CIKM'94

Preliminary Program & Registration

Third International Conference on Information and Knowledge Management (CIKM'94)

November 29 - December 2, 1994

National Institute of Standards and Technology (NIST)
Gaithersburg, Maryland

Sponsored by:	ACM SIGART and SIGIR, in cooperation with: AAAI, NIST, NSF, UMBC, Purdue University, and Rutgers University.
Steering Committee:	Bruce Blum, Tim Finin, David Jefferson, Keith Humenik, Charles Nicholas, E. K. Park, Yelena Yesha
General Co-Chairs :	Bharat Bhargava, Purdue University; Yelena Yesha, NIST/UMBC
Program Chair:	Nabil R. Adam, Rutgers University. Email: adam@adam.rutgers.edu

Program Comittee: A. El Abbadi, R. Alonso, Y. Arens, R. Ashany, B. Badrinath, G. Belford, E. Bertino, M. Brodie, A. Buchmann, W. Chu, J. Clifford, S. Davidson, K. Dittrich, R. Elmasri, T. Finin, E. Fong, E. Fox, S. Gadia, N. Gehani, J. Geller, J. Gowens, M. Halem, D. Harman, A. Helal, K. Humenik, S. Hurwitz, H. Ait Kaci, P. Kanellakis, M. Kohli, C. Kulikowski, D. Lewis, R. MacGregor, K. Makki, R. Martin, M. Masulo, D. McKay, J. Mylopoulos, S. Naqvi, S. Navathe, E. Neuhold, P. Ng,T. Nguyen, C. Nicholas, C. Overton, M. Ozsoyoglu, M. Ozsoyoglu, M. Papazoglou, E. K. Park, N. Pissinou, R. Ramakrishnan, S.Ray, E. Rundensteiner, P. Scheurmann, G. Schlageter, T. Seidman, M. Singhal, P. Sokolove, I. Song, S. Spaccapietra, M. Stonebraker, K. Sycara, K. Vadaparty, P. Vassallo, B. Wah, L. Welch, W. Wong, X. Wu, V. Zwass.

OBJECTIVE

The objective of the conference is to provide an international forum for presentation and discussion of research on information and knowledge management, as well as recent advances on data and knowledge bases. The purpose of the conference is to identify challenging problems facing the development of future knowledge and information systems, and to shape future directions of research through presentation of high quality, applied and theoretical research findings. An important part of the conference is the Workshops program which focuses on timely research challenges and initiatives.

The conference will feature keynote addresses, invited talks, regular sessions, workshops and panels.

I. KEYNOTE/INVITED TALKS

- Al Aho, Vice President, Bellcore
- Dan Atkins, Professor of Information & Library Studies and
  Professor of EE & Computer Science and
  Dean of Information & Library Studies, University of Michigan
- J. Bredekemp, NASA
- Robert Ewald, Chief Operating Officer, CRAY Research, Inc.
- David Farber, Professor, University of Pennsylvania
- Milton Halem, Chief, Space Data and Computing Division, NASA
- Bob Kerrey, Senator, State of Nebraska
- Thomas Kalil, Director, National Economic Council, The White House
- Paris C. Kanellakis, Professor, Brown University
- Hans Mark, Professor and John J. McKetta Chair, The University of Texas at Austin
- Erich Neuhold, Professor, GMD-IPSI, Germany
- Raj Reddy, Professor & Dean, School of Computer Science, CMU
- Jack Schwartz, Professor, New York University

- Peter Sheuermann, Professor, Northwestern University
- Avi Silberschatz, Professor, The University of Texas at Austin
- John Silva, ARPA
- Jacob Slonim, Head of Research, Centre for Advanced Studies, IBM Canada
- Jeffrey D. Ullman, Professor & Chair, Stanford University

II. PANELS

1.1 Making money on the Internet

- *Panel Coordinator*: Charles Nicholas, University of Maryland Baltimore County

1.2 Standards – Interoperability

- *Panel Coordinators*: Elizabeth Fong, NIST and A. Helal, University of Texas at Arlington

1.3 Manufacturing

- *Panel Coordinator*: Steve Ray, NIST

2.1 Federal Program Initiatives in the Computer and Information Sciences

- *Panel Coordinator*: Milton Halem, NASA
- *Representatives from*: ARPA, NASA, NSF, DOE and NIST

2.2 Standards for Digital Libraries

- *Panel Coordinator*: Rudolf Bayer, University of Munich

III. WORKSHOPS

Four workshops will be held on Friday, December 2. These will begin with a common kick-off Dinner on Thursday evening.

