

# Towards the Science Web by linking up Service Webs, Data Webs and Publication Webs

## 1 Workshop topic and content

Science is undergoing a transformation in its use of the Web for experimentation and publication. Developed under the banner of e-Science, new technologies are easing: (i) the construction of custom experimental protocols realized as on-line workflows (i.e. service compositions or Service Webs), (ii) the creation of personal data spaces (Data Webs) and (iii) the dissemination of results to peers (Publication Webs). These Webs are growing and crossing over to each other, allowing, for instance, direct access to experimental datasets from inside electronic publications. Joined together, the Webs hold the promise of an integrated Science Web where published data and experiments can be easily found, validated and repurposed to produce new science.

The workshop provides a forum for researchers from Service, Data and Publication Webs to meet and forge closer links between the three subwebs. We welcome papers that represent the subwebs and particularly encourage those that establish links between them. We anticipate papers to touch on areas such as scientific data curation, workflow systems, hypermedia, social networks, Personal Information Management, e-publishing and Semantic Web.

## 2 Anticipated outcome

The workshop will contribute to a community understanding of the architecture, Web technologies and social culture required for the Science Web. We aim for discussion between computational scientists, data publishers, journal publishers and Web technologists.

## 3 Importance to the WWW2007 timeframe

Several recent workshops and new journals have been exploring the pair-wise links between the subwebs:

- Data Webs and Service Webs. The International Provenance and Annotation Workshop series<sup>1</sup> focuses on linking together data provenance, data

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<sup>1</sup><http://www.ipaw.info>

curation and workflow systems.

- Data Webs and Publication Webs. The 2006 Data Webs workshop<sup>2</sup> and the W3C Semantic Web Health Care and Life Sciences workshop at ISWC-2006<sup>3</sup> have this link as part of the agenda. Several publishers are experimenting with linking publications to on-line scientific data, including the Public Library of Science (PLOS), Nature and Elsevier.
- Service Webs and Publication Webs. Several journals and community based sites including OpenWetWare<sup>4</sup> and myExperiment.org<sup>5</sup> were created in the past year to promote the publication and sharing of experimental protocols.

The WWW workshop will be the first to bring the big picture by considering the linking up of all three subwebs.

## 4 Management of workshop registration

The workshop aims to attract representatives from each subweb. Since the subwebs are still growing, no established communities exist yet and we would like registration to be open.

## 5 Evaluation of submissions

A Programme Committee will evaluate workshop submissions. PC members will be experts from each subweb who share the vision for a Science Web. For submissions that make the link between subwebs, the organizers will select PC members from the respective subwebs. The tentative programme committee per subweb is as follows (in alphabetical order):

### Service Webs

- Ilkay Altintas, UC San Diego
- Ewa Deelman, University of Southern California
- Jeffrey Grethe, UC San Diego
- Tony Hey, Microsoft
- Bertram Ludaescher, UC Davis
- Tom Oinn, European Bioinformatics Institute
- Cesare Pautasso, ETH Zurich

### Data Webs

- Peter Buneman, University of Edinburgh
- Dave De Roure, University of Southampton
- Alon Halevy, University of Washington
- Eric Jain, Swiss Institute of Bioinformatics
- David Karger, MIT

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<sup>2</sup><http://www.rin.ac.uk/data-webs>

<sup>3</sup><http://esw.w3.org/topic/HCLS/ISWC/Workshop>

<sup>4</sup><http://openwetware.org>

<sup>5</sup><http://www.newscientisttech.com/article.ns?id=mg19225745.500>

- Sean Martin, IBM
- Eric Neumann, TeraNode

#### Publication Webs

- Phil Bourne, UC San Diego/PLoS
- Tim Clark, Harvard University
- Stefan Decker, DERI Galway
- Steve Hitchcock, University of Southampton/EPrints
- Marja-Riitta Koivunen, Annotea.org
- Ben Lund, Nature Publishing

## 6 Qualification of the organizers

**Carole Goble** is a Professor in the School of Computer Science in the University of Manchester. She is Director of the Open Middleware Infrastructure Institute UK (OMII-UK), which provides software and support for the UK e-Science community, including the prototyping of an myExperiment.org portal for sharing and reusing experiments on-line. Carole chaired the first Semantic Web track of WWW2002, was a Programme Chair for WWW2006 and has organised many workshops and conferences in the past.

**Jun Zhao** and **Antoon Goderis** are writing-up PhD students in the School of Computer Science in the University of Manchester. Their work has established links between the Data Web and the Service Web. Jun is active in the IPAW workshop series and Antoon is co-organising the Knowledge Systems in Bioinformatics workshop at OTM2006.

**Susie Stephens**, PhD, is Principal Product Manager for Life Sciences at Oracle Corporation. Susie represents Oracle in discussions with W3C regarding standards in the Semantic Web area. She leads the BioRDF data integration activity in the W3C Semantic Web Health Care and Life Sciences Interest Group and co-organises its workshop (HCLS) at ISWC2006. She gave a plenary keynote at WWW2006 on the integration of biological data using Semantic Web technologies.

**Anita de Waard** is with Elsevier Publishing's Advanced Technology Group and works part-time on a semantic structure for the scientific article at the University of Utrecht. She is the chair of the Reed Elsevier data standards group. She is co-organising the Semantic Authoring and Annotation Workshop at ISWC2006 and the Semantic Wiki workshop at ESCW2006.