

Knowledge Organisation & Management at Albany

PhD Program in Information Science, CCI, SUNY Albany

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" Knowledge is a fluid mix of framed experience, values, contextual information and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms."

Davenport & Prusak, in *Working Knowledge*

Overview of the Field

- ▶ Knowledge representation, organization, sharing, extraction, retrieval, and use
- ▶ Reasoning with knowledge
- ▶ Individual, organizational and social setting in which knowledge is developed and harnessed

- ▶ Classification, indexing, clustering, web-mining, text-mining
- ▶ Retrieval modeling, Information seeking behaviour
- ▶ Knowledge representation, knowledge bases
- ▶ Logics, reasoning
- ▶ Human Computer Interaction
- ▶ Social Networks, Complex Networks
- ▶ Statistical natural language processing, linguistic analysis, text analysis
- ▶ Document modeling, document engineering
- ▶ Markup languages, document grammars
- ▶ Semantic web, ontology engineering

Faculty, Research Interests

- ▶ Deborah Andersen
 - ▶ Research methods and statistics, electronic information access technologies and their users, public libraries
- ▶ Philip B. Eppard
 - ▶ Archives, records administration, preservation management, electronic records, and history of recorded information
- ▶ Ingrid Fisher
 - ▶ Information retrieval, automatic thesaurus construction, information semantics, and assurance in business information systems
- ▶ Jagdish Gangolly
 - ▶ Knowledge representation issues in accounting, concept classification in accounting, and security in formal modeling of internal controls auditing
- ▶ Hemalata Iyer
 - ▶ Classification theory, information organization and retrieval, natural language representation

- ▶ Paul Miesing
 - ▶ Strategic vision, organizational change and ?transformation, technology transfer, business and education use of information technology
- ▶ Neil Murray
 - ▶ Automated deduction, extension of ?deductive techniques to various non-classical logics, including multiple-valued, annotated and fuzzy logic, knowledge compilation
- ▶ Abebe Rorrisa
 - ▶ Multimedia information organization and ?retrieval, measurement and scaling of users information need and their perceptions of multimedia information sources and services, the use/acceptance/adoption and impact of information and communication technologies (ICTs)

- ▶ Ozlem Uzuner
 - ▶ Medical informatics, medical language processing, electronic health records, natural language understanding, information retrieval, information extraction, privacy, security, intellectual property, and user interfaces
- ▶ Xiaojun (Jenny) Yuan
 - ▶ Information-seeking behavior, information retrieval, user interface design and evaluation, information visualization, usability testing, human-computer interaction, and digital libraries

Recent Faculty Publications

▶ Ingrid Fisher

- ▶ Facilitating Information Retrieval from the Authoritative Accounting Literature: A Preliminary Consideration of the FASBs Codification Structure. I. E. Fisher. *Issues in Innovations*.
- ▶ Evolution in Accounting Language: A Preliminary Examination of Accounting Pronouncements and Financial Statements. M. R. Garnsey and I. E. Fisher. 2008. *Journal of Emerging Technologies in Accounting*, Vol. 5 No. 1.
- ▶ A Prototype System for the Temporal Reconstruction of Financial Accounting Standards. I. E. Fisher. *International Journal of Accounting Information Systems*. Vol.8. No. 3. 139-164.
- ▶ The Semantics of Change as Revealed Through an Examination of Financial Accounting Standards Amendments. I. E. Fisher and M. R. Garnsey. 2006 *Journal of Emerging Technologies in Accounting*. Vol. 3 No. 1. 41-59.

Recent Faculty Publications

▶ Jagdish S. Gangolly

- ▶ Resilience Metrics for Service-Oriented Networks: A Service Allocation Approach, D. J. Rosenkrantz, S. Goel, S.S. Ravi, and J Gangolly, Member, *IEEE Transactions on Services Computing*, Vol. 2, No. 3, July-September 2009.
- ▶ On Decision Support for Distributed Systems Protection: A Perspective Based on the Human Immune Response System and Epidemiology, S. Goel and J. Gangolly, *International Journal on Information Management*, 27(4), 266-278.
- ▶ On the design of an XML-Schema based application for business reporting: An XBRL Schema Derivative, K. Tam, S. Goel, and J. Gangolly, *International Journal of Digital Accounting Research*, (2002).
- ▶ On the Classification of Accounting Concepts: Preliminary Results of the Statistical Analysis of Term-Document Frequencies, J. Gangolly and Yi-Fang Wu. *New Review of Applied Expert Systems & Emerging Technologies* (2000).

