ICBO: International Conference on Biomedical Ontology

University at Buffalo, NY ▪ July 24-26, 2009

Conference Venue:

Marriott Buffalo Niagara, 1340 Millersport Highway ▪ Amherst, New York 14221

Saturday evening's Poster Session, Reception, Dinner Banquet & Keynote Lecture will be held at Center for Tomorrow, which is a short walking distance from/to Marriott and Flint Road hotels.

Day 1 · Friday, July 24, 2009

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

8:45am **Welcoming Remarks**
- John B. Simpson (President, University at Buffalo)
- Bruce A. Holm (Executive Director, New York State Center of Excellence in Bioinformatics and Life Sciences)

9:00am **Session 1: Ontologies for Chemistry and Molecular Biology**
Chairs: Colin Batchelor (Royal Society of Chemistry) and Darren Natale (Georgetown University)

- OWL-DL Ontology for Classification of Lipids
  Hong-Sang Low, Christopher J.O. Baker, Alexander Garcia, Markus R. Wenk

- The RNA Ontology (RNAO): An Ontology for Integrating RNA Sequence and Structure Data
  Colin Batchelor, Thomas Bittner, Karen Eilbeck, Christopher Mungall, Jane Richardson,
  Rob Knight, Jesse Stombaugh, Craig Zirbel, Eric Westhof, Neocles Leontis

- Evolution of the Sequence Ontology Terms and Relationships
  Karen Eilbeck, Christopher Mungall

- ChemAxiom – An Ontological Framework for Chemistry in Science
  Nico Adams, Edward O. Cannon, Peter Murray-Rust

- A Formal Ontology of Sequences
  Robert Hoehndorf, Janet Kelso, Heinrich Herre

10:45am **Refreshment Break**

11:00am **Session 2: From Cell to Body**
Chairs: Lindsay Cowell (Duke University Medical Center) and
Richard Scheuermann (University of Texas Southwestern Medical Center)

- Hematopoietic Cell Types: Prototype for a Revised Cell Ontology
  Alexander D. Diehl, Alison Deckhut Augustine, Judith A. Blake, Lindsay G. Cowell, Elizabeth S. Gold,
  Timothy A. Gondré-Lewis, Anna Maria Masci, Terrence F. Meehan, Penelope A. Morel, NIAID Cell
  Ontology Working Group, Anastasia Nijnik, Bjoern Peters, Bali Pulendran, Richard H. Scheuermann,
  Q. Alison Yao, Martin S. Zand, Christopher J. Mungall

- **Using OWL Metamodeling to Create an Ontology of Neurons**
  Matthew E. Holford, Luis N. Marenco, Pradeep Mutalik, Gordon M. Shepherd, Perry L. Miller, Kei-Hoi Cheung

- **Development of Neural Electromagnetic Ontologies (NEMO): Ontology-Based Tools for Representation and Integration of Event-Related Brain Potentials**
  Gwen Frishkoff, Paea LePendu, Robert Frank, Haishan Liu, Dejing Dou

- **Generating Homology Relationships by Alignment of Anatomical Ontologies**
  Frederic B. Bastian, Gilles Parmentier, Marc Robinson-Rechavi

12:15pm   **Software Demonstration Session I** [Ballrooms 1-4] **and Buffet Lunch** [Ballroom 5]

1:45pm   **Session 3: Disease Ontologies**
Chairs: Judith Blake (The Jackson Laboratory) and Werner Ceusters (University at Buffalo)

- **Towards Desiderata for an Ontology of Diseases for the Annotation of Biological Datasets**
  Olivier Bodenreider, Anita Burgun

- **A Set of Ontologies to Drive Tools for the Control of Vector-Borne Diseases**
  Pantelis Topalis, Emmanuel Dialynas, Elvira Mitraka, Elena Deliyanni, Inga Siden-Kiamos, Christos Louis

- **An Ontology for Designing Models of Epidemics**
  Geoffrey A. Frank, Wheaton D. William, Vesselina Bakalov, Philip C. Cooley, Diane K. Wagener

- **Open Biomedical Ontologies Applied to Prostate Cancer**
  James A. Overton, Cesare Romagnoli, Rethy Chhem

3:15pm   **Refreshment Break**

3:30pm   **Session 3 (Continued)**

- **SNOMED CT's Ontological Commitment**
  Stefan Schulz, Ronald Cornet

- **Developing Ontology Support for Human Malaria Control Initiatives**
  Olawande Daramola, Segun Fatumo