1. Geographic Information Systems

- *Workshop Chair*: Niki Pissinou, University of SW Louisiana (pissinou@cscs.usl.edu)

2. Intelligent Agents

- *Workshop Chair*: Tim Finin, University of Maryland Baltimore County (finin@cs.umbc.edu)

3. Hypertext

- *Workshop Chair*: Charles Nicholas, University of Maryland Baltimore County (nicholas@cs.umbc.edu)

4. Electronic Commerce

- *Workshop Chairs*: Yelena Yesha, NIST (yeyesha@cs.umbc.edu) and Nabil Adam, Rutgers University (adam@adam.rutgers.e

IV. REGULAR SESSIONS

SESSION 1.1: OBJECT-ORIENTED CONCEPTUAL MODELING

- Session Chair: TBA

1. Modeling Behavior, A Step Towards Defining Functionally Correct Views of Complex Objects in Concurrent Engineering
   Fawaz S. Al-Anzi and David L. Spooner (Rensselaer Polytechnic Institute)
2. Integrating a Part Relationship Into an Open OODB System Using Metaclasses
   Michael Halper, James Geller, Yehoshua Perl (NJIT) and Wolfgang Klas (GMD-IPSI, Germany)

3. A Classification Algorithm for Supporting Object-Oriented Views
   Elke A. Rundensteiner (University of Michigan, Ann Arbor)
4. An Object-Oriented Database Application for HyTime Document Storage
   Klemens Bohm and Karl Aberer (GMD-IPSI, Germany)

SESSION 1.2: QUERY PROCESSING-1

- Session Chair: TBA

1. An Optimal Graph Traversal Algorithm for Evaluating Linear Binary Chain Programs
   Yangjun Chen and Theo Harder (University of Kaiserslautern, Germany)
2. TID Hash Joins
   Robert Marek (University of Kaiserslautern, Germany) and Erhard Rahm (University of Leipzig, Germany)
3. Introducing Semantics in Conceptual Schema Reuse
   Ana Paula Ambrosio (Laboratoire PRISM, France)
4. A Case for Reconfigurable Parallel Architectures for Information Retrieval
   W. Addison Woods, H. Douglas Moser, Ophir Frieder (George Mason University) and Paul B. Kantor (Rutgers University)

SESSION 1.3: KNOWLEDGE BASES

- Session Chair: TBA

1. A Storage System for Scalable Knowledge Representation
   Peter D. Karp, Suzanne M. Paley and Ira Greenberg (SRI International)
2. Computer Image Retrieval by Features: Selecting the Best Facial Features for Suspect Identification Systems
   Eric S. Lee (St. Mary's University) and Thom Whalen (Communications Research Centre)
3. A Lock Method for KBMSs Using Abstraction Relationships' Semantics
   Fernando de Ferreira Rezende and Theo Harder (University of Kaiserslautern, Germany)
4. Quantitative Evaluation of a Transaction Facility for a Knowledge Base Management System
   Vinay K. Chaudhri, Vassos Hadzilacos, John Mylopoulos and Kenneth C. Sevcik (University of Toronto)

SESSION 1.4: TEXT DATABASES & INFORMATION RETRIEVAL-1

- Session Chair: TBA

1. Analytical Version Control Management in a Hypertext System
   Antonina Dattolo and Antonio Gisolfi (Universita Di Salerno)
2. Query Expansion Using Domain Adapted, Weighted Thesaurus in an Extended Boolean Model
   Oh-Woog Kwon, Myoung-Cheol Kim and Key-Sun Choi (Korea Advanced Institute of Science and Tech.)

