

Roger “Buzz” King

Education:

Occidental College, A.B., Mathematics, 1977.

University of Southern California, M.S., PhD, Computer Science, 1979, 1982.

Appointments:

July 1982 – June 1988, Assistant Professor, University of Colorado

July 1988 – June 1994, Associate Professor, University of Colorado

July 1995 – Present, Professor, University of Colorado

Journal Publications:

King, Roger. "Security Maintenance Mediation: A Technology for Preventing Unintended Security Breaches." Theory and Practice of Object Systems (2004).

Och, Christian, Richard Osborne, Roger King, John Todd. "The COIL Data Mediator Definition Language." Wiley Journal on Concurrency: Practice and Experience 13.2 (2001).

Zhou, Gang, Richard Hull, Roger King. "Generating Data Integration Mediators that Support Materialization." Journal of Intelligent Information Systems 6.3 (1996).

Bouguettaya, Athman, Stephen Milliner, Roger King. "Resource Location in Large Scale Heterogeneous and Autonomous Databases." Journal of Intelligent Information Systems. 5.2 (1995).

Bouguettaya, Athman, Mike Papazoglou, Roger King. "On Building a Hyperdistributed Database." Information Systems Journal 20.7 (1995).

Kamel, Nabil, and Roger King. "A Data Distribution Model Based on Texture Analysis." Information Systems Journal (1994).

Merz, Ulla, and Roger King. "Direct: A Query Facility for Multiple Databases." ACM Transactions on Information Systems (1994).

Novak, Mike, and Roger King. "Designing Database Interfaces with DBface." ACM Transactions on Information Systems (1993).

Kamel, Nabil, and Roger King. "Intelligent Database Caching through the Use of Page-Answers and Page-Traces." ACM Transactions on Database Systems (1992).

King, Roger, Pamela Drew, Dennis Heimbigner. "A Toolkit for the Incremental Implementation of Heterogeneous Database Systems." VLDB Journal (1992).

Hudson, Scott, and Roger King. "Cactis: A Self-Adaptive, Concurrent Implementation of an Object-Oriented Database System." ACM Transactions on Database Systems (1989).

Hudson, Scott, and Roger King. "Semantic Feedback in the Higgens UIMS." IEEE Transactions on Software Engineering (1988).

Hudson, Scott, and Roger King. "The Cactis Project: Database Support for Software Environments." IEEE Transactions on Software Engineering (1988).

Hull, Richard, and Roger King. "Semantic Database Modeling: Survey, Applications, and Research Issues." ACM Computing Surveys (CSUR) 19.3 (1987): 201 - 260.

King, Roger, and Scott Hudson. "A Generator of Direct Manipulation Office Systems." ACM Transactions on Office Information Systems 4:2 (1986): 132-163.

King, Roger, David Farmer, David Myers. "The Semantic Database Constructor." IEEE Transactions on Software Engineering (1985).

King, Roger, and Dennis McLeod. "A Database Design Methodology and Tool for Information Systems." ACM Transactions on Office Information Systems (1985).

King, Roger, and Carolyn Stanley. "On Ensuring the Court Admissibility of Computer-Generated Records." ACM Transactions on Office Information Systems (1985).

Conference Publications:

D. Korytina, P. A. Graf, R. King, and W. B. Jones, "Expressing high-throughput data in a restructurable integrated form for knowledge extraction", IKE 2008.

Davies, Stephen, Scotty Allen, Jon Raphaelson, Emil Meng, Jake Engleman, Roger King, Clayton Lewis. "Popcorn: the Personal Knowledge Base." Proceedings of the 6th ACM Conference on Designing Interactive Systems. University Park, PA, June 26-28, 2006. 150-159.

Davies, Stephen, and Roger King. "Crossing the Objective-Subjective Divide in Information Space Organization." Proceedings of the Eighth Joint Conference on Information Sciences. Salt Lake City, Utah, July 21-26, 2005.

Davies, Stephen, S. Badem, M. Williams, R. King. "Google by Reformulation: Modeling Search as Successive Refinement." IEEE International Workshop on Web Information Retrieval. Shanghai, China, Sept. 2004.

