Ontology Summit 2015:
Internet of Things: Toward Smart Networked Systems
and Societies
Virtual Panel Session 04 – February 5, 2015

Track A: Ontology Integration in the Internet of Things I

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Track A: Ontology Integration in the Internet of Things: **Goal**

- Billions of things will be connected to the Internet
- These things span a spectrum of cognitive abilities
  - From simple sensors to humans
- Ontologies will play a significant role in integrating these things at different abstraction levels

- *Goal of Track:* To discuss the various approaches being taken to address the integration and interoperability issues

Track A: Ontology Integration in the Internet of Things: **Mission**

- Present case studies of IoT
- Discuss current approaches in integration and interoperability
- Discuss gaps in current approaches
- Discuss issues of vertical integration and interoperability across layers of the IoT, including granularity
- Propose methods for achieving integration and interoperability through ontologies
- Propose a unified framework for integration and interoperability for multimodal (audio, text, video, etc.) interfaces

Speakers Today

- **Dr. Steve Ray (Carnegie Mellon University, USA): An Ontology-Driven Integration Framework for Smart Communities**
  - Describes a neutral, abstract ontology and framework that supports the vision and diverse contexts of a smart community, supporting IoT and ontology mapping

- **Dr. Payam Barnaghi (University of Surrey, UK): Dynamic Semantics for the Internet of Things**
  - Provides an overview of the use-case and requirements for semantic interoperability in the IoT with a focus on annotation, processing and information extraction and dynamicity in the IoT environment

- **Dr. Jack Hodges (Web of Things (WOT) Research Group, Siemens Berkeley Laboratory, USA): Semantic Integration Prototype for Wearable Devices in Health Care**
  - Describes a prototype using curated biomedical ontologies to assist health care professionals in selecting appropriate wearable devices to monitor diagnosed disorders