- **Towards an Ontological Representation of Resistance: The Case of MRSa**
  Albert Goldfain, Lindsay G. Cowell, Barry Smith

- **Providing a Realist Perspective on the eyeGENE Database System**
  Werner Ceusters

5:00pm   **Poster Session I** (First Author A-L)

6:30pm   **Panel Discussion: Ontology and Publishing**
Participants will include:
Chair: Matthew Day (Nature Publishing Group)
Panel: Colin Batchelor (Royal Society of Chemistry), Lawrence Hunter (University of Colorado), Peter Jackson (Thomson Reuters), Alan Ruttenberg (Science Commons), David Shotton (University of Oxford) and Jabe Wilson (Elsevier - Science & Technology)

Day 2 · Saturday, July 25, 2009

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

8:30am   **Session 4: Creating Ontologies that Work Together**
Chairs: Christian J. Stoeckert Jr. (University of Pennsylvania) and Alan Ruttenberg (NeuroCommons)

- **Cross-Product Extensions of the Gene Ontology**
  Christopher J. Mungall, Michael Bada, Tanya Z. Berardini, Jennifer Deegan,
  Amelia Ireland, Midori A. Harris, David P. Hill, Jane Lomax

- **Automated Annotation-Based Bio-Ontology Alignment with Structural Validation**
  Cliff A. Joslyn, Bob Baddeley, Judith Blake, Carol Bult, Mary Dolan,
  Riensche Rick, Karin Rodland, Antonio Sanfilippo, Amanda White

- **Metarel: An Ontology to Support the Inferencing of Semantic Web Relations within Biomedical Ontologies**
  Ward Blondé, Erick Antezana, Bernard De Baets, Vladimir Mironov, Martin Kuiper

- **Using Multiple Reference Ontologies: Managing Compound Annotations**
  John H. Gennari, Maxwell L. Neal, Jose L.V. Mejino Jr., Daniel L. Cook

10:00am **Refreshment Break**

10:30am **Session 4 (Continued)**

- **MIREOT: The Minimum Information to Reference an External Ontology Term**
  Melanie Courtot, Frank Gibson, Allyson L. Lister, James Malone, Daniel Schober,
  Ryan Brinkman, Alan Ruttenberg

- **Towards Context-Driven Modularization of Large Biomedical Ontologies**
  Pinar Oezden Wennerberg, Sonja Zillner

- **Debugging Mappings between Biomedical Ontologies:**
  Preliminary Results from the NCBO BioPortal Mapping Repository
  Jyotishman Pathak, Christopher G. Chute

- **Towards Ontological Facilitation of Standards-Compliant Data Capture and Reposition**
  Philippe Rocca-Serra, Chris F. Taylor, Marco Brandizi, Eamonn Maguire,
  Nataliya Sklyar, Susanna-Assunta Sansone

12:00pm **Software Demonstration Session II** [Ballrooms 1-4] **and Buffet Lunch** [Ballroom 5]

1:30pm **Session 5: Ontology and the Clinic**
Chairs: Olivier Bodenreider (NIH National Library of Medicine) and Yves Lussier (University of Chicago)

- **Extending the Foundational Model of Anatomy with Automatically Acquired Spatial Relations**
  Manuel Möller, Christian Folz, Michael Sintek, Sascha Seifert, Pinar Wennerberg

- **An Exercise on Developing an Ontology-Epistemology about Schizophrenia and Neuroanatomy**
  Rodolpho Freire, Danilo Nunes, Marcus V.T. Santos, Paulo E. Santos

- **Towards an Ontology of Biomedical Educational Objectives**
  Martin Boeker, Holger Stenzhorn, Felix Balzer, Stefan Schulz

2:30pm **Refreshment Break**

2:45pm **Session 5 (Continued)**

- **An Ontology-Based Framework for Clinical Research Databases**
  Megan Kong, Carl Dahlke, Diane Xiang, David Karp, Richard H. Scheuermann

- **An Advanced Clinical Ontology**
  Riichiro Mizoguchi, Hiroko Kou, Jun Zhou, Kouji Kozaki, Takeshi Imai, Kazuhiko Ohe

- **Concepts, Modeling and Confusion**
  Harold Solbrig, Christopher G. Chute

5:00pm **Poster Session II** (First Author M-Z) **and Reception** [Center for Tomorrow]