Davies, Stephen, and Roger King. "Leveraging Metadata Inductively and Subjectively." Fourth International Conference on Dublin Core and Metadata Applications. Shanghai, China, Oct. 2004.

King, Roger, "The Rubicon of Smart Data." Very Large Databases Conference. Hong Kong, China, August 2002.

Anderson, Kenneth M., Christian Och, Roger King, Richard M. Osborne. "Integrating Infrastructure: Enabling large-scale client integration." Proceedings of the Eleventh ACM Conference on Hypertext. San Antonio, USA, May 2000.

Christian Och, Roger King, Richard M. Osborne: "Integrating Heterogeneous Data Sources using the COIL Mediator Definition Language." Proceedings of the Fifteenth ACM Symposium on Applied Computing. Como, Italy, March 2000.

Todd, John, Christian Och, Roger King, Richard Osborne, et al., "Building Mediators from Components." International Symposium on Distributed Objects and Applications. Edinburgh, Scotland, Sept. 5-6, 1999.

Temple, Brian, Christian Och, Richard Osborne, Roger King and John Todd, "A Case Study of a Servlet-based Online Source Code Documentation System." Workshop on Java and Databases: Persistence Options (OOPSLA 1999). Denver, CO, Nov. 1-2, 1999.

Mclver, William J., Jr., Karim Keddara, Christian Och, Roger King, et al., "An Overview of Souk Nets: A Component-based Paradigm for Data Source Integration." Database Programming Languages 1999. Kinloch Rannoch, Scotland, Sept. 3-5, 1999.

Mclver, William J., Jr., Roger King, Richard Osborne, Christian Och. "The COIL Project: A Common Object Interconnection Language to Support Database Integration and Evolution." Proceedings of the Third International Baltic Workshop on Databases and Information Systems. Riga, Latvia, April 15-17, 1998.

King, Roger, Michael Novak, Christian Och, Fernando Velez. "Sybil: Supporting Heterogeneous Database Interoperability with Lightweight Alliances." Third International Workshop on Next Generation Information Technologies and Systems. Neve Ilan, Israel, June 30-July 3, 1997.

King, Roger, Michael Novak, Richard M. Osborne, Christian Och, Fernando Velez. "Sybil Database Integration and Evolution Environment: An Overview." Advances in Databases and Information Systems 1997. St. Petersburg, Russia, September, 1997.

King, Roger, and Michael Novak. "Supporting Information Infrastructure for Distributed, Heterogeneous Knowledge Discovery." Proceedings of the ACM SIGMOD '96 Workshop on Research Issues on Data Mining and Knowledge Discovery. Montreal, Canada, June 2, 1996.

Franchitti, Jean-Claude and Roger King. "The Amalgame Interoperability Framework." Persistent Object Systems Conference. Provence, France, September, 1994.

Mclver, William J., Jr. and Roger King. "Self-Adaptive, On-Line Reclustering of Complex Object Data." Proceedings of the 1994 ACM SIGMOD International Conference on Management of Data. Minneapolis, MN, May 24-27, 1994.

Franchitti, Jean-Claude and Roger King. "A Language for Composing Heterogeneous, Persistent Applications." Proceedings of the Conference on Interoperability of Database Systems and Database Applications. Fribourg, Switzerland, October 13-14, 1993.

Bouguettaya, Athman, Roger King, D. Galligan, J. Simmons. "Implementation of Interoperability in Large Multidatabases." Proceedings of Research Issues in Data Engineering 1993: Interoperability in Multidatabase Systems. Vienna, Austria, April 19-20, 1993.

Bouguettaya, Athman, and Roger King. "Large Multidatabases: Issues and Directions" IFIP DS-5 Semantics of Interoperable Database Systems. Lorne, Victoria, Australia, November 16-20, 1992.

Merz, Ulla, and Roger King. "A Query Facility for Schema Integration." Proceedings of the Fourth International Conference on Human-Computer Interaction. 1991.

