



Jennifer Widom

Frederick Emmons Terman Dean of the School of Engineering, Fletcher Jones Professor of Computer Science and Professor of Electrical Engineering

CONTACT INFORMATION

- **Administrative Contact**

Andrea Kuduk - Executive Assistant

Email akuduk@stanford.edu

Tel (650) 723-2137

Bio

BIO

Jennifer Widom is the Frederick Emmons Terman Dean of the School of Engineering and the Fletcher Jones Professor in Computer Science and Electrical Engineering at Stanford University. She served as Computer Science Department Chair from 2009-2014 and School of Engineering Senior Associate Dean from 2014-2016. Jennifer received her Bachelor's degree from the Indiana University Jacobs School of Music in 1982 and her Computer Science Ph.D. from Cornell University in 1987. She was a Research Staff Member at the IBM Almaden Research Center before joining the Stanford faculty in 1993. Her research interests span many aspects of nontraditional data management. She is an ACM Fellow and a member of the National Academy of Engineering and the American Academy of Arts & Sciences; she received a Guggenheim Fellowship in 2000, the ACM SIGMOD Edgar F. Codd Innovations Award in 2007, the ACM-W Athena Lecturer Award in 2015, and the EPFL-WISH Foundation Erna Hamburger Prize in 2018.

ACADEMIC APPOINTMENTS

- Professor, Computer Science
- Professor, Electrical Engineering

ADMINISTRATIVE APPOINTMENTS

- Dean, School of Engineering, (2017- present)
- Senior Associate Dean for Faculty and Academic Affairs, School of Engineering, (2014-2016)
- Department Chair, Computer Science, (2009-2014)

HONORS AND AWARDS

- Member, National Academy of Engineering (2005 - present)
- Member, American Academy of Arts & Sciences (2009 - present)
- Fellow, ACM (2005 - present)
- Edgar F. Codd Innovations Award, ACM SIGMOD (2007)
- Erna Hamburger Prize, EPFL-WISH Foundation (2018)
- Athena Lecturer Award, ACM-W (2015)

- Fellow, Guggenheim Foundation (2000-01)
- Career Achievement Award, Indiana University School of Informatics and Computing (2015)
- Education Award, IEEE Technical Committee of Data Engineering (2018)

PROFESSIONAL EDUCATION

- PhD, Cornell University , Computer Science (1987)
- MS, Cornell University , Computer Science (1985)
- MS, Indiana University , Computer Science (1983)
- BS, Indiana University Jacobs School of Music , Music (1982)

LINKS

- Google Scholar page: <https://scholar.google.com/citations?user=zdKmnYwAAAAJ&hl=en>
- Faculty home page: <https://cs.stanford.edu/people/widom/>
- Dean home page: <https://engineering.stanford.edu/about/dean>

Teaching

COURSES

2021-22

- Data-Driven Decisions and Discovery: CS 46N (Spr)

2019-20

- Working with Data - Tools and Techniques: CS 102 (Spr)

2018-19

- Big Data - Tools and Techniques: CS 102 (Win)

Publications

PUBLICATIONS

- **Towards Globally Optimal Crowdsourcing Quality Management: The Uniform Worker Setting.** *Proceedings. ACM-Sigmod International Conference on Management of Data*
Das Sarma, A., Parameswaran, A., Widom, J.
2016; 2016: 47-62
- **Surpassing Humans and Computers with JellyBean: Crowd-Vision-Hybrid Counting Algorithms.** *Proceedings of the ... AAAI Conference on Human Computation and Crowdsourcing*
Sarma, A. D., Jain, A., Nandi, A., Parameswaran, A., Widom, J.
2015; 2015: 178-187
- **The Beckman Report on Database Research** *SIGMOD RECORD*
Abadi, D., Agrawal, R., Ailamaki, A., Balazinska, M., Bernstein, P. A., Carey, M. J., Chaudhuri, S., Dean, J., Doan, A., Franklin, M. J., Gehrke, J., Haas, L. M., Halevy, et al
2014; 43 (3): 61-70
- **Optimizing Graph Algorithms on Pregel-like Systems.**
Salihoglu, S., Widom, J.
2014
- **GPS: A Graph Processing System.**
Salihoglu, S., Widom, J.
2013

