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Effectively Informing Public Policies with Digital Twins, AI and Digital Technologies

Professor Giovanna Di Marzo Serugendo

Professor and Director of the Computer Science Center of the University of Geneva, Switzerland

Keynote Overview:

Determining an effective public policy that addresses a given problem remains a complex and difficult task. Evidence-based policy making is a public policy development process that considers evidence as the central element for making the best-informed decisions regarding the choice, design and implementation of public policies. This presentation discusses the notion of evidence revealed by digital techniques such as interactive data analysis and visualization, artificial intelligence or digital twins to understand the present, anticipate the future, evaluate alternatives, or prescribe solutions. Specific examples and concrete projects related to sustainable development illustrate the presentation. The presentation ends on the potential of digital twins and AI in other domains (e.g. GLAM, archeology, humanitarian crises).

About the Keynote Presenter:

Prof. Giovanna Di Marzo Serugendo received her Ph.D. in Software Engineering from the Swiss Federal Institute of Technology in Lausanne (EPFL) in 1999. After spending two years at CERN (the European Center for Nuclear Research) and 5 years in the UK as Lecturer, she became full professor at the Geneva School of Social Sciences, University of Geneva in 2010. Since 2016, she is the Director of the Computer Science Center of the University of Geneva, Switzerland. She has been nominated in 2018 among the 100 digital shapers in Switzerland. Her research interests relate to Semantic AI, multi-agent systems, digital twins and decentralised software with self-



organising and emergent behaviour. This involves studying natural systems, designing and developing artificial collective systems, and verifying reliability and trustworthiness of those systems. Giovanna co-founded the IEEE International Conference on Self-Adaptive and Self-Organising Systems (SASO) and the ACM Transactions on Autonomous Adaptive Systems (TAAS), for which she served as EiC from 2005 to 2011. She recently set up a Digital Innovation Hub (2019) at the University of Geneva which aims at developing innovative services for the academic community, as well as other public, private or international organisations bringing together students, researchers and stakeholders.