

Prof. Dr. Barry Smith
Wolfgang-Paul-Preis
Jahresbericht 2005
IFOMIS, Universität des Saarlandes

I. Sachbericht

- 1. Überblick über die Forschungsarbeit**

- 2. Vorträge und Konferenzen**
 - 2.1 *Vorträge außerhalb IFOMIS*
 - 2.2 *Vorträge am IFOMIS*
 - 2.3 *Von IFOMIS organisierte Workshops*

- 3. Publikationen**
 - 3.1 *Artikel in Referenzzeitschriften*
 - 3.2 *Buchbeiträge*
 - 3.3 *Konferenzbeiträge*
 - 3.4 *Von IFOMIS organisierte Workshops*
- 4. Anhang: Details zu den Workshops**

I. Sachbericht

1. Überblick über die Forschungsarbeit

We here supply a brief overview of the areas of research within which the work of IFOMIS is currently concentrated. IFOMIS has since its foundation in 2002 established a solid international reputation. We have received significant further funding for our research endeavours from the European Union and the Volkswagen Foundation; we have sponsored the establishment of the European Centre for Ontological Research, which has led in turn to the founding of further such centres in Japan and the United States; and we have established close working partnerships for example with the Gene Ontology Consortium, the European Bioinformatics Institute, and the Swiss Institute of Bioinformatics, as well as with the Deutsches Forschungszentrum für Künstliche Intelligenz in Saarbrücken. Our publishing endeavours continued to focus primarily on presentations at refereed conferences as part of our attempts to establish the new discipline of biomedical ontology among the relevant communities of researchers. As of 2005, however, we are focusing more systematically on publications in refereed journals. Further details are available at <http://ifomis.org>.

One principal highlight is the paper:

Smith B, Ceusters W, Klagges B, Köhler J, Kumar A, Lomax J, Mungall C, Neuhaus F, Rector AL, Rosse C. Relations in biomedical ontologies. *Genome Biol*, 2005;6(5):R46

which is the single most important contribution of our work thus far. This paper, which has been downloaded from the publisher's website some 5,400 times in the year since publication, represents a consensus approach to the construction of ontologies and terminologies in biomedicine, and draws upon the expertise not only of IFOMIS, but also of the OBO (Open Biomedical Ontologies), FMA (Foundational Model of Anatomy), and the GALEN research groups. The methodology is now codified as the OBO Relations Ontology (<http://obo.sourceforge.net/relationship>), and serves as the basis for the OBO Foundry project (<http://obofoundry.org>), a collaborative effort of the world's leading groups in biomedical ontology development, of which the custodians are Michael Ashburner FRS (Professor of Genetics, University of Cambridge), Suzanna Lewis (Berkeley Drosophila Genome Project and US National Center for Biomedical Ontology) and Barry Smith (IFOMIS).

Other highlights include our collaboration with two local institutions – the Fraunhofer Institut für Biomedizinische Technik (IBMT) in St. Ingbert and the Department of Paediatric Oncology and Haematology at the University Hospital in Homburg – within the framework of the European Union Integrated Project ACGT (Advancing Clinico-Genomic Trials on Cancer: Open Grid Services for Improving Medical Knowledge Discovery), for which we are creating and testing a master ontology for the cancer domain, which will be used by our colleagues in their work on cancer clinical trials. This ontology will provide a controlled vocabulary for annotating clinical trial data

pertaining to nephroblastoma in a way which is designed serve as a basis for drawing inferences from such data and formulating and testing new types of clinical hypothesis. IFOMIS is also working on a document ontology framework, which will be used to create clinical report forms for the ACGT project.

Together with Michael Ashburner, FRS (Professor of Genetics, Cambridge University) and Suzanna Lewis (Director of Berkeley Drosophila Genome Project) Dr Smith has been named custodian of the OBO Foundry (<http://obofoundry.buffalo.edu>), a library of gold standard reference ontologies for use by research teams in biomedicine.

The following study of Dr Smith's recent work on the ontology of embryology:
Gregor Damschen, Alfonso Gomez-Lobo, Dieter Schoenecker, "Sixteen Days? A Reply to B. Smith and B. Brogaard on the Beginning of Human Individuals", *Journal of Medicine and Philosophy*, Volume 31, Number 2 / April 2006, 165-175
is co-authored by a member of the Presidential Bioethics Council established by President Bush.