Drew, Pamela, Roger King, Scott Hudson. "The Performance and Utility of the Cactis Implementation Algorithms." Proceedings of the 16th International Conference on Very Large Data Bases. Brisbane, Australia, August, 1990.

Drew, Pamela, Roger King, Jonathan Bein. "A la carte: An Extensible Framework for the Tailorable Construction of Heterogeneous Object Stores." Object Bases: Principles and Practice, Proceedings of the Fourth International Workshop on Persistent Object Systems. Martha's Vineyard, MA, September, 1990.

King, Roger, and Michael Novak. "FaceKit: A Database Interface Design Toolkit." Proceedings of the Fifteenth International Conference on Very Large Data Bases. Amsterdam, Netherlands, 1989.

Hudson, Scott, and Roger King. "An Adaptive Derived Data Manager for Distributed Databases." Proceedings of the Second International Workshop on Object-Oriented Database Systems. Bad Munster am Stein, West Germany, September, 1988.

Hudson, Scott, and Roger King. "Object-Oriented Database Support for Software Environments." Proceedings of the 1987 ACM SIGMOD International Conference on Management of Data. San Francisco, CA, May 27-29, 1987.

Smolensky, Paul, Brigham Bell, Barbara Fox, Roger King, Clayton Lewis. "Constraint-Based Hypertext for Argumentation." Proceedings of the ACM Hypertext '87 Conference. Chapel Hill, NC, November 13-15, 1987.

Bein, Jonathan, Roger King, Nabil Kamel. "MOBY: An Architecture for Distributed Expert Database Systems." Proceedings of the 13th International Conference on Very Large Data Bases. Brighton, England, 1987.

King, Roger, and Michael Novak. "Freeform: A User-Adaptable Form Management System." Proceedings of the 13th International Conference on Very Large Data Bases. Brighton, England, 1987.

Hudson, Scott, and Roger King. "Implementing a User Interface as a System of Attributes." Proceedings of the Second Symposium on Practical Software Environments. Palo Alto, CA, December, 1986.

Hudson, Scott, and Roger King. "Cactis: A Database System for Specifying Functionally-Defined Data." Proceedings of the First International Workshop on Object-Oriented Database Systems. Pacific Grove, CA, September, 1986.

Bein, Jonathan, Nabil Kamel, Roger King. "Parallelizing Production Systems for Data Intensive Expert Systems." Proceedings of the Fourth Annual Conference on Intelligent Systems and Machines. Rochester, MI, April, 1986.

Hudson, Scott, and Roger King. "The Higgens UIMS and its Efficient Implementation of Undo." Proceedings of Graphics Interface '85 on Computer-Generated Images: the State of the Art. Montreal, Canada 1985, pages 278-290.

Kamel, Nabil, and Roger King. "A Model of Data Distribution Based on Texture Analysis." Proceedings of Sigmod International Conference on Management of Data, Austin, TX, May, 1985.

Hudson, Scott, and Roger King. "Efficient User Recovery and Reversal in User Interfaces Using the Active Semantics Data Model." Proceedings of the Graphics Interface 85 Conference. Montreal, Canada, May, 1985.

Harter, Paul, Dennis Heimbigner, Roger King. "Idd: An Interactive Distributed Debugger." Proceedings of the Conference on Distributed Computing Systems Denver, CO, May, 1985.

King, Roger, and Carolyn Stanley. "A Methodology for Ensuring the Court Admissibility of Computer-Generated Evidence." Proceedings of the IEEE First International Conference on Office Automation. New Orleans, LA, December 17-19, 1984.

Farmer, David, Roger King, David Myers. "A Tool for the Implementation of Databases." Proceedings of the First International Conference on Data Engineering. April 24-27, 1984.

King, Roger, and Steven Melville. "The Semantics-Knowledgeable Interface." Proceedings of the Tenth International Conference on Very Large Databases. Singapore, August, 1984.

King, Roger and Susan Sonke. "A Semantic Data Language." Proceedings of the Trends and Applications Conference, Gaithersburg, Maryland, May, 1984.