SESSION 1.5: TRANSACTION PROCESSING-1

- Session Chair: TBA

1. Minipage Locking Support for Page-Server Database Management Systems
   S. Chu and M. Winslett (University of Illinois)
2. Isolation of Transaction Aborts in Object-Oriented Database Management Systems
   Shankar Pal and Sitaram Lanka (The Pennsylvania State University)

SESSION 1.6: INTELLIGENT AGENTS

- Session Chair: TBA

1. KQML-A Language and Protocol for Knowledge and Information Exchange
   Tim Finin, Rich Fritzson (University of Maryland at Baltimore County), Don McKay and Robin McEntire (Unisys Corporation)
2. A Semantics Approach for KQML-A General Purpose Communication Language for Software Agents
   Yannis Labrou and Tim Finin (University of Maryland at Baltimore County)

SESSION 2.1: LOGICAL/DEDUCTIVE DATABASES

- Session Chair: TBA

1. On The Relationship Between Description Logic and Predicate Logic
   Alex Borgida (Rutgers University)
2. LogicBase: A Deductive Database System Prototype
   Jiawei Han, Ling Liu and Zhaohui Xie (SIMON FRASER University)
3. Algebraic Equivalences Among Nested Relational Expressions
   Hong-Cheu Liu and K. Ramamohanarao (The University of Melbourne, Australia)
4. Intelligent Query Answering in Deductive and Object-Oriented Databases
   Suk-Chung Yoon (Widener University), Il-Yeol Song (Drexel University) and E.K. Park (U.S. Naval Academy)

SESSION 2.2: SCHEMA INTEGRATION/INTEROPERABILITY

- Session Chair: TBA

1. Linguistic Instruments and Qualitative Reasoning for Schema Integration
   Paul Johannesson (Stockholm University)
2. Preserving Update Semantics in Schema Integration
   V\^aniaM.P. Vidal (Universidade Federal do Cear\'a, Brazil) and M. Winslett (University of Illinois, Urbana)
3. THE EGG/YOLK RELIABILITY Hierarchy: Semantic Data Integration Using Sorts with Prototypes
   Fritz Lehmann (GRANDAI Software) and Anthony G. Cohn (University of Leeds, UK)
4. Context Interchange: Overcoming the Challenges of Large-Scale Interoperable Database Systems in a Dynamic Environment
   Cheng Hian Goh, Stuart E. Madnick and Michael D. Siegel (MIT)

SESSION 2.3: TEMPORAL DATABASES

- Session Chair: TBA

1. Towards a Framework for Integrating Multilevel Secure Models and Temporal Data Models
   Niki Pissinou (The University of SW Louisiana), Kia Makki (University of Nevada) and E.K. Park (U.S. Naval Academy)
2. A Pattern Matching Language for Spatio-Temporal Databases
   Tsz S. Cheng and Shashi K. Gadia (Iowa State University)
3. The Time Index+: An Incremental Access Structure for Temporal Databases
   Vram Kouramajian (Rice University), Ibrahim Kamel (University of Maryland, College Park), Ramez Elmasri and Syed Waheed (The University of Texas at Arlington)

SESSION 2.4: STORAGE SYSTEMS

- Session Chair: TBA

1. Management of Disk Space with REBATE
   Shahram Ghandeharizadeh and Douglas J. Ierardi (University of Southern California)
2. XEL: Extended Ephemeral Logging for Log Storage Management
   John S. Keen and William J. Dally (MIT)

SESSION 2.5: SCHEMA EVOLUTION IN OBJECT-ORIENTED DATABASES

- Session Chair: TBA

1. Method Evolution Framework for Object-Oriented Systems
   Z. Tari and X. Li (Queensland University of Technology, Australia)
2. Design and Evaluation Rules for Building Adaptive Schema in an Object-Oriented Data and Knowledge Base System
   Ling Liu (University of Frankfurt, Germany)