Forschungsschwerpunkte der IFOMIS-Wissenschaftler

Thomas Bittner

(bis Juni 2005)

Formal ontology, biomedical ontology, spatio-temporal ontology, computational ontologies. Developing axioms for parthood and containment relations in bio-ontologies, and formal theories to support spatial reasoning and representation in the bio-medical domain (jointly with M. Donnelly).

Mathias Brochhausen

Philosophy of biology, especially philosophy of paleoanthropology, biomedical ontology, species, philosophy of medicine, physical anthropology, epistemology and philosophy of language.

Werner Ceusters

(bis Ende 2005)

Referent tracking for Electronic Health Records (EHRs) based on Basic Formal Ontology. Main endeavour: expanding EHRs to comprehend genomics information (EHR+G) in cancer diagnosis and treatment. The general objective of EHR+G is to make better use of both the individual-patient-related data residing in EHRs and the knowledge available in biomedical and bioinformatics databases to improve the diagnosis, treatment and post-treatment care of patients with cancer or genetic diseases leading to cancer. It will do this by linking EHR systems to biomolecular databases on the basis of a common ontology.

Maureen Donnelly

(bis Juni 2005)

Formal ontology, spatio-temporal ontology, biomedical ontology, including work on containment relations in anatomical ontologies and on a formal theory for spatial

representation and reasoning in the biomedical domain (joint work with T. Bittner and C. Rosse).

Matthew Fielding

Formal ontology, epistemology, controlled vocabularies, natural language processing, ontology development, ontology integration; including joint work with D. Marwede on the epistemic/ontological divide in clinical radiology and on radiographic ontology development.

Pierre Grenon

Formal ontology, universals, qualities, relations, ontological engineering, formalization. Collaboration with the Laboratory for Applied Ontology in Trento on aligning ontologies the BFO and DOLCE, especially in regard to their treatment of space and time.

Boris Hennig

Philosophy of biology, teleology, biological functions, types and tokens, prototypes, processes and actions, philosophy of time.

Ludger Jansen

Metaphysics, ontology, logics as well as their ancient and medieval history; social philosophy (especially: social ontology); tendencies; problems of norm justification; philosophy of religion.

Ingvar Johansson

Ontology, universals, functions, quantities, parthood, truth. Currently working on supervenience, and on a theory of emergent properties as a basis for reasoning about natural phenomena.

Anand Kumar

Biomedical ontologies, Electronic Health Records, biomedical informatics, medical informatics, knowledge representation. Currently working especially on ontologies of clinical pathologies in the cancer domain.

Shahid Manzoor

Software Engineering, Web-based application development, semantic web. Currently working on the implementation of the Referent Tracking system especially regarding to the reasoning over the multiple ontologies with large scale of the ontological data.

Dirk Marwede

Application of ontological principles to the medical domain, medical imaging and ontology, medical terminology in radiological reports, epistemology and ontology in clinical radiology lexicons, levels of granularity in the representation of the biomedical domain.

Katherine Munn

Ontology, biological functions, philosophy of biology, medical informatics. Working on various aspects of quality assurance for the Gene Ontology, and on the relations between biological functioning and survival.

Daniel Novotny

(bis Juli 2005)

Granularity in biology, naturalism, foundational ontology, semantics. Working with A. Kumar and others on a carcinoma classification ontology for clinical bioinformatics and with D. Marwede on an ontology of lung cancer.

Ulf Schwarz

Formal Ontology, relations, logics, philosophy of language, philosophy of time, representation of events on the level of universals. Currently working on translatability of biomedical terminologies and the definition of formal relations.

Barry Smith

Formal ontology, biomedical ontology; working with philosophers, logicians, biologists, medical researchers, and biomedical informaticians on a range of projects designed to support integration of knowledge in the life sciences, especially knowledge pertaining to entities existing at different levels of granularity, from molecules to whole organisms.

