



May 31st, 2009

Heraklion, Crete, Greece

**Collocated with the 6th European Semantic Web Conference
(ESWC 2009)**

[Objectives](#) | [Topic Of Interest](#) | [Submissions](#) | [Program](#) | [Proceedings](#) | [Important Dates](#)
|
[Workshop Chairs](#)

OBJECTIVES

Data streams occur in a variety of modern applications, such as network monitoring, traffic engineering, sensor networks, RFID tags applications, telecom call records, financial applications, Web logs, click-streams. They have been studied since 2000 and today Specialized Stream Database Management Systems exist. While such systems proved to be an optimal solution for on the fly analysis of data streams, such systems suffers from several limitation. They cannot handle heterogeneous data streams originating from a variety of already deployed sensors. They cannot combine data streams with slowly evolving knowledge at query time. They cannot perform reasoning tasks.

At the same time, while reasoners are year after year scaling up in the classical, time invariant domain of ontological knowledge; reasoning upon rapidly changing information has been neglected or forgotten. Thus, we are assisting to the rising of a new trend, hereby named “Stream Reasoning” as an unexplored, yet high impact, research area; a new multi-disciplinary approach which will provide the abstractions, foundations, methods, and tools required to give answer to questions concerning reasoning over streaming data, such as: “is a traffic jam going to happen in this highway? And is then convenient to reallocate travelers based upon the forecast?” or “By looking at the clickstream coming from a given IP, can we notice the shifts of interest of the person behind the computer?” or “Are trends in medical records indicative of any new disease spreading in given parts of the world?”

We believe this is the right time to organize a workshop around Stream Reasoning. Starting from lesson learned in the database community, new foundational theories can be developed, rooted into formal disciplines such as logics and optimization theory. From these foundations, new paradigms for knowledge representation languages design and reasoner construction could be derived, and the consequent frameworks for stream reasoning oriented software architectures and their instrumentation could be deployed.

The workshop will welcome high-quality position and research papers about the identification of actual trends in how to combine Data Stream and Reasoning. Technologies as well as novel ideas, experiments, and application visions originating from multiple disciplines and viewpoints will be welcome.

TOPICS OF INTEREST

Topics include, but not limited to:

- Relation between data streams and reasoning techniques.
- Theory for stream reasoning.
- Notion of soundness and completeness for stream reasoning.
- Knowledge representation languages for streams.
- Computational paradigms for streams.
- Query language for stream reasoning.
- Integration of data streams with reasoning systems.
- Stream reasoning engineering.
- Scalability issues in stream reasoning.
- Implementation and evaluation of stream reasoners.
- Applications of stream reasoning.

SUBMISSIONS

We invite two kinds of submissions:

- **Research papers.** These should not exceed 15 pages in length.
- **Position papers.** Novel ideas, experiments, and application visions from multiple disciplines and viewpoints are a key ingredient of the workshop. We therefore strongly encourage the submission of position papers. Position papers should not exceed 5 pages in length.

Submissions should be formatted according to the Lecture Notes in Computer Science guidelines for proceedings available at <http://www.springer.com/computer/lncs?SGWID=0-164-7-72376-0>. Papers should be submitted in PDF format.

All submissions will be done electronically via the SR2009 web submission system (<http://www.easychair.org/conferences/?conf=sr2009>).

At least one author of each accepted paper must register for the workshop. Information about registration will appear soon on the [ESWC 2009 Web page](#).

PROGRAM

14.30 - 15.00

Research Chapters in the area of Stream Reasoning: a LarKC perspective.

Frank van Harmelen (invited talk)

15.00 - 15.20 **Situation-Aware Mobility: An Application for Stream Reasoning.**

Marko Luther and Sebastian Böhm.

15.20 - 15.40 **Stream Reasoning in DyKnow: A Knowledge Processing Middleware System**

Fredrik Heintz, Jonas Kvarnstrom and Patrick Doherty.

15.40 - 16.00 **Commonsense spatial reasoning about heterogeneous events in urban contexts**

Matteo Palmonari and Davide Bogni.

16.00 - 16.30 Coffe Break

16.30 - 17.00 **C-SPARQL: SPARQL for Continuous Querying**

Stefano Ceri (Invited talk)

17.00 - 17.20 **Answering reachability queries on streaming graphs**

Gulay Unel, Florian Fischer and Barry Bishop.

17.20 - 17.40 **Towards a Type System for Semantic Streams**

Michael Mendler and Stephan Scheele.

17.40 - 18.00 **Discussion moderated by Dieter Fensel**

PROCEEDINGS

The Workshop Proceedings have been published as CEUR Workshop Proceedings (www.ceur-ws.org):

Emanuele Della Valle, Stefano Ceri, Dieter Fensel, Frank van Harmelen and Rudi Studer (Eds.): Proceedings of the 1st International Workshop on Stream Reasoning (SR2009), Heraklion, Crete, Greece May 31st, 2009.

CEUR Workshop Proceedings, Volume 466, available at <http://www.ceur-ws.org/Vol-466> .

BibTeX of the Proceedings is also available at <http://www.streamreasoning.org/bibtex/SR2009-proceedings.bib>

IMPORTANT DATES

- Paper submission: March 8, 2009 (**extended to March 22, 2009**)
- Notification of acceptance or rejection: April 4, 2009
- Camera ready version due: April 18, 2009

WORKSHOP CHAIRS

[Stefano Ceri](#) (Politecnico di Milano)

[Emanuele Della Valle](#) (Politecnico di Milano)

[Dieter Fensel](#) (STI-Innsbruck)

[Frank van Harmelen](#) (Vrije Universiteit Amsterdam)

[Rudi Studer](#) (University of Karlsruhe)