

Pannel: Digital Transformation Impact on Society

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Abstract. In this panel, we are going to discuss the impact of digital transformation will have on society. Digital technologies are rapidly and profoundly changing the world in promising and threatening ways. Technologies such as Big data, artificial intelligence, machine learning, blockchain, 3D promise to have a profoundly disruptive effect on the industry, business models, governance models and on the way we interact with each other in society. These unprecedented speed, scale and scope of change can provoke inequalities favoring world's richest people become wealthier than ever and a social shock where people lose their old references and competences. Which influence the globalization, circular economy, sharing economy and climate change will have on this digital transformation – How they will shape it? (1) Left this transformation unmanaged, the technologies will shape us and in the age of artificial intelligence and biotechnologies, this can be very dangerous – How we can counteract it? (2) Norms and rules are needed on different domains and levels, strategies to respond to technologies dark side and risks, leaders must be more conscious of their acts and consequences on the environment and social stability – Can these measures help to achieve sustainable development? (3) The changes provoked by this digital transformation will affect governments, industry, and society as a whole – How governments shall design their e-Government and Smart Cities strategies to be better prepared? (4) How industry shall design its Industry 4.0 strategy to be better prepared? (5)

1 Organization of panel:

The participants will be invited to answer these five questions, providing arguments and points of view. They will also be encouraged to share their experiences or specific country cases. The role of the organizer will be to conduct the debate and manage interventions but, most importantly, of presenting counter-arguments and different perspectives than those assumed by participants. In addition, they will encourage interaction with the audience and constructive dialogue.

Tutorial Instructors



Nuno Vasco Lopes is graduated in Electrical Engineering by the University of Trás-os-Montes e Alto Douro in 1998, and obtained an MSc Degree in Telematics at the University of Vigo in 2003, a Ph.D. in Computer Science at the University of Minho in 2011 and a Post-Doc in Computer Science at the University of Coimbra in 2013. He is a professor at public and private universities since 1998 and he is currently working at the University of Minho and at the United Nations University. His current research interests are Smart Cities, Mobile Networks, Quality of Service, Real-Time Services, Vehicular Networks, Nano-Communication and Internet of Things. He is an IEEE Member of the IEEE Computer Society and IEEE Communications Society, Editor-in-Chief of the ACEEE (Ass. Computer Electronics and Electrical Engineers) International Journal

of Communication, and Guest Editor in a Special Issue about Cloud Computing and Internet of Things in the Cluster Computing Journal, the Journal of Networks, Software Tools and Applications. Nuno Vasco Lopes is a researcher at the United Nations University Operating Unit on Policy-Driven Electronic Governance (UNU-EGOV) and a professor on a part-time basis at the University of Minho. Currently, he holds two Postdoctoral positions. One on Computer Science at the University of Coimbra and other on Electronic Governance at the United Nations University. Since 1998 he has been teaching several courses in the areas of computer science and mathematics in different public, private, national and international universities. During his working life, he has been involved in several national, European and international projects, such as Electronic Governance for Context-Specific Public Service Delivery, Knowledge Society Policy Handbook, Policy Monitoring on Digital Technology for Inclusive Education, Intelligent Computing for Internet and Services, Internet of Things for Disabled People, Smart Defence and Smart Cities for Sustainable Development. He also delivers on a regular basis professional courses, seminars, and workshops on ICT, e-learning, computer networks, cybersecurity, smart cities, amongst others.



Sean A. McKenna is a Senior Research Manager at IBM Research in Dublin, Ireland. Dr. McKenna has 25 years of experience in developing science-focused engineering solutions for complex problems. He leads a group of scientists and engineers in research and technology that expands Internet of Things (IoT) capabilities through AI and Blockchain. Application areas include infrastructure systems, manufacturing and natural resource management. Prior to joining IBM in 2012, he was a Senior Scientist at Sandia National Laboratories in Albuquerque, New Mexico, USA. He has previously been an adjunct/visiting professor at New Mexico Tech, the National University of Singapore and the University of Texas. Dr. McKenna is a member of IBM's Industry Academy and served as the 2016 Distinguished Lecturer for the International Assoc. of Mathematical Geosciences.



