ICBO: International Conference on Biomedical Ontology
University at Buffalo, NY • July 28-30, 2011

Conference Venue:
Marriott Buffalo Niagara, 1340 Millersport Highway • Amherst, New York 14221
NOTE: All sessions will be held in the Marriott Buffalo Niagara Ballroom.

PRELIMINARY PROGRAM

ICBO Day 1 • Thursday, July 28, 2011

8:00am  Registration & Continental Breakfast [Ballrooms 1-4]
8:45am  Opening Remarks
        Mark Musen, National Center for Biomedical Ontology
9:00am  From Proteins to Diseases
        Invited Panel sponsored by the Protein Ontology (PRO) • http://pir.georgetown.edu/pro/
                  ▪ The Integration of Biomedical Knowledge
                     Cathy Wu
                  ▪ Pathways and Complexes: How to Represent What We Know and What We Don't Know
                     Judith Blake
                  ▪ From Protein Complex to Supra-Complex
                     Bill Crosby
                  ▪ Pathways and Diseases: Towards an Integrated Representation
                     Peter d'Eustachio
10:15am Refreshment Break
10:45am Gene and Cell Ontologies
                  ▪ Where the GO is Going and What it Means for Ontology Extension
                     Catia Pesquita, Francisco Couto
                  ▪ Revising the Cell Ontology
                     Terrence Meehan, Christopher Mungall, Alexander Diehl
                  ▪ Rapid Development of an Ontology of Coriell Cell Lines
                     Chao Pang, Tomasz Adamusiak, Helen Parkinson, James Malone
                  ▪ Cell Line Ontology: Redesigning the Cell Line Knowledgebase to Aid Integrative Translational Informatics
                     Sirarat Sarntivijai, Zuoshuang Xiang, Terrence Meehan, Alexander Diehl, Uma Vempati, Stephan Schurer, Chao Pang, James Malone, Helen Parkinson, Brian Athey, Yongqun He
Towards a Semantic Web Application: Ontology-Driven Ortholog Clustering Analysis
Yu Lin, Zuoshuang Xiang, Yongqun He

12:30pm Buffet Lunch [Ballroom 5]

2:00pm Ontology of Biological Mechanisms
- HeartCyc: A Cardiac Cycle Process Ontology Based in the Ontology of Physics for Biology
  Daniel Cook, Michal Galdzicki, Maxwel Neal, Jose Mejino, John Gennari
- Composite Annotation for Heart Development
  Tariq Abdulla, Ryan Imms, Jean-Marc Schleich, Ron Summers
- Ontology-Based Analysis of Event-Related Potentials
  Gwen Frishkoff, Robert Frank, Paea Lependu, Snezana Nikolic

3:00pm Refreshment Break

3:30pm Symptoms and Disease
- Dispositions and Processes in the Emotion Ontology
  Janna Hastings, Werner Ceusters, Barry Smith, Kevin Mulligan
- River Flow Model of Diseases
  Riichiro Mizoguchi, Kouji Kozaki, Hiroko Kou, Yuki Yamagata, Takeshi Imai, Kayo Waki, Kazuhiko Ohe

4:30pm Free Time

5:30pm Poster Session 1 (First Author A-L), Software Demonstrations and Cash-Bar Reception
Reception provided by the generous support of CTG (Computer Task Group)
http://www.ctg.com/lifesciences/

7:00pm Dinner & Keynote Lecture [Ballroom 5]

Bernard de Bono
Virtual Physiological Human Project

Bernard de Bono (MD, PhD) leads the RICORDO effort at the European Bioinformatics Institute, providing semantic interoperability for mathematical models of physiology and associated clinical data. Dr. de Bono’s work on interoperability standards and knowledge representation contribute to biomedical modeling carried out by the Virtual Physiological Human and Innovative Medicines Initiative communities. Until 2009, de Bono lectured on basic and applied physiology at the Malta Medical School.

ICBO Day 2 · Friday, July 29, 2011

8:00am Continental Breakfast [Ballrooms 1-4]

8:30am Ontologies for Biomedical Investigations
- Investigation of the Fundamental Strategy for Interoperability of Description of Biological Measurements
  Hiroshi Masuya, Georgios Gkoutos, Nobuhiko Tanaka, Kazunori Waki, Yoshihiro Okuda, Tatsuya Kushida, Norio Kobayashi, Koji Doi, Kouji Kozaki, Robert Hoendorf, Shigeharu Wakana, Tetsuro Toyoda, Riichiro Mizoguchi
- Annotating Experimental Records Using Ontologies
  Alexander Garcia, Olga Giraldo, Leyla Jael Garcia Castro
- Ontology Driven Data Collection for EuPathDB
  Jie Zheng, Omar S. Harb, Christian J. Stoeckert Jr
- Developing an Application Ontology for Biomedical Resource Annotation and Retrieval: Challenges and Lessons Learned
  Carlo Torniai, Matt Brush, Nicole Vasilevsky, Erik Segerdell, Melissa Haendell, Chris Shaffer, Tenille Johnson, Karen Corday

