute of Public Administration, The Netherlands
Johannes Scholz	Graz University of Technology, Austria
Judith Schossböck	Danube University Krems, Austria
Luiza Schuch de Azambuja	Tallinn University of Technology, Estonia
Erich Schweighofer	University of Vienna, Austria
Johanna Sefyrin	Linköping University, Sweden
Tobias Siebenlist	Heinrich Heine University Düsseldorf, Germany
Anthony Simonofski	KU Leuven, Belgium

Søren Skaarup	IT University of Copenhagen, Denmark
David Spacek	Masaryk University, Czech Republic
Vera Spitzer	University of Koblenz-Landau, Germany
Karin Steiner	Danube University Krems, Austria
Leif Sundberg	Mid Sweden University, Sweden
Iryna Susha	Örebro University, Sweden
Proscovia Svård	Mid Sweden University, Sweden
Øystein Sæbø	University of Agder, Norway
Fredrik Söderström	Linköpings University, Sweden
Efthimios Tambouris	University of Macedonia, Greece
Aurelia Tamo-Larrieux	University of Zurich, Switzerland
Luca Tangi	Politecnico di Milano, Italy
Konstantinos Tarabanis	University of Macedonia, Greece
Luis Terán	University of Fribourg, Switzerland
Lörinc Thurnay	Danube University Krems, Austria
Jolien Ubacht	Delft University of Technology, The Netherlands
Mathias Van Compernelle	Ghent University, Belgium
Séline van Engelenburg	Delft University of Technology, The Netherlands
Marco Velicogna	IRSIG-CNR, Italy
Gabriela Viale Pereira	Danube University Krems, Austria
Shefali Virkar	Danube University Krems, Austria
Cancan Wang	IT University of Copenhagen, Denmark
Frederika Welle Donker	Knowledge Centre Open Data, The Netherlands
Guilherme Wiedenhöft	Federal University of Rio Grande, Brazil
Elin Wihlborg	Linköping University, Sweden
Maija Ylinen	Tampere University of Technology, Finland
Chien-Chih Yu	National Cheng Chi University, China
Thomas Zefferer	A-SIT Plus GmbH, Austria
Qinfeng Zhu	University of Groningen, The Netherlands
Anneke Zuiderwijk	Delft University of Technology, The Netherlands

### **Additional Reviewers**

Michele Benedetti	Silvia Lips
Yannis Charalabidis	Yu-lun Liu
Jaewon Choi	Auriane Marmier
Ruth Angelie Cruz	Claudio Russo
Alizée Francey	Janine Ulrich
Mariana Gustafsson	Colin van Noordt
Sangwook Ha	Gianluigi Viscusi
Karl Kristian Larsson	Dimitris Zeginis
Junyeong Lee	

# Contents

## **eParticipation Developments**

An Attempt to Build an eParticipation Program from Scratch: The Case of a District Municipality . . . . .	3
<i>Csaba Csáki</i>	

Trust in Citizens and Forms of Political Participation: The View of Public Managers . . . . .	15
<i>Joachim Åström and Martin Karlsson</i>	

## **Digital Transformation**

Investigation of Interoperability Governance: The Case of a Court Information System . . . . .	29
<i>Epameinondas Troulinos and Efthimios Tambouris</i>	

Making e-Government Work: Learning from the Netherlands and Estonia . . .	41
<i>Nitesh Bharosa, Silvia Lips, and Dirk Draheim</i>	

Theoretical Foundations for the Study of Social Innovation in the Public Sector . . . . .	54
<i>Thomas M. Vogl</i>	

## **Open Government and Transparency**

Digital Transformation in the Context of the Open Government Partnership . . . . .	69
<i>Noella Edelmann and Mary Francoli</i>	

What to Be Disclosed? Attributes of Online Games for the Market Transparency Policy . . . . .	81
<i>Changwoo Suh, Byungtae Lee, Habin Lee, Youngseok Choi, and Sunghan Ryu</i>	

## **User Perspectives**

Analysing Legal Information Requirements for Public Policy Making . . . . .	95
<i>Charalampos Alexopoulos, Shefali Virkar, Michalis Avgerinos Loutsaris, Anna-Sophie Novak, and Euripidis Loukis</i>	

Technology Mediated Citizenship: What Can We Learn  
from Library Practices . . . . . 109  
*Mariana S. Gustafsson, Elin Wihlborg, and Johanna Sefyrin*

eHealth in the Hood: Exploring Digital Participation in a Swedish Suburb . . . 121  
*Karin Skill and Ahmed Kaharevic*

“I’m Disabled and Married to a Foreign Single Mother”. Public Service  
Chatbot’s Advice on Citizens’ Complex Lives . . . . . 133  
*Linett Simonsen, Tina Steinstø, Guri Verne, and Tone Bratteteig*

**Author Index** . . . . . 147