Reception provided by the generous support of CTG
http://www.ctg.com/lifesciences/

7:00pm **Dinner Banquet and Keynote Lecture** [Center for Tomorrow]

Harold Garner

**Identifying Relations
in Text: Applications
to Generating and
Verifying Hypotheses
in Drug Discovery**

Harold "Skip" R. Garner, Jr., Ph.D. holds the Philip O'Bryan Montgomery, Jr.,
M.D. Distinguished Chair in Developmental Biology at the University of
Texas Southwestern Medical School. His research focuses on applied
computational biology, advanced instrumentation development, and
genetics, genomics and proteomics research. He has published over 40
peer-reviewed journal papers since 2002, including a recent Nature article
on identifying cases of plagiarism in scientific publishing using his ETBLAST
bibliographic search program.

Day 3 · Sunday, July 26, 2009

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

8:30am   **Session 6: Computing with Ontologies**
Chairs: Alan Rector (University of Manchester) and Mark Musen (Stanford University)

- A Quality Evaluation Framework for Bio-Ontologies
  Jesualdo Tomás Fernández-Breis, Mikel Egaña Aranguren, Robert Stevens

- LexOWL: A Bridge from LexGrid toOWL
  Cui Tao, Jyotishman Pathak, Harold R. Solbrig, Christopher G. Chute

- Using the Gene Ontology to Annotate Biomedical Journal Articles
  Michael Bada, Lawrence Hunter

- A Unified Ontological-Semantic Substrate for Physiological Simulation and Cognitive Modeling
  Sergei Nirenburg, Marjorie McShane, Stephen Beale

10:00am   **Refreshment Break**

10:30am   **Session 6 (Continued)**

- Using Ontology Fingerprints to Evaluate Genome-Wide Association Study Results
  Lam Tsoi, Michael Boehnke, Richard L. Klein, W. Jim Zheng

- Practical Experiences in Concurrent, Collaborative Ontology Building Using Collaborative Protégé
  Daniel Schober, James Malone, Robert Stevens

- Overcoming the Ontology Enrichment Bottleneck with Quick Term Templates
  Philippe Rocca-Serra, Alan Ruttenberg, Jay Greenbaum, Melanie Courtot, Ryan R. Brinkman, Patricia L. Whetzel, Daniel Schober, Susanna-Assunta Sansone, Richard Scheuermann, the OBI Consortium and Bjoern Peters

11:45pm   **Software Demonstration Session III** [Ballrooms 1-4] **and Buffet Lunch** [Ballroom 5]

1:15pm   **Session 7: Closing Panel: Ontologies and Beyond**
Organized by the AMIA Working Group on Formal (Bio)Medical Knowledge Representation (KR-MED)
Participants will include:
    Chair: Stefan Schulz (University Medical Center, Freiburg, Germany)
    Panel: Olivier Bodenreider (National Library of Medicine), Christopher Chute (Mayo Clinic), Mark Musen (Stanford University), Alan Rector (University of Manchester), Barry Smith (University at Buffalo) and Peter Szolovits (MIT)

3:30pm   **Closing Remarks**
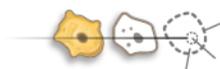
ICBO Software Demonstrations and Poster Sessions

Software Demonstration Session I   **Friday, July 24, 2009 ▪ 12:15pm-1:45pm**   [Ballrooms 1-4]

- **Ontology-Based Trial Management System (ObTiMA)**
  Mathias Brochhausen, Gabriele Weiler, Fatima Schera, Jochen Rauch, Norbert Graf, Stephan Kiefer

- **NeOn Tool Support for Building Ontologies by Reuse**
  Mathieu d'Aquin, Aldo Gangemi, Enrico Motta, Martin Dzbor, Peter Haase, Michael Erdmann.