10:00am Refreshment Break
10:30am  Ontology Mapping and Integration
- Mapping Composition for Matching Large Life Science Ontologies
  Anika Gross, Michael Hartung, Toralf Kirsten, Erhard Rahm
- A Generic Semantic Relatedness Measure for Biomedical Ontologies
  Joao Ferreira, Francisco Couto
- Aligning the Parasite Experiment Ontology and the Ontology for Biomedical Investigations
  Valerie Cross, Cosmin Stroe, Xueheng Hu, Pramit Silwal, Maryam Panahiazar, Isabel F. Cruz, Priti Parikh, Amit Sheth
- A Case Study of ICD-11 Anatomy Value Set Extraction from SNOMED CT
  Guoqian Jiang, Harold Solbrig, Robert Chalmers, Kent Spackman, Alan Rector, Christopher Chute

12:00pm  Buffet Lunch [Ballroom 5]

1:30pm  NCBO Technology in Support of Clinical and Translational Science
Speakers will include Mark Musen and Nigam Shah
Invited Panel sponsored by the National Center for Biomedical Ontology (NCBO) · http://www.bioontology.org/

3:00pm  Refreshment Break

3:30pm  Parallel Group Sessions
Topics to be Announced

5:30pm  Poster Session 2 (First Author M-Z), Software Demonstrations and Cash-Bar Reception

7:00pm  Dinner & Keynote Lecture [Ballroom 5]

Roberto Rocha
Practical Applications of Ontologies in Clinical Systems

Dr. Roberto Rocha is the Senior Corporate Manager for Knowledge Management and Clinical Decision Support in the Clinical Informatics Research & Development (CIRD) group at Partners HealthCare, and a Lecturer in Medicine at the Brigham and Women’s Hospital, Harvard Medical School. At Partners, Dr. Rocha leads a team of over 20 clinical knowledge engineers responsible for the implementation and maintenance of knowledge bases integrated with clinical systems and accessible to clinical providers. Dr. Rocha’s current academic activities include informatics teaching and research, particularly in the areas of knowledge modeling and representation, processes and software tools for knowledge engineering, and healthcare interoperability standards.

ICBO Day 3 · Saturday, July 30, 2011

8:00am  Continental Breakfast [Ballrooms 1-4]

8:30am  Ontology and the Electronic Health Record
- Representing the Reality Underlying Demographic Data
  William Hogan, Swetha Garimalla, Shariq Tariq
- Information Models and Ontologies for Representing the Electronic Health Record
  Daniel Karlsson, Martin Berzell, Stefan Schulz
- Ontology-based Mammography Annotation with SQWRL
  Hakan Bulu, Adil Alpkocak, Pinar Balci
- The CHRONIOUS Ontology Suite: Methodology and Design Principles
  Luc Schneider, Mathias Brochhausen

10:00am  Refreshment Break

10:30am  Special Session on the Path Towards Community Adoption of Shared Ontology Standards
Details to be Announced

11:30am  Buffet Lunch [Ballroom 5]
1:00pm  **Principles of Ontology Development**
- **Applying Rigidity to Standardizing OBO Foundry Candidate Ontologies**
  Ali Seyed, Stuart Shapiro
- **Higgs Bosons, Mars Missions, and Unicorn Delusions: How to Deal with Terms of Unclear Reference in Scientific Ontologies**
  Stefan Schulz, Mathias Brochhausen, Robert Hoehndorf
- **Towards an Ontology for Conceptual Modeling**
  James P. McCusker, Joanne Luciano, Deborah L. McGuinness
- **What’s in an Is About Link? Chemical Diagrams and the Information Artifact Ontology**
  Janna Hastings, Colin Batchelor, Fabian Neuhaus, Christoph Steinbeck

2:30pm  **Refreshment Break**

3:00pm  **Panel on Electronic Health Records**
Speakers will include Werner Ceusters and Kent Spackman

4:00pm  **Closing Remarks**

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**ICBO Organizing Committee**
Barry Smith (Conference Chair), University at Buffalo
Judith Blake, The Jackson Laboratory • Suzanna E. Lewis, Lawrence Berkeley National Laboratory • Mark Musen, Stanford University
Alan Ruttenberg, University at Buffalo • Susanna-Assunta Sansone, Oxford University • Dagobert Soergel, University at Buffalo • Chris Stoeckert, University of Pennsylvania

**ICBO Program Committee**
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Trish Whetzel, Stanford University (Software Demonstrations Chair)
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Mark Musen, Stanford University • Darren Natale, Georgetown University • Chimezie Ogbuji, Cleveland Clinic • Helen Parkinson, European Bioinformatics Institute
Bjoern Peters, La Jolla Institute for Allergy and Immunology • Daniel Rubin, Stanford University • Peter Robinson, Charité Hospital, Berlin
Susanna-Assunta Sansone, Oxford University • Ulrike Sattler, University of Manchester • Richard Scheuermann, University of Texas Southwestern Medical Center
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Harold Solbrig, Mayo Clinic • Kent Spackman, International Health Terminology Standards Development Organization • Chris Stoeckert, University of Pennsylvania
Cathy Wu, Georgetown University / University of Delaware

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Sponsored by:

University at Buffalo College of Arts and Sciences, National Center for Ontological Research, National Center for Biomedical Ontology, and Protein Ontology

We would also like to acknowledge generous support from the National Human Genome Research Institute (NHGRI)

Participation in this meeting by women, minorities, and persons with disabilities is strongly encouraged.