2. Vorträge und Konferenzen

2.1 *Vorträge außerhalb IFOMIS*

Zeit	Vortragende – Titel des Vortrags	Ort
Dec. 19, 2005	Brochhausen Mathias: "Theorie und Ethik der Medizin - Philosophie für Praktiker?" im Rahmen der Vorlesung "Geschichte, Theorie und Ethik der Medizin"	Fakultät 2- Bereich Klinische Medizin; Großer HS Innere, Geb.40, Homburg, Germany
Dec. 12, 2005	Hennig Boris: "Funktionen am Modell praktischen Schließens"	Humboldt-Universität zu Berlin, Berlin, Germany
Nov. 30, 2005	Jansen Ludger: "Maimonides' Führer der Unschlüssigen"	Ringvorlesung 'Klassische Werke der Philosophie', Universität Stuttgart, Stuttgart, Germany
Nov. 29, 2005	Lescourret, Marie-Anne: Zweideutigkeit des Altruismus (Ambiguity of altruism)	Institut für Philosophie (Building 11), Saarland University, Saarbrücken
Nov. 15, 2005	Brochhausen Mathias: "Mythen in Quines Wissenschaftsphilosophie?"	Institut für Philosophie (Building 11), Saarland University, Saarbrücken, Germany
Oct. 27, 2005	Ceusters Werner: "Ontology: the need for international coordination"	NCOR Inaugural Meeting, University at Buffalo – North Campus, Buffalo, USA
Oct. 26, 2005	Musen Mark, Lewis Suzanna, Chute Christopher, Smith Barry: "Ontologies in Biomedicine: What is the "Right" Amount of Semantics"	AMIA 2005, Washington D.C., USA
Oct. 26, 2005	Hennig Boris: "Corrigibility as the Mark of the Mental"	Department of Philosophy, University at Buffalo, Buffalo NY, USA
Oct. 22-26, 2005	Fielding James Matthew: "Term Use in Computer Tomography Reports and the Ontological Entities they Refer to"	AMIA 2005, Washington D.C., USA
Oct. 22-26, 2005	Schulz Stefan: "Ontological Foundations of Biomedical Terminology Systems"	AMIA 2005, Washington D.C., USA

Oct. 22-26, 2005	Smith Barry, Ceusters Werner: "An Ontology-Based Methodology for the Migration of Biomedical Terminologies to Electronic Health Records"	AMIA 2005, Washington D.C., USA
Oct. 22-26, 2005	Schulz Stefan, Daumke Philipp, Smith Barry, Hahn Udo: "How to Distinguish Parthood from Location in Bioontologies"	AMIA 2005, Washington D.C., USA
Oct. 22-26, 2005	Rosse Cornelius, Kumar Anand, Leonardo Jose, Mejino V., Cook Daniel L., Detwiler Landon T., Smith Barry: "A Strategy for Improving and Integrating Biomedical Ontologies"	AMIA 2005, Washington D.C., USA
Oct. 12, 2005	Jansen Ludger: "Personenkollektive und Kollektivpersonen"	Institut für Philosophie, Universität Stuttgart, Stuttgart, Germany
Oct. 1, 2005	Hennig Boris: "Documents"	Department of Philosophy, University at Buffalo, Buffalo NY, USA
Sep. 26-30, 2005	Jansen Ludger: "Aristoteles und das Problem des Neuen: Wie kreativ sind Veränderungsprinzipien?"	XX. Deutscher Kongreß für Philosophie, Berlin, Germany
Sep. 14-18, 2005	Smith Barry: "Anatomical Information Science"	Conference on Spatial Information Theory COSIT 2005, Ellicotville, USA
Aug. 28-31, 2005	Smith Barry, Ceusters Werner: "Tutorial on Ontology Design"	MIE 2005, Geneva, Switzerland
Aug. 28-31, 2005	Kumar Anand, Yip Lina: "Online Cancer Information Resources: From Clinics to Biology (tutorial)"	MIE 2005, Geneva, Switzerland
Aug. 28-31, 2005	Goldberg Louis, Ceusters Werner, Eisner John, Smith Barry: "The Significance of SNODENT"	MIE 2005, Geneva, Switzerland
Aug. 28-31, 2005	Marwede Dirk, Fielding James Matthew: "The Epistemological-Ontological Divide in Clinical Radiology"	MIE 2005, Geneva, Switzerland
Aug. 28-31, 2005	Smith Barry: "Wüsteria"	MIE 2005, Geneva, Switzerland
Aug. 27-31, 2005	Grenon Pierre: "Neutral Relation Universals and Directed Relation Instances"	ECAP5, Lisbon, Portugal