King, Roger. "A Database Management System Based on an Object-Oriented Model." Proceedings of the First International Workshop on Expert Database Systems. Kiawah Island, SC, October 24-27, 1984.

King, Roger, and Dennis McLeod. "The Event Database Specification Model." Proceedings of the 2nd International Conference on Databases. Jerusalem, Israel, June, 1982.

McLeod, Dennis, and Roger King. "Applying a Semantic Database Model." Proceedings of the International Conference on the Entity-Relationship Approach to Systems Analysis and Design. Los Angeles, CA, December 10-12, 1979.

Book Chapters:

Blechman, King, R, E.A., Bopp, J.M, Qualls, S., Mabry, H., Robinson, C., & Vachet, M. . In Talley, R.C. (Ed.) Building Community Caregiving Capacity. Oxford University Press, 2010.

Zhou, Gang, Richard Hull, Roger King, Jean-Claude Franchitti. "Using Object Matching and Materialization to Integrate Heterogeneous Databases." Materialized Views: techniques, implementations, and applications. Ed. A. Gupta and I.S. Mumick. MIT Press, 1999.

Franchitti, Jean-Claude, and Roger King. "Amalgame: A tool for Creating Interoperating, Persistent, Heterogeneous Components." Lecture Notes in Computer Science; Vol. 759, Advanced Database Systems. Ed. N. R. Adam and B.K. Bhargava. Springer-Verlag, 1993.

Hull, Richard, and Roger King. "A Tutorial on Semantic Database Modeling." Research Foundations in Object-Oriented and Semantic Database Systems. Ed. A.F. Cardenas and Dennis McLeod. Prentice-Hall, 1990.

King, Roger. "My cat is object-oriented." Object-Oriented Concepts, Databases, and Applications. Ed. F. Lochovsky. ACM Press, 1989.

Hudson, Scott, and Roger King. "The Efficient Support of Functionally Defined Data in Cactis." Object-Oriented Database Systems. Ed. K. Dittrich. Springer-Verlag, 1988.

King, Roger, and Dennis McLeod. "Semantic Database Models." Principles of Database Design. Ed. S. Bing Yao. Prentice-Hall, 1985.

King, Roger, and Dennis McLeod. "An Approach to Database Design and Evolution." On Conceptual Modeling. Eds. M. Brodie, J. Mylopoulos, and J. Schmidt. Springer-Verlag, 1984.

Work in Progress:

King, Buzz. 3D Animation from Scratch. Taylor and Francis, anticipated publication 2013.

Witherspoon, David B., Mark J. Gerken and Roger A. King, "Semi-Automatic Alignment of Structured Data Sources to Domain Ontology".

King, Roger, and Bradley Parks, "Deploying mobile PCR for adaptive, real-time detection and monitoring of disease vectors and pathogens".

King, Roger, Stephen Davies, and Justin Shacklette, "The Encyclopedia of Life: An International Store of Taxonomic Information".

King, Roger Davies, S., Shacklette, J., and Clayton, G. "A Mobile, GUI-based Tool for Pediatric Rehabilitation Medical Data".

Grants

"Experimental Data Management Tools", PI: Roger King, subcontract from the National Renewable Energy Laboratory, \$86,000, 2006-2008.

"The Digital CommonSpace", Research Infrastructure grant, PI: Gary Nutt, Co-PI: Roger King (one of 5 co- PIs), NSF, approx. \$1,000,000, 2000 through 2005.

"Experimental Software System - COIL: A Common Object Interconnection Language to Support Database Integration and Evolution", PI: Roger King, Co-PI: Richard Osborne, NSF, \$907,172, 1998 through 2002.

"Diplomat: A System for Building and Maintaining Heterogeneous Database Alliances", PI: Roger King, NSF, \$420,000, 1996 through 1999.

"Technology Transition From the CU Database Systems to Unidata Inc.", PI: Roger King, USAF, \$296,072, 1996.

"Sybil: Providing Life Cycle Support for Persistent Applications Via an Intelligent Database Evolution Environment", PI: Roger King, USAF, \$349,051, 1996-1999.