Soon Ae Yang is a NIPA Advisor to High National Studies Institute (IAEN), Ecuador...Soon-Ae Yang is an E-government Advisor, dispatched to IAEN by NIPA (National IT Industry Promotion Agency) in Korea. She is advising on the development of education and training courses for government officials and E-government policy research. She worked as an E-government Advisor in Timor-Leste for two years in 2013-2015. Since she received her Ph.D. in Artificial Intelligence at the University of Edinburgh, she had worked in the field of ICT planning and E-government policy in universities and research institutes in Korea including NIA (National Information Society Agency) and KLID (Korean Local Information Research and Development Institute).



H.R. Rao was named the AT&T Distinguished Chair in Infrastructure Assurance and Security at The University of Texas at San Antonio College of Business in January 2016. He also holds a courtesy appointment as full professor in the UTSA Department of Computer Science. Prior to working at UTSA, Professor Rao was the SUNY Distinguished Service Professor at the University at Buffalo. He graduated from Krannert Graduate School of Management at Purdue University. His interests are in the areas of management information systems, decision support systems, e-business, emergency response management systems and information assurance. He has chaired sessions at international conferences and presented numerous papers. He also has co-edited four books, including Information Assurance Security and Privacy Services and Information Assurance in Financial Services. He has authored or co-authored more than 200 technical papers, of which more than 125 are published in archival journals. Professor Rao was the inaugural recipient of The Bright Internet Award for his contributions to the information systems discipline by KMIS, the Korea Society of Management Information Systems. In 2018 Professor Rao

was awarded the International Federation for Information Processing (IFIP) Outstanding Service Award for significant service contributions to the field of information systems and information systems security. In November 2016, Professor Rao received the prestigious Information Systems Society Distinguished Fellow Award (Class of 2016) for outstanding intellectual contributions to the information systems discipline. Rao's work has received best paper and best paper runner up awards at ISR, AMCIS and ICIS. He has received funding for his research from the National Science Foundation, the Department of Defense and the Canadian Embassy. He also received the Fulbright fellowship in 2004.



Morten Meyerhoff Nielsen is Academic Fellow at UNU-EGOV. He is also a Researcher at the Tallinn University of Technology, Ragnar Nurkse School of Innovation and Governance, Estonia. He is also a former head of section at the Danish Agency for Digitisation, where he was responsible for the national citizen portal (www.borger.dk), including project development and management, daily management and coordination of external stakeholders, redevelopment of borger.dk graphical identity and information architecture, establishing measurable minimum criteria for user-friendliness in Danish eServices, and international knowledge transfer into the unit. His areas of expertise include project management and coordination, presentation skills, evaluation of ICT projects and online services, analysis and comparative e-Government, performance management, key performance indicators and tools, citizen portal functionality and structure/architecture, user-friendly and personalized service provision online, e-Voting, e-Inclusion / e-Participation and participatory design, Web2.0 / social media use in public administrations, ICT and interoperability, knowledge transfer and exchange, good practice identification and analysis, development and implementation of tender proposals, seminar and conference organization, technical assistance and knowledge transfer to SME's in developing countries, democratization, and international trade and foreign direct investments issues. He holds a Master in Arts in International Economic Management from the University of Birmingham (UK, 2000) and a BA and BA Honors in Political Science and Economics from the University of KwaZulu-Natal (South Africa, 1997 and 1998).



Elsa Estevez is an Adjunct Professor at National University of the South. Previously, she was a Senior Academic Programme Officer at the United Nations University Operating Unit on Policy-Driven Electronic Governance (UNU-EGOV) in Guimarães, Portugal; Academic Programme Officer at the UNU International Institute for Software Technology in Macao, China; Assistant Professor at the National University of the South, Argentina; visiting professor in three universities in Argentina; and head of information technology departments in major financial and pharmaceutical organizations in Argentina. Her research interests include context specific public service delivery, development and operation of the Government Chief Information Officer (GCIO) function, Electronic Governance (EGOV) for Sustainable Development, Smart City for Development, and Citizen Participation; the results are published in many book chapters, journal articles, conference papers and project reports. She has also delivered executive trainings to many groups of national, sectoral and city-level GCIOs around the world; organized conferences and schools to raise EGOV awareness and capacity in many developing countries; and managed research and development projects funded by the Macao Foundation, IDRC and several national governments. Most recently she assisted the Colombian Government towards the development of the national GCIO function, chaired the juries of the Gulf Cooperation Council e-Government Award in Kuwait and United Arab Emirates, and served as Programme Committee Co-Chair of three editions of the International Conference on Theory and Practice of Electronic Governance (ICEGOV) in Estonia, Portugal and Uruguay. She holds PhD and MSc degrees in Computer Science from the National University of the South, Argentina.