Aug. 27-28, 2005	Ceusters Werner, Smith Barry: "Tracking Referents in Electronic Health Care Records"	MIE 2005, Geneva, Switzerland
Aug. 7-13, 2005	Hennig Boris: "Temporal Extension"	28th International Wittgenstein Symposium, Kirchberg am Wechsel, Austria
July 30-Aug.5, 2005	Bittner Thomas, Donnelly Maureen: "Computational Ontologies of Parthood, Componenthood and Containment"	IJCAI 2005, 19th International Joint Conference on Artificial Intelligence, Edingburgh, Scotland, UK
July 27-28, 2005	Smith Barry: "Africa"	ECOR Inaugural Meeting, European Centre for Ontological Research (ECOR), Saarland University, Saarbrücken
July 23-27, 2005	Kumar Anand, Smith Barry: "Oncology Ontology in the NCI Thesaurus"	AIME 2005, Aberdeen, Scotland, UK
July 13, 2005	Johansson Ingvar: "Reflective and Non-Reflective Actions"	Department of Philosophy, University of Frankfurt, Germany
July 9-11, 2005	Johansson Ingvar: "Proof of the Existence of Universals"	Swedish Philosophy Days, Uppsala, Sweden
July 6-10, 2005	Novotny Daniel: "Definitions of Terrorism"	Colloquium on Violence and Religion, Koblenz-Schoenstatt, Germany
June 25-29, 2005	Lewis Suzanna, Smith Barry: "Principles of Ontology Construction (tutorial)"	ISMB 2005, Detroit, USA
June 24, 2005	Smith Barry: "On the Proper Treatment of Pathologies in Biomedical Ontologies" (SIG meeting)	ISMB 2005, Detroit, USA
June 20, 2005	Smith Barry: "The Ontology of Documents"	LABoratorio di ONTOlogia, Università degli Studi di Torino, Italy
June 9-11, 2005	Johansson Ingvar: "Proof of the Existence of Universals"	Swedish Philosophy Days, Uppsala, Sweden
June 4, 2005	Smith Barry: "SNAP and SPAN: From the Foundational Model of Anatomy to the Physiological Reference Ontology"	Department of Biological Structure, University of Washington, Seattle, USA
June 3-4, 2005	Hennig Boris: "Functional Reasoning about Artefacts"	Workshop on Norms, Reasoning and Knowledge in Technology, Boxmeer, The Netherlands

June 2-4, 2005	Johansson Ingvar: "Emergent Properties and Rules of Inference"	E-CAP 2005, Västerås, Sweden
June 2-4, 2005	Munn Katherine: "Functions and Prototypes"	E-CAP 2005, Västerås, Sweden
June 2-4, 2005	Smith Barry: "Biological Ontologies" (keynote lecture)	E-CAP 2005, Västerås, Sweden
June 2-4, 2005	Novotny Daniel: "How to deal with granularity"	E-CAP 2005, Västerås, Sweden
May 31, 2005	Smith Barry: "Ontologie: Eine Lösung für unsere Kommunikationsprobleme?"	Institut für Medizininformatik, Biometrie und Epidemiologie, Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany
May 29, 2005	Smith Barry: "Aristoteles und die Medizininformatik"	vhs, Saarbrücken, Germany
May 25, 2005	Smith Barry: "The Ontologically Privileged Status of the Past"	German Research Center for Artificial Intelligence (DFKI), Saarbrücken
May 25-27, 2005	Hennig Boris: "No identity without agency"	Identity: Ontological Perspectives, Vrije Universiteit, Amsterdam, Netherlands
May 22-25, 2005	Smith Barry: "Language and the Future of Biomedicine"	Forum Engelberg, Lucerne, Switzerland
May 22-24, 2005	Hennig Boris: "Processes are Instantiated by their Proper Parts"	7th International Symposium on Logical Formalizations of CommonSense Reasoning, Corfu, Greece
May 11, 2005	Johansson Ingvar: "Realist Phenomenology, Ingarden, and the Problem of Universals"	Department of Philosophy, University of Geneva, Switzerland
May 10, 2005	Millan-Zaibert Elizabeth: "Humboldt's Naturgemälde: Die Darstellung der Natur in der Wissenschaft und in der Kunst"	Institut für Philosophie (Building 11), Saarland University, Saarbrücken
April 29-May 2, 2005	Ceusters Werner: "Strategies for Referent Tracking in Electronic Healthcare Records"	IMIA WG6: Ontology and Biomedical Informatics, Rome, Italy
April 29-May 2, 2005	Smith Barry: "New Desiderata for Biomedical Terminologies"	IMIA WG6: Ontology and Biomedical Informatics, Rome, Italy

