



INVITED SESSION SUMMARY

Title of Session:

Advances in Data&Knowledge Management for Healthcare

Name, Title and Affiliation of Chair:

Massimo Esposito, Ph.D. Researcher, Institute for High Performance Computing and Networking - National Research Council of Italy (ICAR-CNR)

Name of Co-Chairs:

Marco Pota, Ph.D. Researcher, Institute for High Performance Computing and Networking - National Research Council of Italy (ICAR-CNR)

Aniello Minutolo, Ph.D. Researcher, Institute for High Performance Computing and Networking - National Research Council of Italy (ICAR-CNR)

Details of Session (including aim and scope):

The Session on “Advances in Data&Knowledge Management for Healthcare” provides an interdisciplinary forum for researchers and developers to present and discuss experiences, ideas, and research results from two communities working in the healthcare domain, namely Knowledge Representation&Reasoning and Data Management, who have been addressing these challenges from two different perspectives.

The Knowledge Representation&Reasoning for Healthcare community has been focusing on knowledge representation and reasoning to support knowledge management and clinical decision-making. This community has been developing efficient representations, technologies, reasoning algorithms and tools for integrating Clinical Decision Support Systems, Electronic Health Records, Healthcare Information Systems, Clinical Practice Guidelines, and Workflow Management Systems.

The Data Management for Healthcare community has been studying ways to adopt business intelligence, data analytics and data mining technologies, algorithms and tools in order to provide effective solutions to improving healthcare through better data utilization. Adopting these solutions in the healthcare sector is starting to address specific escalating demands for handling continuing expansion of data with respect to their volume and diversity as well as for integrating data distributed in large numbers of heterogeneous silos.

The Session provides an opportunity to explore how the approaches from the two communities could be better integrated. In particular, original contributions are sought, covering the whole range of theoretical and practical aspects, technologies and systems regarding Data & Knowledge Management in the medical domain

Submitted papers will be evaluated on the basis of significance, originality, technical quality, and exposition. Papers should clearly establish their research contribution and the relation to the goals of the Session.

Topics are encouraged, but not limited to, the combination of at least two of the following areas:

- Knowledge representation and ontologies for healthcare
- Computerized Clinical Guidelines/Protocols and Decision Support
- Healthcare Process and Workflow Management
- Artificial intelligence technologies and algorithms to support complex decision making in healthcare systems
- Issues involving interoperability and data representation in healthcare
- Semantic Web, linked data, ontology, and healthcare
- Cloud computing and big data for healthcare

- Data management and analytics for vast amounts of unstructured data
- System architectures for big data analysis
- Experiences in deploying tools for Data & Knowledge Management in real healthcare scenarios

Website URL of Call for Papers (if any):

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