SESSION 2.6: SPATIAL DATABASES

- Session Chair: TBA

1. Hashing by Proximity to Process Duplicates in Spatial Databases
   Walid G. Aref (Matsushita Information Technology Laboratory) and Hanan Samet (The University of Maryland, College Park)
2. Spatial Data Traversal in Road Map Databases: A Graph Indexing Approach
   J. Leon Zhao and Ahmed Zaki (College of William and Mary)

SESSION 2.7: COOPERATIVE DATABASES/MOBILE COMPUTING/NII

- Session Chair: TBA

1. Semantics-Based Information Brokering
   Vipul Kashyap (Rutgers University) and Amit Sheth (University of Georgia)
2. Building Information Systems for Mobile Environments
   Evaggelia Pitoura and Bharat Bhargava (Purdue University)
3. The Role of the Database Community in the National Information Infrastructure
   David Flater and Yelena Yesha (University of Maryland Baltimore County and NIST)
4. Functionality and Architecture of a Cooperative Database System
   Thomas Kirsche, Richard Lenz and Hans Schuster (University of Erlangen-Nuremberg, Germany)

SESSION 3.1: KNOWLEDGE DISCOVERY (DATA MINING)

- Session Chair: TBA

1. Deriving and Enforcing Statistical Integrity Constraints in Databases
   Wen-Chi Hou and Zhongyang Zhang (Southern Illinois University at Carbondale)
2. Discovery of Decision Rules in Relational Databases: A Rough Set Approach
   Xiaohua Hu and Nick Cercone (University of Regina)
3. Finding Interesting Rules from Large Sets of Discovered Association Rules
   Mika Klemettinen, Heikki Mannila, Pirjo Ronkainen, Hannu Toivonen and A. Inkeri Verkamo (University of Helsinki)
4. Hierarchical Classification as an Aid to Database and Hit-List Browsing
   J. Royce Rose (The University of South Carolina) and Johann Gasteiger (Universitat Erlangen-Nurnberg)

SESSION 3.2: TRANSACTION PROCESSING-2

- Session Chair: TBA

1. Adaptive Commitment for Distributed Real-Time Transactions
   Nandit Soparkar (University of Michigan), Eliezer Levy (Intel Israel), Henry F. Korth (Matsushita Information Technology Lab.) and Avi Silberschatz (AT&T Bell Laboratories)
2. Multiversion Divergence Control of Time Fuzziness
   Calton Pu (Oregon Graduate Institute), Miu K. Tsang, Kun-Lung Wu and Philip S. Yu (IBM T.J. Watson Research Center)
3. Group Formation Mechanisms for Transactions in ISIS
   Neel K. Jain (Cornell University)
4. Quasi-Dynamic Two-Phase Locking
   Abdelsalam Helal and Tung-Hui Ku (The University of Texas at Arlington)

SESSION 3.3: QUERY PROCESSING-2

- Session Chair: TBA

1. Using Path Information for Query Processing in Object-Oriented Database Systems
   Dik L. Lee and Wang-chien Lee (The Ohio State University)
2. Closure Maintenance in An Object-Oriented Query Model
   Reda Alhajj and Faruk Polat (Bilkent University, Turkey)
3. Performance of Clustering Policies in Object Bases
   Adel Shrufi (University of Toronto)
4. An Optimized Implementation for VML Based on Pattern Matching and Dynamic Programming
   Weimin Chen (Integrated Publication and Information Systems Institute, Germany) and Volker Turau (FH Giessen-Friedberg, Germany)

SESSION 3.4: TEXT DATABASES & INFORMATION RETRIEVAL-2

- Session Chair: TBA

1. Application of a Symbolico-Connectionist Approach for the Design of a Highly Interactive Documentary Database Interrogation System with On Line Learning Capabilities
   Jean Charles Lamirel and Marion Crehange (CRIN-CNRS Campus Scientifique,France)
2. Heuristic Information Retrieval on a Competition-Based Connectionist Model
   Inien Syu and S.D. Lang (University of Central Florida)