April 16-17, 2005	Smith Barry: "Wounded Knees"	Mapping the Human Body, Department of Philosophy, University at Buffalo, Buffalo, USA
April 16-17, 2005	Kumar Anand: "Ontology of Pathological Structures"	Mapping the Human Body, Department of Philosophy, University at Buffalo, Buffalo, USA
April 16-17, 2005	Donnelly Maureen: "Representing and Reasoning in Biomedical Ontologies"	Mapping the Human Body, Department of Philosophy, University at Buffalo, Buffalo, USA
April 10-13, 2005	Johansson Ingvar: "Qualities, Quantities, and the Endurant-Perdurant Distinction in Top-Level Ontologies"	WSPI 2005, Kaiserslautern, Germany
April 10-15, 2005	Bittner Thomas: "Approximative Qualitative Temporal Reasoning"	Seminar on Annotating, Extracting and Reasoning about Time and Events, Dagstuhl, Germany
April 10, 2005	Ceusters Werner: "Introduction to Ontologies"	SMBM 2005, Cambridge, UK
April 8, 2005	Ceusters Werner: "Ontology for Emergency Medicine"	DICOEMS Workshop, Luxembourg-Kirchberg, Luxembourg
April 7-8, 2005	Smith Barry: "Semantic Network vs. Biomedical Ontology"	The Future of the UMLS Network, National Library of Medicine, Bethesda, USA
April 7-8, 2005	Kumar Anand: "Ontological Analysis of the Semantic Types"	The Future of the UMLS Network, National Library of Medicine, Bethesda, USA
April, 2005	Smith Barry: "The Gene Ontology"	University at Buffalo, Buffalo, USA
March 10-11, 2005	Kumar Anand: "Ontology in Biomedical Informatics"	e-Biology Initiative: Towards New Frontiers of Biology, Tokyo, Japan
Feb. 25, 2005	Johansson Ingvar: "Identity Supervenience and the Ship of Theseus"	Umeå University, Sweden
Feb. 23, 2005	Novotny Daniel: "Plantinga's Evolutionary Argument against Naturalism"	International Academy of Philosophy in the Principality of Liechtenstein, Bendern, Liechtenstein

Feb., 2005	Marwede Dirk: "From Terminologies to Ontologies"	Department of Radiology, University of Leipzig, Saarbrücken, Germany
Jan. 25, 2005	Smith Barry: "Aristoteles 2005, oder: Was die Metaphysik zur heutigen Biomedizin beitragen kann"	Institute of Philosophy (Building 11), Saarland University, Saarbrücken, Germany
Jan. 17, 2005	Smith Barry: "Ontologies: The next Generation"	Department of Computer Science, The University of Manchester, Manchester, UK
Jan. 13-15, 2005	Hennig Boris: "Conscientia bei Descartes"	Philosophische Theorien des Geistes in der frühen Neuzeit, Universität Heidelberg, Heidelberg, Germany

2.2 *Vorträge am IFOMIS*

Dec. 1-2, 2005	Smith Barry: "Towards the Integration of Top-Level Ontologies"	Workshop on Quantities, Numbers and Parts, IFOMIS, Saarland University, Saarbrücken, Germany
Dec. 1-2, 2005	Johansson Ingvar: "Varieties of Quantities and Varieties of Parts"	Workshop on Quantities, Numbers and Parts, IFOMIS, Saarland University, Saarbrücken, Germany
April 8, 2005	Marwede Dirk: "Ontology and Radiology"	IFOMIS, University of Leipzig, Leipzig, Germany
March 15, 2005	Kumar Anand: "Disease-Specific Ontologies in Biomedicine"	IFOMIS, Saarland University, Saarbrücken, Germany