"A Toolkit for Active Object-Oriented Data with Applications to Interoperability", PI: Roger King, Co-PI: Richard Hull, NASA, \$166,890, 1994-1997.

"The University of Colorado Contribution to the Arcadia-3 Effort", PI: Roger King, Co-PI: Dennis Heimbigner and Alex Wolf, ARPA, \$3,000,000, 1994-1997.

"A Toolkit for Active Databases", PI: Roger King, Co-PI: Richard Hull, ARPA, \$300,000, 1994-1997.

"Towards a Toolkit for Active Databases," PI: Roger King, NSF, \$200,000 1993-1996.

"Persistent Object Bases and Software Environments," PI: Roger King, Co-PI: Dennis Heimbigner, DARPA, \$449,871, 1991-1994.

"Ensuring Correctness in Heterogeneous Databases," PI: Roger King, ONR, \$160,000, 1991-1994.

"The University of Colorado Contribution to the Arcadia-2 Effort", PI: Roger King, Co-PI: Dennis Heimbigner, DARPA, \$271,000, 1991-1994.

"CU/USWest Research Partnership," Co-PIs: R. King, C. Lewis, G. Nutt, P. Polson. A. Lemke, USWest, \$749,969, 1990-1993.

"Self-Adaptive Database Clustering," PI: Roger King, Co-PI: Goetz Graefe, NSF, \$175,000, 1990-1992.

"Effective Use of Parallel and Distributed Computing", PI: B. Schnabel, Co-PIs: R. King, C. Lewis, M. Main, G. Nutt, P. Smolensky,

NSF, \$1,800,000, 1990-1995.

"Interactive, High Level Interfaces to Information Systems", PI: Roger King, IBM, \$80,000, 1989-1990.

"Research on Design of Compiler Construction, Software Engineering and Databases", Co-PIs: Roger King, William Waite, Robert Terwillinger, AT&T,\$75,000, 1989-1990.

"Self-Adaptive Database Support for Distributed Engineering Design Systems", PI: Roger King, ONR, \$280,000, 1988-1991.

"Cooperative Research on Compiler Construction, Software Environments, and Databases", Co-PIs: Roger King, Lee Osterweil, William Waite, AT&T, \$70,000, 1988-1989.

"Database Support for Software Reusability", PI: Roger King, Department of Energy, \$175,000, 1987-1988.

"Software Development Environment Research", Co-PIs: Roger King, Gerhard Fischer, Gary Nutt, Lee Osterweil, USWest, approx. \$400,000, 1987-1989.

"University of Colorado Contribution to the Arcadia Effort", PI: Lee Osterweil, Co-PIs: Roger King and Dennis Heimbigner, NSF, \$996,069, 1987-1990.

"Computer Aided Reasoned Discourse", Co-PIs: Roger King, Barbara Fox, Clayton Lewis, and Paul Smolensky, NSF, \$490,458, 1987-1990.

ONR Young Investigator's Award, 1985-1988.

"Semantic Navigation in a Database", PI: Roger King, NSF, 1985-1987.

IBM Faculty Development Award, 1983-1985.

"A Semantic Approach to the Database Life-Cycle", PI: Roger King, NSF, \$50,000, 1982.

Ph.D. Students Graduated:

Mazdak Hashami, Consultant
Stephen Davies, Professor, College of Mary Washington
Christian Och, software entrepreneur
William McIver, Professor, Brown University
Scott Hudson, Professor, CMU
Jean-Claude Franchitti, Consultant, Adjunct Professor, NYU

Mike Novak, Consultant
Pamela Drew, Vice President, Boeing
Athman Bougettaya, Chair of Computer Science at Virginia Tech
Ali Morfeq, Professor, King Saud University, Saudi Arabia
Jonathan Bein, software entrepreneur
Kequn Zhao, software professional
Ulla Merz, software professional, wine maker
Nabil Kamel, Professor, Arab Open University, Egypt.

Recent Journal Editorial Positions:

Editorial Board, International Journal on Advances in Software, 2011 – 2012.