Recent Faculty Publications

- ▶ Paul Miesing
 - ▶ L. Easterly and P. Miesing (2008). NGOs, Social Venturing, and Community Citizenship Behavior, *Business & Society*
 - ▶ P. Miesing and R.K. Van Ness (2007). Exercise: Scenario Planning, *Organization Management Journal* Vol. 4 (2): 148-167
 - ▶ P. Miesing, M.P. Kriger, and N. Slough (2007). Towards a Model of Effective Knowledge Transfer Within Transnationals: The Case of Chinese Foreign Invested Enterprises, *Journal of Technology Transfer* Vol. 32 (1-2): 109-122
 - ▶ J. Hua, P. Miesing, and M. Li (2006). An Empirical Taxonomy of SOE Governance in Transitional China, *Journal of Management and Governance* Vol. 10 (4): 401-433

Recent Faculty Publications

▶ Neil Murray

- ▶ S. Leach, J. Lu, N. V. Murray and E. Rosenthal. Mho-Resolution and Hybrid Knowledge Bases. *Journal of The Franklin Institute* (Special issue devoted to Artificial Intelligence), Volume 338, Issue 5 (August 2001), 583-600.
- ▶ R. Haehnle, N.V. Murray and E. Rosenthal. Linearity and Regularity with Negation Normal Form. *Theoretical Computer Science* 328, 3 (2004), 325-354.
- ▶ J. Lu, N.V. Murray and E. Rosenthal. Deduction and Search Strategies for Regular Multiple-Valued Logics. *Journal of Multiple-Valued Logic and Soft Computing* 11, 3-4, (2005), 375-406.
- ▶ M. Hacid, N.V. Murray, Z. Ras and S. Tsumoto, Eds. **Foundations of Intelligent Systems**, ISMIS 2005, Saratoga Springs, NY, May 2005. Lecture Notes in Artificial Intelligence, Springer-Verlag, Vol. 3488.

Some Recent Faculty Publications (Incomplete)

▶ Abebe Rorissa

- ▶ Rorissa, A. (2008). User generated descriptions of individual images versus labels of groups of images: A comparison using basic level theory. *Information Processing & Management*, 44(5), 1741 -1753.
- ▶ Rorissa, A., & Iyer, H. (2008). Theories of cognition and image categorization: What category labels reveal about basic level theory. *Journal of the American Society for Information Science and Technology*, 59(9), 1383 -1392.
- ▶ Rorissa, A., Clough, P., & Deselaers, T. (2008). Exploring the relationship between feature and perceptual visual spaces. *Journal of the American Society for Information Science and Technology*, 59(5), 770784.
- ▶ Rorissa, A. (2007). Relationships between perceived features and similarity of images: A test of Tverskys Contrast Model. *Journal of the American Society for Information Science and Technology*, 58(10), 1401-1418.

Recent Faculty Publications

▶ Ozlem Uzuner

- ▶ Uzuner, ., Zhang, X., Sibanda, T. (2009). Machine Learning and Rule-Based Approaches to Assertion Classification. *Journal of the American Medical Informatics Association*. January 2009.
- ▶ Uzuner, ., Sibanda, T., Luo, Y., Szolovits, P. (2008) A De-identifier for Medical Discharge Summaries. *International Journal Artificial Intelligence in Medicine*. January 2008; 42(1): 13-35.
- ▶ Uzuner, ., Goldstein, I., Luo, Y., Kohane, I. (2008) Identifying Patient Smoking Status from Medical Discharge Records. *Journal of the American Medical Informatics Association*. January 2008; 15(1): 14-24.
- ▶ Uzuner, ., Luo Y, Szolovits P. (2007) Evaluating the State-of-the-Art in Automatic De-identification. *Journal of the American Medical Informatics Association*. September 2007; 14(5):550-563.