2.3 *Von IFOMIS organisierte Workshops*

Dec. 1-2, 2005	Workshop on Quantities, Numbers and Parts, IFOMIS, Saarland University, Saarbrücken, Germany	IFOMIS, Saarland University, Saarbrücken, Germany
Aug. 28, 2005	MIE 2005 Tutorial: Online Cancer Information Resources: From Clinics to Biology s. Anhang	Geneva, Switzerland

June 27-July 3, 2005	Summer School NoE s. Anhang	Balaton, Hungary
April 29-May 2, 2005	IMIA WG6: Ontology and Biomedical Informatics (http://ontology.buffalo.edu/wg6/) s. Anhang	Rome, Italy
April 6-8, 2005	Workshop on Ontology	IFOMIS, Saarland University, Saarbrücken, Germany
March 21, 2005	Symposium: "IFOMIS - Presentations of Current Work"	IFOMIS, Saarland University, Saarbrücken, Germany
Jan. 18, 2005	Workshop on The Theory of European Unification	Europa Institute, Saarland University, Saarbrücken
Jan. 10, 2005	Symposium: "IFOMIS - Presentations of Current Work"	IFOMIS, Saarland University, Saarbrücken, Germany

Im **Anhang** befinden sich zusätzliche Details zu den von uns durchgeführten auswärtigen Workshops.

3. Publikationen

3.1 *Artikel in Referenzzeitschriften*

Brochhausen Mathias: "Evolution und Gesellschaft von einem naturalistischen Standpunkt aus", in: *Erwägen Wissen Ethik*, 16 (2005) 3, 378-380

Ceusters Werner, Smith Barry, Goldberg Louis: "A Terminological and Ontological Analysis of the NCI Thesaurus" (<http://ontology.buffalo.edu/medo/NCIT.pdf>), in: *Methods of Information in Medicine*, 44 (2005) , 498-507

Gorman Michael: "The Essential and the Accidental" (<http://faculty.cua.edu/gorman/GormanEssAcc.pdf>), in: *Ratio*, 18 (2005) 3

Jansen Ludger: "Identität und Gemeinschaft. Neuere Beiträge zur Ontologie des Sozialen" (<http://home.arcor.de/metaphysicus/Texte/id-gem.pdf>), in: *Zeitschrift für philosophische Forschung*, 59 (2005) , 118-132

Jansen Ludger: "Review of Appiah, The Ethics of Identity"

(<http://mentalhelp.net/books/books.php?type=de&id=2929>), in: *Metapsychology*, 2005

Johansson Ingvar, Smith Barry, Munn Katherine, Tsikolia Nikoloz, Elsner Kathleen, Ernst Dominikus, Siebert Dirk: "Functional Anatomy: A Taxonomic Proposal", in: *Acta Biotheoretica*, 53 (2005) 3, 153-166

Smith Barry, Klagges Bert R. E.: "Philosophie und biomedizinische Forschung"

(<http://ontology.buffalo.edu/bio/Lebensformen.pdf>), in: *Allgemeine Zeitschrift für Philosophie*, 30 (2005) 1, 5-26

Smith Barry, Ceusters Werner, Klagges Bert R. E., Köhler Jacob, Kumar Anand, Lomax Jane, Mungall Chris, Neuhaus Fabian, Rector Alan, Rosse Cornelius: "Relations in Biomedical Ontologies" (<http://genomebiology.com/2005/6/5/R46>), in: *Genome Biology*, 2005, R46

3.2 Buchbeiträge

Jansen Ludger: "Aristoteles und das Problem des Neuen: Wie kreativ sind

Veränderungsprinzipien?" (http://home.arcor.de/metaphysicus/Texte/das_neue.pdf), in: Günter Abel (ed.): *Kreativität*, Universitätsverlag der Technischen Universität, Berlin, 2005, 15-25

Jansen Ludger: "Institutionen und die kategoriale Ontologie"

