

The VDOSME 2012 workshop:

VDOSME stands for:

“Vaccine and Drug Ontology for the Study of Mechanism and Effect”

One-sentence summary of main topics covered in the workshop:

Ontology representations and applications for the study of mechanisms and effects of vaccines and drugs

Website: <http://kr-med.org/icbofois2012/vdosme>

VDOSME Chairs

- Yongqun “Oliver” He, University of Michigan, Ann Arbor, MI, USA
- Luca Toldo, Merck KGaA, Darmstadt, Germany
- Gully Burns, Information Sciences Institute, Marina del Rey, CA, USA
- Cui Tao, Mayo Clinic, Rochester, MN, USA
- Darrell R. Abernethy, U.S. Food and Drug Administration (FDA), Bethesda, MD, USA.

VDOSME Programme Committee

- Olivier Bodenreider, National Library of Medicine
- Richard Boyce, University of Pittsburgh
- Lindsay Cowell, University of Texas Southwestern Medical Center
- Dingcheng Li, Mayo Clinic
- Asiyah Yu Lin, University of Michigan
- Bjoen Peters, La Jolla Institute for Allergy and Immunology
- Sira Sarntivijai, University of Michigan/US FDA
- Nigam Shah, Stanford University
- Sunghwan Sohn, Mayo Clinic
- Larisa Soldatova, Aberystwyth University
- Stephen Wu, Mayo Clinic
- Yuji Zhang, Mayo Clinic
- Jim Zheng, Medical University of South Carolina
- Qian Zhu, Mayo Clinic

Programme

Saturday, 21 July 2012

8:30 – 9:00 am **Registration**

9:00 – 9:10 am **Welcome Introduction**

- Self-introductions of all attendees
- Oliver He: briefly introduce the whole day schedule with any possible updates

9:10 - 9:50 am

Session 1: Ontology modeling and analysis

Chair: Gully Burns

- Yu Lin and Yongqun He.
Ontology representation and analysis of vaccine formulation and administration and their effects on vaccine immune responses (25 min)
- Drashti Dave and Gully Burns.
A lightweight Ontology Design Pattern to curate and represent experimental variables from vaccine protection studies (15 min)

9:50 - 10:40 am

Session 2: Ontology-based knowledge extraction from big data case reports or literature

Chair: Luca Toldo

- Harsha Gurulingappa, Abdul-Mateen Rajput, Luca Toldo.
Extraction of Adverse Drug Effects from Medical Case Reports (25 min)
- Junguk Hur, Arzucan Özgür, Zuoshuang Xiang and Yongqun He.
Identification of fever and vaccine-associated gene interaction networks using ontology-based literature mining (25 min)

10:40 – 11:10 am **Break**

11:10 am – 12:00 noon

Session 3: Ontology-based semantic web applications

Chair: Oliver He

- Qian Zhu, Guoqian Jiang and Christopher Chute.
Profiling structured product labeling using NDF-RT and RxNorm (25 min)
- Charalampos Doulaverakis, George Nikolaidis, Athanasios Kleontas and Yiannis Kompatsiaris.
GalenOWL: Ontology based drug recommendations discovery (25 min)

12:00 noon - 1:30 pm **Lunch break**

1:30 – 2:05 pm

Session 4: General Discussion #1

Moderator: Luca Toldo

Topic: Relation between drug and vaccine ontology informatics (35 min)

- Similarities and differences between drug and vaccine informatics
- Collaborations between drug and vaccine ontology informatics fields
- Collaborations between academia and industry

2:05 – 2:30 pm

Session 5: Teleconference Presentation by a presenter from USA

Chair: Oliver He

- Cui Tao, Yongqun He, Gregory Poland and Christopher Chute.
Time modeling of vaccine adverse events in VAERS for temporal analysis (25 min)

2:30 – 3:30 pm

Session 6: General Discussion #2

Moderators: Melanie Courtot and Oliver He

Topic: Updates on development of adverse event-related ontologies (60 min)

- Melanie: Updates on the development of the Adverse Event Reporting Ontology (AERO) and related ontologies (short talk: 10-15 min)
- Oliver: Updates on the development of the Ontology of Adverse Events (OAE) and its applications (short talk: 10-15 min)
- Further discussion

3:30 - 4:00 pm **Break**

4:00 – 4:45 pm

Session 7: General Discussion #3

Moderator: Gully Burns

Topic: Challenges and opportunities (45 min)

- Current achievements and challenges
- International community collaborations
- Have another workshop next year?
- Other open issues for discussion

4:45 pm **Workshop ends**