

Semantic Web for Social Good

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1 Description

Many of the Social Good topics can benefit from the sort of unplanned, cross-domain, rapid-prototyping analysis that Linked Data makes possible. We've learned that measuring topics like poverty, health, economic opportunity and equality can be substantially more nuanced by considering broader categories of data than organizations traditionally collect for their own use. Past conferences have had individual presentations on topics that involve Semantic Web for Social Good. This workshop is intended to present multiple topics, to better identify intersections, overlaps, opportunities for accelerated advancement, and opportunities for shared abstractions.

Motivation: Whether it's called Social Good, Social Innovation, or even Social Entrepreneurship, there is a rising tide of interest in how data supports substantial change for the good of the planet and the people. Governments, NGO's, and academic disciplines such as political science, economics, and an array of hard sciences have long been in the business of collecting as well as analyzing the numbers associated with their highest priorities. Today, there are "B Corporations" (non-profits certified to meet a set of rigorous social & environmental standards), sustainability and charitable departments within traditional ("C") corporations, and even business school entrepreneurship departments focusing on recognizing and impacting social change.

Official commitments to address the UN Sustainable Development Goals (SDGs) alone are estimated at 140 Billion USD annually across a 15-year horizon (approximately \$4.2 Trillion USD over the life of the program) and are expected to continue to grow.ⁱⁱ At the same time, 60% of surveyed public company CEOs identified sustainability as important to their investors and 75% of surveyed

investment managers agreed.ⁱⁱⁱ

With this alignment of corporate, finance, governmental, and NGO pressure for results, it is anticipated that significant funding will be deployed to better understand the problems, their causes and correlations, and the progress to their resolution. Many of the active ISWC community members already have done work in or presented on a Social Good topic;^{iv} we believe most will be interested in understanding the confluence of these topics and the beginning development of best practices.

Program Chairs:

K. Krasnow Waterman is a Visiting Scientist at the Decentralized Information Group, Computer Science and Artificial Intelligence Laboratory, Massachusetts Institute of Technology where she has focused on policy reasoning over data transactions. In her academic life, she has also been Lecturer and Entrepreneur in Residence in the Eller College of Management and Assistant Dean in the College of Law, both at the University of Arizona, more than twenty years apart. The diversity of these appointments reflect the diversity of her professional life outside academia, where she managed technology at JP Morgan; was a trial attorney in private practice and government; was the inception Chief Information Officer of a counter-terrorism data analytics facility established by the White House immediately following 9/11; returned to Wall Street to run large data-driven programs for Citi and TIAA; and most recently was a partner in a private equity firm. She was the inception Chair of the American Bar Association's Committee on Artificial Intelligence and Robotics. She has been a speaker in industry venues such as TTI/Vanguard, Enterprise Data World, and Institutional Investor; she has also published and spoken in traditional peer-reviewed environments such as IEEE and AAAI.

Deborah L. McGuinness is the Tetherless World Senior Constellation Chair and Professor of Computer and Cognitive Science. She is also the founding director of the Web Science Research Center at Rensselaer Polytechnic Institute. Deborah has been recognized with awards as a fellow of the American Association for the Advancement of Science (AAAS) for contributions to the Semantic Web, knowledge representation, and reasoning environments and as the recipient of the Robert Englemore award from Association for the Advancement of Artificial Intelligence (AAAI) for leadership in Semantic Web research and in bridging Artificial Intelligence (AI) and eScience, significant contributions to deployed AI applications, and extensive service to the AI community. Deborah is a leading authority on the semantic web and has been working in knowledge representation and reasoning environments for over 30 years. Deborah's primary research thrusts include work on semantically-enabled schema and data integration, ontologies,

open linked data, data science, and foundational knowledge representation and reasoning to support a wide range of informatics and analysis efforts. Prior to joining RPI, Deborah was the acting director of the Knowledge Systems, Artificial Intelligence Laboratory and Senior Research Scientist in the Computer Science Department of Stanford University, and previous to that she was at AT&T Bell Laboratories.

James Hendler is the Director of the Institute for Data Exploration and Applications and the Tetherless World Professor of Computer, Web and Cognitive Sciences at Rensselaer Polytechnic Institute(RPI). He also serves as (acting) Chair of the Board of Trustees and Director of the UK's charitable Web Science Trust. Hendler has authored over 250 technical papers in the areas of Semantic Web, artificial intelligence, agent-based computing, open data systems and high performance processing. One of the originators of the "Semantic Web," Hendler was the recipient of a 1995 Fulbright Foundation Fellowship, is a former member of the US Air Force Science Advisory Board, and is a Fellow of the American Association for Artificial Intelligence, the British Computer Society, the IEEE and the AAAS. He is also the former Chief Scientist of the Information Systems Office at the US Defense Advanced Research Projects Agency (DARPA) and was awarded a US Air Force Exceptional Civilian Service Medal in 2002. The former editor-in-chief of IEEE Intelligent Systems, he is also the first computer scientist to serve on the Board of Reviewing editors for Science. In 2010, Hendler was named one of the 20 most innovative professors in America by Playboy magazine and was selected as an "Internet Web Expert" by the US government. In 2012, he was one of the inaugural recipients of the Strata Conference "Big Data" awards for his work on large-scale open government data, and he is a columnist and associate editor of the Big Data journal. In 2013, he was appointed by the governor as the Open Data Advisor to New York State.

Program Committee:

John Breslin, Director, TechInnovate and Senior Lecturer, Electrical & Electronic Engineering, National University of Ireland (NUI), Galway

Edward Curry, Lecturer, Informatics, National University of Ireland (NUI), Galway NUI Galway; Research Leader, Insight Centre for Data Analytics; and Investigator, LERO The Irish Software Research Centre

Lalana Kagal, Principal Research Scientist, Decentralized Information Group and Internet Policy Research Initiative, Computer Science and Artificial Intelligence Laboratory (CSAIL), Massachusetts Institute of Technology

Mayan Kejriwal, Research Scientist, Center on Knowledge Graphs, Information Sciences Institute, University of Southern California

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ⁱ This list of 20 Sustainable Development Goal “Targets” was prioritized from the 169 total by a group of 85 world experts in a study performed by Jeff Leitner, a member of our committee. See, “Where to Start with the SDG’s”, published in OECD: Development Matters (July 21, 2017) at <https://oecd-development-matters.org/2017/07/20/where-to-start-with-the-sdgs/>

ⁱⁱ “Development Aid Rises Again in 2016”, OECD (Paris, 11 Apr 2017) (See charts, pp.8&9, confirming spend over \$140B in 2015 and estimating over \$150B in 2016) <http://www.oecd.org/dac/financing-sustainable-development/development-finance-data/ODA-2016-detailed-summary.pdf>

ⁱⁱⁱ D. Kiron, G. Unruh, N. Kruschwitz, et al., “Corporate Sustainability at a Crossroads: Progress Towards Our Common Future in Uncertain Times”, MIT Sloan Management Review in Cooperation with BCG (23 May 2017) (See, Executive Summary, #3: Corporate Sustainability Hits the Mainstream) <https://sloanreview.mit.edu/projects/corporate-sustainability-at-a-crossroads/>

^{iv} See, notes, *infra* and, eg, H. Halping & F. Bria, “Crowdmapping Social Digital Innovation with Linked Data,” 12th EWSC (Portoroz, 2015) (<https://dl.acm.org/citation.cfm?id=2950955>)