(<http://home.arcor.de/metaphysicus/Texte/Institutionen-kategorial.pdf>), in: Schönrich Gerhard (ed.): *Institutionen und ihre Ontologie*, Ontos, Frankfurt/M.-Lancaster, 2005, 45-57

Jansen Ludger: "Twelve dictionary entries: dianoia/Verstand; echein/Haben, Halten; katêgoria/Kategorie; keisthai/Liegen; poiein/Tun – paschein/Erleiden; poion/Wiebeschaffen – poiôtês/Qualität, poson/Wieviel – posotês/ Quantität; pou/Wo; pote/Wann; pros ti/In B", in: Otfried Höffe (ed.), *Aristoteles-Lexikon*, Kröner, Stuttgart, 2005

Johansson Ingvar: "Money and Fictions", in: *Festschrift to Helge Malmgren*, online publication, 2005

Smith Barry: "Against Fantology" (http://ontology.buffalo.edu/bfo/Against_Fantology.pdf), in: Marek Johann C., Reicher Maria E. (eds.): *Experience and Analysis*, HPT & ÖBV, Vienna, 2005, 153-170

Smith Barry: "Aristotle, Menger, Mises: An Essay in the Metaphysics of Economics", in: Younkins E. (ed.): *Philosophers of Capitalism*, Lexington Books, New York, 2005, 199-222

Sorokine A., Bittner Thomas: "Understanding taxonomies of ecosystems: a case study" (<http://www.uni-leipzig.de/~tbittner/SorokineBittner-20040701.pdf>), in: Fisher P. (ed.): *Developments in Spatial Data Handling*, Springer, Berlin, 2005, 559-572

3.3 *Konferenzbeiträge*

Ceusters Werner, Smith Barry: "Tracking Referents in Electronic Health Records" (http://ontology.buffalo.edu/medo/Tracking_referents.pdf), in: *Medical Informatics Europe* (MIE 2005), Stud Health Technol Inform, 116 (2005), 71-76

Fielding James Matthew: "Truth and Objectivity in the Later Philosophy of Wittgenstein", in: Stadler Friedrich, Stöltzner Michael (eds.): *Schriftenreihe der Wittgenstein Gesellschaft*, Hölder-Pichler-Tempsky, Vienna, 2005, 70-72

Goldberg Louis, Ceusters Werner, Eisner John, Smith Barry: "The Significance of SNODENT" (http://ontology.buffalo.edu/medo/SNODENT_05.pdf), in: *Medical Informatics Europe* (MIE 2005), Stud Health Technol Inform, 116 (2005) , 737-742

Hennig Boris: "Complex Procedures Instantiated by their Proper Parts" (<http://www.borishennig.de/texte/2005/cs05.pdf>), in: McIlraith Sheila, Peppas Pavlos, Thielscher Michael (eds.): *7th International Symposium on Logical Formalization of*

Common Sense Reasoning. Technical Reports TU Dresden, 2005, 93-98

Hennig Boris: "Temporal Extension" (<http://www.borishennig.de/texte/2005/temporal.pdf>),

in: Stadler Friedrich, Stöltzner Michael (eds.): *Schriftenreihe der Wittgenstein Gesellschaft*, Hölder-Pichler-Tempsky, Vienna, 2005

Johansson Ingvar: "Qualities and the Endurant-Perdurant Distinction", in: Roth-Berghofer Thomas et al. (eds.): *Proceedings of the 3rd Conference on Professional Knowledge Management (WM 2005)*, Kaiserslautern, 2005, 543-550

Kumar Anand, Smith Barry: "Oncology Ontology in the NCI Thesaurus"

(<http://ontology.buffalo.edu/medo/NCITcolon.pdf>), in: AIME 2005 (Artificial Intelligence in Medicine Europe) Lecture Notes in Computer Science, 3581 (2005) , 213-220

Kumar Anand, Yip Lina, Smith Barry, Marwede Dirk, Novotny Daniel: "An Ontology for Carcinoma Classification fir Clinical Bioinformatics"

(http://ontology.buffalo.edu/medo/Colon_Carcinoma.pdf), in: *Medical Informatics Europe (MIE 2005)*, Stud Health Technol Inform, 116 (2005) , 635-640

