

Proceedings of the 8th International Workshop on Semantic Web Solutions for Large-scale Biomedical Data Analytics - SeWebMeDa-2025

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Abstract

This preface summarises the 8th International Workshop on Semantic Web Solutions for Large-scale Biomedical Data Analytics (SeWebMeDa-2025), a co-event with The ESWC 2025: Extended Semantic Web Conference, held on June 1st 2025, in Portorož, Slovenia.

1. Introduction

The eighth edition of this International workshop invites papers for life sciences and biomedical data processing, as well as the amalgamation with Data and c Web technologies for better data analytics, knowledge discovery and user-targeted applications. This research contribution should provide useful information for the Knowledge Acquisition research community as well as the working Data Scientist.

This workshop seeks original contributions describing theoretical and practical methods and techniques that present the anatomy of large-scale linked data infrastructure, which covers: the distributed infrastructure to consume, store and query large volumes of heterogeneous linked data; using indexes and graph aggregation to better understand large linked data graphs, query federation to mix internal and external data-sources, and linked data visualization tools for health care and life sciences. It will further cover topics around data integration, data profiling, data curation, querying, knowledge discovery, ontology mapping / matching / reconciliation and data / ontology visualization, applications / tools / technologies / techniques for life sciences and biomedical domain. SeWebMeDa aims to provide researchers in biomedical and life science, an insight and awareness about large scale data technologies for linked data, which are becoming increasingly important for knowledge discovery in the life sciences domain.

Topics of interest include, but are not limited to Web and Data technologies in the following areas:

- Generative AI and conversational AI applications in healthcare and life sciences
- New technologies and exploitation of existing ones in Linked Data, Semantic Web and Large Language Models (LLMs)
- Artificial intelligence including Neurosymbolic AI in health care and life science
- Dataspaces, Datawarehouse and Database Solutions and applications in Healthcare and life sciences
- Techniques for analyzing data in the life sciences, medicine and health care
- Integration, analysis & data use in pursuit of challenges in the life sciences, medicine & health

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- Tools and applications for biomedical and life sciences
- Large scale biomedical data curation and integration
- Processing biomedical data at scale
- Knowledge representation and knowledge discovery for biomedical data
- Data and metadata publishing, profiling and new datasets in biomedical and life sciences
- Question answering over biomedical & life science Linked Data, Ontologies and Knowledge Graphs
- Querying and federating data over heterogeneous data sources
- Biomedical ontology creation, mapping/ matching/ translation and reconciliation
- Biomedical Ontology and data visualization
- Building and maintaining biomedical knowledge graphs
- Machine learning with biomedical knowledge graphs
- Virtual and Augmented Reality in Biomedical/ Life Science education and applications
- Risks and opportunities of using Semantic Web technologies in Healthcare and Life science
- Data resources, tools and technologies relevant for research in ongoing Covid19 pandemic
- Cleaning, quality assurance & provenance of data, services & processes in Biomedical/ Life Science
- Knowledge Graphs and Relational Learning for Life Sciences
- Intelligent Visualizations of Linked Life Science Data
- Biomedical data quality assessment and improvement
- From Semantics to Explanations in bio medicine and life science
- Data streams, Internet of Things, mobile platforms, cloud environment in life science
- Text analysis, text mining and reasoning using semantic technologies
- New technologies and exploitation of existing ones in Linked Data and Semantic Web
- Social, ethical and moral issues publishing and consuming biomedical and life sciences data

2. Organisation

2.1. Workshop Chairs

- Ali Hasnain, Royal College of Surgeon, Ireland.
- Michel Dumontier, Maastricht University, Maastricht, Limburg, Netherlands.
- Dietrich Rebholz-Schuhmann, ZB MED, Cologne, Germany.

2.2. Programme Committee

- Michel Dumontier, Maastricht University, Netherlands
- Qurratal Ain Fatimah, University Hospital Galway, Ireland
- Maria-Esther Vidal, Universidad Simón Bolívar, Caracas, Venezuela
- M Scott Marshall, Netherlands Cancer Institute, Netherlands
- Pierre-Yves Vandenbussche, Elsevier Labs, Amsterdam Area, Netherlands
- Holger Stenzhorn, Saarland University Hospital, Germany
- Antoine Zimmermann, ENSIMAG, France
- Vit Novacek, Insight Centre, NUI Galway, Ireland
- Muhammad Saleem, AKSW- University of Leipzig, Germany
- Mikel Egaña Aranguren, University of Basque Country, Spain
- Helena F. Deus, Disruptive Technologies, Elsevier Labs
- Adrien Coulet, LORIA - INRIA Nancy-Grand Est, France
- Ratnesh Sahay, Novartis, UK
- Dietrich Rebholz-Schuhmann, Information Centre for Life Sciences, Cologne University, Germany

- Sujan Perera, IBM Watson USA, USA
- Claudia d'Amato, Università degli Studi di Bari, Italy
- Robert Hoehndorf, King Abdullah University of Science and Technology, Saudi Arabia
- Jodi Schneider, University of Illinois Urbana Champaign, USA
- Alasdair Gray, Heriot-Watt University, Edinburgh
- Alba Morales Tirado, The Open University, UK