SESSION 3.5: MEDICAL APPLICATIONS

- Session Chair: TBA

1. Representation of Medical Guidelines on Top of a Classification-Based System
   C. Heinlein, K. Kuhn and P. Dadam (University of ULM, Germany)
2. Facilitating Transformations in a Human Genome Project Database
   S.B. Davidson, A.S. Kosky and B. Eckman (University of Pennsylvania)

SESSION 3.6: INDEXING/CACHING

- Session Chair: TBA

1. Intelligent Caching: Selecting, Representing, and Reusing Data in an Information Server
   Yigal Arens (Information Sciences Institute) and Craig Knoblock (University of Southern California)
2. Re-Evaluating Indexing Schemes for Nested Objects
   Yin-he Jiang, Xiangning Liu and Bharat Bhargava (Purdue University)

PRELIMINARY SCHEDULE

The technical program on Tuesday, Wednesday and Thursday will be scheduled as follows:

	Tuesday	*Wednesday*	*Thursday*
9:00	*Keynote Address*	*Keynote Address*	*Keynote Address*
10:00	*Break*	*Break*	*Break*
10:20	Invited Talk 1.1 Invited Talk 1.2 Invited Talk 1.3	Invited Talk 2.1 Invited Talk 2.2 Invited Talk 2.3	Invited Talk 3.1 Invited Talk 3.2 Invited Talk 3.3
11:05	*Break*	*Break*	*Break*
11:15	Session 1.1 Session 1.2 Session 1.3	Session 2.1 Session 2.2 Session 2.3	Session 3.1 Session 3.2 Session 3.3
1:00	*Lunch*	*Lunch*	*Lunch*
2:00	*Keynote Address*	*Keynote Address*	*Keynote Address*
3:00	*Break*	*Break*	*Break*
3:15	Session 1.4 Session 1.5 Session 1.6	Session 2.4 Session 2.5 Session 2.6	Session 3.4 Session 3.5 Session 3.6
4:05	*Break*	*Break*	
4:15	Panel 1.1 Panel 1.2 Panel 1.3	Panel 2.1 Panel 2.2 Session 2.7	
6:30			*Workshops Dinner*
7:30	*Conf. Reception*	*Conf. Banquet*	

LOCAL ARRANGEMENTS

CIKM94 will be held at NIST in the Administration Building:

NIST, located in Gaithersburg, MD, is approximately 25 miles northwest of Washington, D.C. NIST and Gaithersburg Hilton hotel are accessible from Dulles, National, and BWI Airports by Montgomery Airport Shuttle, (301) 990-6000, for $17 - 19 per person. Taxi fare to Gaithersburg is about 50.$

BY CAR:

From North: Take I-270 Exit 11, Quince Orchard Road, left at second traffic signal, right at first traffic signal into NIST main entrance.

From South: Take I-495 to I-270 Exit 10, Clopper Road, left at first traffic signal into NIST main entrance.

From Gaithersburg Hilton: Turn right on Perry Parkway, right turn on Clopper Road, left at the first traffic signal into NIST main entrance.

Please park at the big parking lot to your left as you drive in. Walk to the Administration building.

BY METRORAIL:

Take Red Line to Shady Grove Metrorail Station. Go down the escalator and turn left. Go up the escalator to the West side Kiss and Ride Parking Lot and wait for the NIST Shuttle. NIST Shuttle leaves on the quarter and three-quarter hour (e.g., 8:15, 8:45, ... 5:15, 6:00)

Administration Building is the building to the right of the flag-pole.

For further information please contact CIKM Local Arrangement Chair: Elizabeth Fong at NIST, (301) 975-3250, Fax: (301)948-6213, fong@speckle.ncsl.nist.gov

Please make your hotel reservation early. To obtain special conference rate (rate is U.S. $70.00 per night for Single or Double), you must mention that you are attending the CIKM'94 conference in November/December 1994. Cut-off date for guaranteed guest room reservations is November 1, 1994. Transportation from Hilton/NIST/Hilton will be available for CIKM94 attendees.