Marwede Dirk, Fielding James Matthew: "The Epistemological-Ontological Divide in Clinical Radiology", in: *Medical Informatics Europe (MIE 2005)*, Stud Health Technol Inform, 116 (2005) , 749-754

Rosse Cornelius, Kumar Anand, Mejino Jr. Jose L.V., Cook Daniel L., Detwiler Landon T., Smith Barry: "A Strategy for Improving and Integrating Biomedical Ontologies"

(<http://ontology.buffalo.edu/bio/OBR.pdf>), in: *Proceedings of AMIA Symposium 2005*, Washington D.C., 2005, 639-643

Schulz Stefan, Daumke Philipp, Smith Barry, Hahn Udo: "How to Distinguish Parthood from Location in Bioontologies" (<http://ontology.buffalo.edu/bio/Part&Location.pdf>), in:

Proceedings of AMIA Symposium 2005, Washington D.C., 2005, 669-673

Smith Barry, Mejino Jr. Jose L.V., Schulz Stefan, Kumar Anand, Rosse Cornelius:
"Anatomical Information Science" (http://ontology.buffalo.edu/anatomy_GIS/FMA-AIS.pdf), in: Cohn A.G., Mark David M. (eds.): *Spatial Information Theory. Proceedings of COSIT 2005* (Lecture Notes in Computer Science), Springer Verlag, Berlin/Heidelberg/New York, 2005, 149-164

Smith Barry: "The Logic of Biological Classification and the Foundations of Biomedical Ontology", in: Hájek Petr, Valdés-Villanueva Luis, Westerståhl Dag (eds.): *Logic, Methodology and Philosophy of Science. Proceedings of the 12th International Conference*, King's College Publications, London, 2005, 505-520

Smith Barry, Ceusters Werner: "An Ontology-Based Methodology for the Migration of Biomedical Terminologies to Electronic Healthcare Records" (http://ontology.buffalo.edu/medo/MT_EHR.pdf), in: *Proceedings of AMIA Symposium 2005*, Washington D.C., 2005, 704-708

Smith Barry, Kumar Anand: "On the Proper Treatment of Pathologies in Biomedical Ontologies" (<http://ontology.buffalo.edu/medo/PathologiesISMB05.pdf>), in: *Proceedings of Bio-Ontologies Workshop, Intelligent Systems for Molecular Biology* (ISMB 2005), Detroit, 2005, 22-23

Smith Barry, Ceusters Werner, Temmermann R.: "Wüsteria" (<http://ontology.buffalo.edu/medo/Wuesteria.pdf>), in: *Medical Informatics Europe* (MIE 2005), Stud Health Technol Inform, 116 (2005) , 647-652

4. Anhang: Details zu den Workshops

NoE Summer School:

DICOM, IHE and HL7 Workshop

Balaton, Hungary, 3 July 2005

The workshop attendees were given an introduction regarding the domains which the various standardizing organizations deal with. This was followed by a detailed analysis of the weaknesses these standardization efforts have in their data structure and how it could be improved with formal ontological principles. The problems with ontologies can solve are not only at the editorial level but ontologies can also improve the inferences drawn on the messages based on these standardizing efforts.

Number of attendees: approx. 80.

MIE 2005 Tutorial: Online Cancer Information Resources: From Clinics to Biology

List of instructors: Anand Kumar, IFOMIS, University of Saarland, Saarbrücken, Germany

Yum Lina Yip, Department of Structural Biology and Bioinformatics, Faculty of Medicine, University of Geneva, Switzerland and Swiss Institute of Bioinformatics, Geneva, Switzerland

Sunday, 28 August 2005 in Geneva, Switzerland

Abstract: It is our purpose to summarize in the tutorial the available online resources on cancer. In addition, we would like to emphasize on the needs of bridging the gap between medical informatics and bioinformatics, and review certain interdisciplinary and integrative approaches to seamlessly inter-connect the diverse domains of information.

Goals and objectives:

- 1) To provide an up-to-date overview of online information resources on cancer
- 2) To teach participant where to find information most related to their research field, and how to evaluate the website
- 3) To indicate recent development in data sharing and integration (e.g. data standardization)

Workshop on Ontology and Biomedical Informatics, Rome, 29 April – 2 May, 2005

See attached document (RomeWorkshopAvH.doc)