- **Community Ontology Development with ChEBI Submissions**
  Janna Hastings, Paula de Matos, Marcus Ennis, Christoph Steinbeck

Software Demonstration Session II   **Saturday, July 25, 2009 ▪ 12:00pm-1:30pm**   [Ballrooms 1-4]

- **FlexViz: Visualizing Biomedical Ontologies on the Web**
  Sean Falconer, Chris Callendar, Margaret-Anne Storey

- **CogZ: Cognitive Support and Visualization for Semi-Automatic Ontology Mapping**
  Sean Falconer, Margaret-Anne Storey

- **RDFScape and Beat: Toolkits for Manipulation and Visualization of Ontologies**
  Andrea Splendiani, Elena Beisswanger

Software Demonstration Session III   **Sunday, July 26, 2009 ▪ 11:45am-1:15pm**   [Ballrooms 1-4]

- **Dynamic is-a Hierarchy Generation from a Clinical Medical Ontology**
  Hiroko Kou, Jun Zhou, Mamoru Ohta, Kouji Kozaki, Takeshi Imai, Kazuhiko Ohe, Riichiro Mizoguchi

- **OntoFox: A Web Server for Ontology Information Retrieval**
  Zuoshuang Xiang, Yongqun He

- **Ontology Services for Semantic Applications in Healthcare and Life Sciences**
  Patricia L Whetzel, Nigam H Shah, Natalya F Noy, Clement Jonquet, Adrien Coulet, Nicholas Griffith, Cherie Youn, Benjamin Dai, Michael Dorf, Mark A Musen

Poster Session I (First Author A-L)   **Friday, July 24, 2009 ▪ 5:00pm-6:30pm**   [Ballrooms 1-4]

- **The Cell Cycle Ontology: An Application Ontology Supporting the Study of Cell Cycle Control**
  Erick Antezana, Mikel Egaña, Ward Blondé, Robert Stevens, Bernard De Baets, Vladimir Mironov, Martin Kuiper

- **Applying Biomedical Ontologies on Semantic Query Expansion**
  Andre Bechara, Maria Luiza M Campos, Vanessa Braganholo

- **Developing a Mammalian Behaviour Ontology**
  Tim Beck, John M Hancock, Ann-Marie Mallon

- **SNePS as an Ontological Reasoning Tool**
  Jonathan P Bona, Stuart C Shapiro

- **Organizing Search Results by Ontological Relations**
  Miao Chen

- **NEUROWEB: A Case-Study of Clinical Phenotype Ontology in the Neurovascular Domain**
  Gianluca Colombo, Daniele Merico

- **Logical Identity of Digital Files**
  Primavera De Filippi

- **Creating a Translational Medicine Ontology**
  Christine Denney, Colin Batchelor, Olivier Bodenreider, Sam Cheng, John Hart, John Hill, John Madden, Mark Musen, Elgar Pichler, Matthias Samwald, Sándor Szalma, Lynn Schriml, David Sedlock, Larisa Soldatova, Koji Sonoda, David Statham, Susie Stephens, Patricia L Whetzel, Elizabeth Wu

- **Accurate Biochemical Knowledge Representation with Precise, Structure-Based Identifiers**
  Michel Dumontier, Leonid L Chepelev

- **An Ontology for RNA Structure and Interaction**
  Michel Dumontier, Jose Cruz-Toledo, Marc Parisien, François Major

- **Development of an Ontology of Microbial Phenotypes**
  Michelle Giglio, Chris Mungall, Peter Uetz, Lanlan Yin, Johannes Goll, Deborah Siegele, Marcus Chibucos, James Hu

- **Clonal Complexes in Biomedical Ontologies**
  Albert Goldfain, Lindsay G Cowell, Barry Smith

- **The Evolution Ontology**
  Adam M Goldstein

- **Uberon: Towards a Comprehensive Multi-Species Anatomy Ontology**
  Melissa A Haendel, Georgios V Gkoutos, Suzanna E Lewis, Christopher J Mungall

- **Towards Automatic Classification of Entities within the ChEBI Ontology**
  Janna Hastings, Paula de Matos, Marcus Ennis, Christoph Steinbeck

- **VO: Vaccine Ontology**
  Yongqun He, Lindsay Cowell, Alexander D Diehl, Harry Mobley, Bjoern Peters, Alan Ruttenberg, Richard H Scheuermann, Ryan R Brinkman, Melanie Courtot, Chris Mungall, Zuoshuang Xiang, Fang Chen, Thomas Todd, Lesley Colby, Howard Rush, Trish Whetzel, Mark A Musen, Brian D Athey, Gilbert S Omenn, Barry Smith

- **Contributions to the Formal Ontology of Functions and Dispositions: An Application of Non-Monotonic Reasoning**
  Robert Hoehndorf, Janet Kelso, Heinrich Herre

- **What's in an 'is a' Link?**
  William Hogan

- **NIFSTD: Towards a Comprehensive Ontology for Neuroscience**
  Fahim T Imam, Sarah M Maynard, Maryann E Martone, Stephen D Larson Amarnath Gupta, Jeffrey S Greth