Editorial Board, Journal of Web Services Research, 2009 – 2012.

Associate Editor, Journal of World Systems Research, 2007 - 2009.

Editorial Board, Journal on the Theory and Practice of Object Systems, 1995 - 1999.

Editor, International Journal for Infonomics, 2003 - 2008.

Editor, special issue of Springer Verlag journal on Ontologies, Databases, and Applications of Semantics for Large Scale Information Systems, 2003.

Member of Planning team, the Journal of Software Reuse, the Journal of Software Architectures, and the Journal of Thinking Objectively, 2007.

Review Board, Journal of Systemics, Cybernetics, and Informatics, 2003 - 2008.

Editorial Board, Very Large Data Base Journal, Spring and Fall 1991 - 1999.

Associate Editor, Journal of Intelligent Information Systems, 1991 - 2012.

Recent Conference Program Committees:

Program Committee, International Conference on Software Engineering and Applications, 2013.

Program Committee, International Conference on Software Paradigm Trends, 2013.

Program Committee, International Conference on Data Management Technologies and Applications, 2012 - 2013.

Program Committee, International Symposium on Science and the Expansion of Science, 2010 - 2011.

Program Committee, Academic Globalization Conference, 2009.

Program Committee, IEEE International Cloud Computing Conference, 2009.

Program Committee, ACM Symposium on Applied Computing, 2008.

Program Committee, for the 9th IEEE International Conference on Computational Science and Engineering 2008

Program Committee, International Conference on Software, Portugal, 2007.

Program Committee, World Multi-Conference on Systemics, Cybernetics and Informatics 2002, 2005, 2006, 2007, 2009, 2010, 2011.

Program Committee, IEEE International Conference on Services Computing, 2005, 2006, and 2007.

Program Committee, International Conference on Software and Data Technologies, 2006, 2007, 2009, 2011.

Program Committee, SAC Mobile Computing and Applications Conference Track, 2004, 2006, 2007, 2010, 2012, 2013.

Program Committee, the International Conference on Ontologies, Databases, and Applications of Semantics, 2005 and 2006.

Program Committee, International Semantic Web Conference, 2004 and 2006.

Program Committee, IEEE International Conference on Web Services, 2004 and 2006.

Program Committee, Artificial Intelligence: Methodology, Systems, and Applications, 2004.

Program Committee, IEEE/WIC/ACM International Conference on Intelligent Agent Technology, 2004.

Program Committee, the International Symposium on Distributed Objects and Applications, 1999, 2000, 2001, 2002, and 2003.

Program Committee, Turkish Symposium on Artificial Intelligence and Neural Networks, 2003.

Program Committee, Workflow, Cooperation, and Interoperability Conference, 2003.

Program Committee, 10th International Conference on Cooperative Information Systems, 2003.

Program Committee Chair, Ontologies, Databases, and Applications of Semantics for Large Scale Information Systems Conference; 2003.

Senior Program Committee Member, International Semantic Web Conference, 2003.

Program Committee, the Intelligent Tutoring Systems, 2002.

Program Committee, the International Symposium on Computer Systems and Applications, June, 2001.

U.S.A. Program Committee Chair, Very Large Data Base Conference, Cairo, Sept. 2000.

Industrial Sessions Chair, ACM SIGMOD Conference, June, 1998.

Recent Honors:

Appointed to nine member Steering Committee for the Encyclopedia of Life project, 2005, sponsored by the Smithsonian Museum of Natural History; this is an international effort to develop a website that will provide access to data on all documented species of life, and involves prominent scientists from around the world.

Fellow, ATLAS (Alliance for Technology, Learning, and Society) Institute. 2006 to current.

Course Development:

Developed an introductory animation course on 3D animation and have taught the course in ATLAS from Fall, 2006 – Fall, 2012, as well as Summer 2010, 2011, 2012. It is on the Computer Science curriculum, and on the ATLAS (Alliance for Technology, Learning, and Society) curriculum.

Developed an advanced animation course and have taught it in the Spring of 2011, 2012, and 2013. It does not yet have an independent course number and is being taught as a special topics course.