KOM Faculty on Journal Editorial Boards

- ▶ Bulletin of the American Society for Information Science & Technology
- ▶ Journal of Information Systems
- ▶ Research in Management Education and Development
- ▶ E-Services Journal
- ▶ Journal of Emerging Technologies in Accounting
- ▶ International Journal of Digital Accounting Research
- ▶ Journal of Emerging Technologies in Accounting

Some Recent KOM Related Doctoral Dissertations

- ▶ 2011
 - ▶ Goldstein, Ira, *Automated Classification of Narrative in Medical Reports using Natural Language Processing* (Chair: Ozlem Uzuner/ISD)
- ▶ 2010
 - ▶ Burk, Robin, *Toward a theory-based natural language capability in robots and other embodied agents : Evaluating Haussess slim theory and database semantics* (Chair: Haas/CSI)
- ▶ 2009
 - ▶ Goel, Sunita, *Using Natural Language Processing to Detect Fraud From Qualitative Content of company annual Reports* (Chair: Gangolly/INF)
- ▶ 2006 (GIS)
 - ▶ Maggie Cusack, *A Prototype in Geographic Information Systems Using Archived Intelligent Transportation Systems Data for Multidimensional Analysis* (Chair: Lawson/GEOG)

Some Recent KOM Related Doctoral Dissertations

- ▶ 2002
 - ▶ Ingrid E. Fisher, *Temporal Reconstruction of Financial Accounting Standards: A Prototype System for Pension Accounting* (Chair: Gangolly/ACCTG & LAW)
- ▶ 2002
 - ▶ Jihong Zeng, *Using Keywords/Phrases in Automatically Generating Hypertext Links: An Exploratory Study* (Chair: Bloniarz/CSI)
- ▶ 2001
 - ▶ Brook Wu, *Automatic Concept Organization: Organizing Concepts from Text through Probability of Co-occurrence Analysis (POCA)* (Chair: Gangolly/ACCTG & LAW)
 - ▶ Margaret R. Garnsey, *Classification of Financial Accounting Concepts Through the Use of Latent Semantic Indexing and Clustering Techniques* (Chair: Gangolly/ACCTG & LAW)
- ▶ 1999
 - ▶ Brett A. Stone, *Corporate Social Responsibility and Institutional Investment* (Chair: Gangolly/ACCTG & LAW)

Some Recent KOM Related Doctoral Dissertations

- ▶ 1998
 - ▶ Thomas Tribunella, *A Method of Organizing and Implementing Information Systems for Generally Accepted Accounting Principles* (Chair: Gangolly/ACCTG & LAW)
- ▶ 1996
 - ▶ Deborah Andersen, *User Driven Technologies: Assessing the Information Needs of History Faculty as a Special User Program* (Chair: Galvin)
- ▶ 1995
 - ▶ Mark Giguere, *Electronic Document Description Standards* (Chair: Holstein/MSIS)

Key Resources

- ▶ Hjørland, Birger (ed.). Lifeboat for Knowledge Organization. Available at: http://www.db.dk/bh/lifeboat_ko/home.htm
- ▶ Hoetzlein R., 2007. The Organization of Human Knowledge: Systems for Interdisciplinary Research. Available at: <http://www.rchoetzlein.com/quanta>
- ▶ Knowledge Organization. <http://www.isko.org/ko.html>
- ▶ <http://dlist.sir.arizona.edu/2402/>
- ▶ Studies in Classification, Data Analysis, and Knowledge Organization, <http://www.springer.com/series/1564>
- ▶ <http://subjectobject.net/2007/01/20/theories-of-knowledge-organization/>

Key Journals

- ▶ J of the Amer. Society for Information Science & Technology
- ▶ ACM Transactions on Information Systems
- ▶ IEEE transactions on Data and Knowledge Engineering
- ▶ Artificial Intelligence
- ▶ J of Artificial Intelligence Research
- ▶ Knowledge Organization
- ▶ Artificial Intelligence and Law
- ▶ J of Information Processing and Management (IPM)
- ▶ J of Documentation
- ▶ J of Human-Computer Studies
- ▶ J of Information Science
- ▶ J of Information Retrieval
- ▶ J of Information Research
- ▶ J of data & Knowledge Engineering
- ▶ Most ACM, IEEE, INFORMS, SIAM DSI, . . . journals publish papers on various aspects of KOM.

Key Associations, Meetings, Conferences

- ▶ International Society for Knowledge Organisation
- ▶ ASIST
- ▶ ACM
- ▶ IEEE-CS
- ▶ ICAIL
- ▶ AAAI
- ▶ ISKO
- ▶ INFORMS
- ▶ DSI
- ▶ AAA (Section SET)

- ▶ ASIST (iSchools)
- ▶ ICIS (Business Schools & iSchools)
- ▶ AMCIS (Business Schools & iSchools)
- ▶ INFORMS (Business Schools)
- ▶ ACM KDD, MOD (CSI, Business Schools, iSchools)
- ▶ HICSS (Business Schools, iSchools)
- ▶ AAA (Business Schools)