- **L$_{BFO}$: Toward an Artificial Language for Ontology Development**
  Leonard F Jacuzzo

- **NeuroLexorg: A NIF Standard Ontology-Based Semantic Wiki for Neuroscience**
  Stephen D Larson, Sarah M Maynard, Fahim Imam, Maryann E Martone

- **The Role of Bio-Ontologies in Data-Driven Research: A Philosophical Perspective**
  Sabina Leonelli

Poster Session II (First Author M-Z)　　Saturday, July 25, 2009 · 5:00pm-6:30pm　　[Center for Tomorrow]

- **Developing an Application Ontology for Annotation of Experimental Variables (Experimental Factor Ontology)**
  James Malone, Tomasz Adamusiak, Ele Holloway, Helen Parkinson

- **Ontology Mapping of PATO to YATO for the Improvement of Interoperability of Quality Description**
  Hiroshi Masuya, Nobuhiko Tanaka, Kazunori Waki, Tatsuya Kushida, Riichiro Mizoguchi

- **Ontology Relating Human Neurodegenerative Disease to Associated Animal Model Phenotypes**
  Sarah M Maynard, Lisa L Fong, Stephen D Larson, Asif Memon, Nicole Washington, Chris J Mungall, Maryann E Martone

- **Towards a Modular Ontology for Annotating Structured Imagery Reports: Early Experiments in Bone and Joint Diseases**
  Sonia Mhiri, Sylvie Despres, Ezzeddine Zagrouba

- **Phenoscape: Ontologies for Large Multi-Species Phenotype Datasets**
  Peter E Midford, Paula Mabee, Todd Vision, Hilmar Lapp, Jim Balhoff, Wasila Dahdul, Cartik Kothari, John Lundberg, Monte Westerfield

- **OBI: Ontology for Biomedical Investigations**
  The OBI Consortium

- **Virtual Fly Brain: An Ontology-Linked Schema of the Drosophila Brain**
  David Osumi-Sutherland, Mark Longair, J Douglas Armstrong

- **A Bayesian Hierarchical Model to Derive Novel Gene Networks from Gene Ontology Fingerprints**
  Tingting Qin, Lam C Tsoi, Andrew Lawson, Jim W Zheng

- **Letting the Cat out of the Bag: OBO and the Semantic Web**
  John E Rose

- **Ontology Integration: Bridging Bioinformatics to Clinics**
  Sirarat Sarntivijai, Yongqun He, Matthias Kretzler, Brian D Athey

- **BFO/DOLCE Primitive Relation Comparison**
  A Patrice Seyed

- **Multiple Ontologies for Integrating Complex Phenotype Datasets**
  Mary Shimoyama, Melinda Dwinell, Howard Jacob

- **Modeling Cardiac Rhythm and Heart Rate Using BFO and DOLCE**
  Lynda Temal, Arnaud Rosier, Olivier Dameron, Anita Burgun

- **NPO: Ontology for Cancer Nanotechnology Research**
  Dennis G Thomas, Rohit V Pappu, Nathan A Baker

- **OCRe: An Ontology of Clinical Research**
  Samson W Tu, Simona Carini, Alan Rector, Peter Maccallum, Igor Toujilov, Steve Harris, Ida Sim

- **A Collaborative Framework for Ontology Development**
  Tania Tudorache, Natasha Noy, Mark A Musen

- **A Linguistic Approach to Aligning Representations of Human Anatomy and Radiology**
  Pinar Wennerberg, Manuel Möller, Sonja Zillner

- **BioPortal: Ontologies and Integrated Data Resources at the Click of the Mouse**
  Patricia L Whetzel, Nigam H Shah, Natalya F Noy, Benjamin Dai, Michael Dorf, Nicholas Griffith, Clement Jonquet, Cherie Youn, Chris Callendar, Adrien Coulet, Daniel L Rubin, Barry Smith, Margaret-Anne Storey, Christopher G Chute, Mark A Musen

- **Improvement of PubMed Literature Searching Using Biomedical Ontology**
  Zuoshuang Xiang, Yongqun He

- **Logical Implications for Regulatory Relations Represented by Verbs in Biomedical Texts**
  Sine Zambach

- **Annotation-Based Meta-Analysis of Microarray Experiments**
  Jie Zheng, Junmin Liu, Elisabetta Manduchi, Christian J. Stoeckert Jr.