

Proceedings of the 9th International Semantic Sensor Networks Workshop (SSN 2018)

Held at the 17th International Semantic Web Conference (ISWC 2018)

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This volume contains the papers presented at the 9th International Semantic Sensor Networks Workshop (SSN 2018) held at the 17th International Semantic Web Conference, October 9th, 2018 in Monterey, CA. The website for this workshop is hosted at the following URL:

<https://ssn2018.github.io/>

Preface

Rapid growth in the Internet of Things (IoT) means that connected sensors and actuators will be inundating the Web infrastructure with data. Semantics is increasingly seen as a key enabler for integration of sensor data and the broader Web ecosystem. The W3C and the Open Geospatial Consortium standardization bodies have taken a second look at the Semantic Sensor Network ontology and have published a new standard ontology for representing Sensors, Observations, Sampling, Actuation and Sensor Networks. Analytical and reasoning capabilities afforded by Semantic Web standards and technologies are considered important for developing advanced applications that go from capturing observations to the recognition of events, deeper insights, and actions. Furthermore, the contribution of semantics to sensing and actuation patterns is currently being explored. Major industries including manufacturing, transport and logistics, personal and public health, smart cities and smart energy, crisis management, and many others are spanning commercial, civic, and scientific operations that involve sensors, web, services and semantics.

This workshop continues the activity started within ISWC in 2006 and complemented by special tracks at ESWC since 2010. This 2018 edition benefits from renewed energy arising from the October 2017 W3C recommendation and OGC standard and, more importantly, increases significance due to the growth of IoT-enabled applications.

Selection. The SSN workshop attracted 11 contributions this year (8 long, 2 short, 1 demo). Long papers were reviewed by three program committee members, and short and demo papers were reviewed by two. The committee decided to accept 5 long papers, one of the long papers as a shortened version, and all short and demo papers were accepted

Selected best papers. Two best papers were nominated and will be published as part of the book *Emerging Topics in Semantic Technologies*. ISWC 2018 Satellite Events. E. Demidova, A.J. Zaveri, E. Simperl (Eds.), ISBN: 978-3-89838-736-1, 2018, AKA Verlag Berlin:

- Samya Sagar, Maxime Lefrançois, Issam Rebai, Khemaja Maha, Serge Garlatti, Jamel Feki and Lionel Médini, Modeling Smart Sensors on top of SOSA/SSN and WoT TD with the Semantic Smart Sensor Network (S3N) modular Ontology
- Victor Charpenay, Sebastian Käbisch and Harald Kosch, A Framework for Semantic Discovery on the Web of Things

Open Peer Review Initiative. This year we adopted the open peer review initiative⁵. The reviewers were asked if they were willing to publish their review and potentially their name on the website of the conference.

- 9 reviews were submitted with: “do not publish my review nor my name”
- 14 reviews were submitted with: “publish my review, but not my name”
- 4 reviews were submitted with: “publish my review and my name”

The final decision was the authors’, which were asked to answer the following question: Are you willing to encourage this open peer review initiative for SSN 2018?

- Publish the submitted version and the reviews
- Publish the submitted version but not the reviews
- Publish the minimal information about the paper (title and authors, default choice)
- Do not publish anything about the paper

Authors of 8 papers chose the first option, authors of one paper chose the second option, authors of 2 papers did not answer the question.

Advisory Panel. We thank the SSN workshop advisory panel members: Amit Sheth, Manfred Hauswirth, and Kerry Taylor.

⁵ <https://opennessinitiative.org/>

Table of Contents

Selected Best Papers

These papers are published in *Emerging Topics in Semantic Technologies*. ISWC 2018 Satellite Events. E. Demidova, A.J. Zaveri, E. Simperl (Eds.), ISBN: 978-3-89838-736-1, 2018, AKA Verlag Berlin.

Modeling Smart Sensors on top of SOSA/SSN and WoT TD with the Semantic Smart Sensor Network (S3N) modular Ontology
Samya Sagar, Maxime Lefrançois, Issam Rebai, Khemaja Maha, Serge Garlatti, Jamel Feki and Lionel Médini

A Framework for Semantic Discovery on the Web of Things
Victor Charpenay, Sebastian Käbisch and Harald Kosch

Long Papers

Ontological requirement specification for smart irrigation systems: a SOSA/SSN and SAREF comparison 1
María Poveda-Villalón, Quang-Duy Nguyen, Catherine Roussey, Christophe de Vault and Jean-Pierre Chanet

Towards Adaptive Anomaly Detection and Root Cause Analysis by Automated Extraction of Knowledge from Risk Analyses 17
Bram Steenwinckel, Pieter Heyvaert, Dieter De Paepe, Olivier Janssens, Sander Vanden Haute, Anastasia Dimou, Filip De Turck, Sofie Van Hoecke and Femke Ongenaë

BCI Ontology: A Context-based Sense and Actuation Model for Brain-Computer Interactions 32
Sergio José Rodríguez Méndez and John K. Zao

Demo Papers

Integrating Building Information Modeling and Sensor Observations using Semantic Web 48
Mads Holten Rasmussen, Christian Aaskov Frausing, Christian Anker Hviid and Jan Karlshøj

Short Papers

VSSo: the Vehicle Signal and Attribute Ontology 56
Benjamin Klotz, Raphaël Troncy, Daniel Wilms and Christian Bonnet

Optimizing a Semantically Enriched Hypercat-enabled Internet of Things Data Hub 64
Ilias Tachmazidis, Sotiris Batsakis, John Davies, Alistair Duke, Grigoris Antoniou and Sandra Stincic Clarke

SmartEnv Ontology in E-care@home	72
<i>Marjan Alirezaie, Karl Hammar, Eva Blomqvist, Mikael Nystrom and Valentina Ivanova</i>	

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