If you have any question on registration contact Dr. E.K. Park (eun@usna.navy.mil, Fax:(410)293-2686). Questions on the technical program of the conference should be directed to Professor Nabil Adam (cikm94@adam.rutgers.edu, Fax: (201)648-1459). Inquiries regarding the workshops should be mailed electronically to the appropriate workshop coordinator.

ON-LINE INFORMATION

Information on CIKM is available on-line via ftp, gopher, the world-wide-web and email. Access information is:

ftp: from ftp.cs.umbc.edu in pub/cikm

gopher: from gopher.cs.umbc.edu in conferences/cikm

www: from http://www.cs.umbc.edu/cikm

To receive an automatic response with information on CIKM-94, send a message to CIKM-INFO@CS.UMBC.EDU. To subscribe to a mailing list of ongoing information on the CIKM conferences, send a message to MAJORDOMO@CS.UMBC.EDU with the string "subscribe cikm-outgoing" in the body.

A variety of documents on CIKM-94 and earlier CIKM conferences are available on the *World Wide Web* via the URL *http://www.cs.umbc.edu/cikm/*. These are also available via ftp From:

ftp.cs.umbc.edu in the directory *pub/cikm/*.

CONFERENCE/WORKSHOP REGISTRATION FORM

Please complete this form (TYPE or PRINT), and return with your payment to:

Dr. EK Park
Computer Science Department
US Naval Academy
Annapolis, MD 21402   Tel (410) 293-6806, Fax(410)293-2686

Your paper title, if any:____

____

Paper authors:____

First Name:_________________________ Last Name:_______________________________

Title (Dr/Mr/MS/Prof.):_____________ Position:________________________________

Company/Univ.:______________________________ Dept.:__________________________

Address:____

City:_________________________ State:_____________ Zip/Postal Code:___________

Country:_______________________________ Phone:________________________________

Fax:_________________________________ E-mail:_________________________________

Payment in U.S. dollars ONLY (check drawn on a U.S. bank or International
Money Order) is enclosed for the following (Please Check).

ADVANCE (Received by September 23, 1994.):
==
Reg. Fee   ACM/AAAI
______Member($290.00) ______Non-Member($340.00) ______Student ($190.00)

Workshop
______Member($150.00) ______Non-Member($150.00) ______Student($75.00)

Please circle your workshop preferences (fee is for EACH workshop):
1. GIS   2. Electronic Commerce   3. Intelligent Agents   4. Hypertext

LATE/ONSITE (Received AFTER September 23, 1994):
==
Reg. Fee   ACM/AAAI
______Member($340.00) ______Non-Member($390.00) ______Student($220.00)

Workshop
______Member($180.00) ______Non-Member($180.00) ______Student($100.00)

Please circle your workshop preferences (fee is for EACH workshop):
1. GIS   2. Electronic Commerce   3. Intelligent Agents   4. Hypertext

Reg. Fee : choose category $________________
Workshop Fee for each: choose category $________________
Extra Page Charge:(U.S. $100.00 per page) $________________
Extra Conf. Reception Tickets: ($30/ea) $________________
Extra Workshop Dinner Tickets:($30/ea) $________________
Extra Conf. Banquet Tickets: ($40/ea) $________________

Total Amount Enclosed: U.S. $____________________

ACM/AAAI membership number (required for member rate):____________________

Signature:____________________________________ Date:______________________

We have arranged a block of rooms at the Gaithersburg Hilton Hotel, 620 Perry Parkway, Gaithersburg, MD 20877,(301) 977-8900, or 1-800-599-5111,
Fax: (301)869-8597.

Acknowledgement of receipt of the registration form with payment will be sent out by e-mail only if you provide your e-mail address. Conference materials including receipts and proceedings can be picked up at the Registration desk.