- **Logical Provenance in Data-Oriented Workflows** *29th IEEE International Conference on Data Engineering (ICDE)*
Ikeda, R., Sarma, A. D., Widom, J.
IEEE.2013: 877–888
- **Logical Provenance in Data-Oriented Workflows.**
Ikeda, R., Das Sarma, A., Widom, J.
2013
- **DataSift: An Expressive and Accurate Crowd-Powered Search Toolkit.**
Parameswaran, A., Teh, M., H., Garcia-Molina, H., Widom, J.
2013
- **Optimal Crowd-Powered Rating and Filtering Algorithms.** *Technical Report*
Parameswaran, A., Boyd, S., Garcia-Molina, H., Gupta, A., Polyzotis, N., Widom, J.
2013
- **CrowdFill: Collecting Structured Data from the Crowd.** *Technical Report*
Park, H., Widom, J.
2013
- **CrowdFill: A System for Collecting Structured Data from the Crowd.** *Technical Report and Demonstration Proposal*
Park, H., Widom, J.
2013
- **3X: A Data Management System for Computational Experiments.** *Technical Report and Demonstration Proposal*
Shin, J., Paepcke, A., Widom, J.
2013
- **Query Optimization over Crowdsourced Data.**
Park, H., Widom, J.
2013
- **An Overview of the Deco System: Data Model and Query Language; Query Processing and Optimization** *SIGMOD RECORD*
Park, H., Pang, R., Parameswaran, A., Garcia-Molina, H., Polyzotis, N., Widom, J.
2012; 41 (4): 22-27
- **Provenance-Based Debugging and Drill-Down in Data-Oriented Workflows** *28th IEEE International Conference on Data Engineering (ICDE)*
Ikeda, R., Cho, J., Fang, C., Salihoglu, S., Torikai, S., Widom, J.
IEEE.2012: 1249–1252
- **Deco: A System for Declarative Crowdsourcing.**
Park, H., Pang, R., Parameswaran, A., Garcia-Molina, H., Polyzotis, N., Widom, J.
2012
- **Query Processing over Crowdsourced Data.** *Technical Report*
Park, H., Parameswaran, A., Widom, J.
2012
- **Deco: Declarative Crowdsourcing.**
Parameswaran, A., Park, H., Garcia-Molina, H., Polyzotis, N., Widom, J.
2012
- **CrowdScreen: Algorithms for Filtering Data with Humans.**
Parameswaran, A., Garcia-Molina, H., Park, H., Polyzotis, N., Ramesh, A., Widom, J.
2012
- **Making Aggregation Work in Uncertain and Probabilistic Databases** *IEEE TRANSACTIONS ON KNOWLEDGE AND DATA ENGINEERING*
Murthy, R., Ikeda, R., Widom, J.
2011; 23 (8): 1261-1273

- **RAMP: A System for Capturing and Tracing Provenance in MapReduce Workflows**
Park, H., Ikeda, R., Widom, J.
2011
- **Provenance-Based Refresh in Data-Oriented Workflows.**
Ikeda, R., Salihoglu, S., Widom, J.
2011
- **Provenance for Generalized Map and Reduce Workflows.**
Ikeda, R., Park, H., Widom, J.
2011
- **Human-Assisted Graph Search: It's Okay to Ask Questions.**
Parameswaran, A., Das Sarma, A., Garcia-Molina, H., Polyzotis, N., Widom, J.
2011
- **LIVE: A Lineage-Supported Versioned DBMS** *22nd International Conference on Scientific and Statistical Database Management*
Das Sarma, A., Theobald, M., Widom, J.
SPRINGER-VERLAG BERLIN.2010: 416–433
- **Panda: A System for Provenance and Data.** *IEEE Data Engineering Bulletin, Special Issue on Data Provenance*
Ikeda, R., Widom, J.
2010; 3 (33): 42-49
- **Synthesizing View Definitions from Data.**
Sarma, A., Das, Parameswaran, A., Garcia-Molina, H., Widom, J.
2010
- **Panda: A System for Provenance and Data.**
Ikeda, R., Widom, J.
2010
- **Foundations of Uncertain-Data Integration.**
Agrawal, P., Sarma, A., Das, Ullman, J., D., Widom, J.
2010
- **Generalized Uncertain Databases: First Steps.**
Agrawal, P., Widom, J.
2010
- **Representing uncertain data: models, properties, and algorithms** *VLDB JOURNAL*
Das Sarma, A., Benjelloun, O., Halevy, A., Nabar, S., Widom, J.
2009; 18 (5): 989-1019
- **Swoosh: a generic approach to entity resolution** *VLDB JOURNAL*
Benjelloun, O., Garcia-Molina, H., Menestrina, D., Su, Q., Whang, S. E., Widom, J.
2009; 18 (1): 255-276
- **Trio: A System for Data, Uncertainty, and Lineage.** *Managing and Mining Uncertain Data*
Widom, J.
edited by Aggarwal, C.
2009
- **STREAM: The Stanford Data Stream Management System.** *Data Stream Management: Processing High-Speed Data Streams*
Arasu, A., Babcock, B., Babu, S., Cieslewicz, J., Datar, M., Ito, K., Widom, J.
edited by Garofalakis, M., Gehrke, J., Rastogi, R.
2009
- **Continuous Uncertainty in Trio.**
Agrawal, P., Widom, J.

2009

- **Trio-ER: The Trio System as a Workbench for Entity-Resolution.** *Technical Report*
Agrawal, P., Ikeda, R., Park, H., Widom, J.
2009
- **Outerjoins in Uncertain Databases.**
Ikeda, R., Widom, J.
2009
- **Schema Design for Uncertain Databases.**
Sarma, A., Das, Ullman, J., D., Widom, J.
2009
- **Confidence-Aware Join Algorithms** *IEEE 25th International Conference on Data Engineering*
Agrawal, P., Widom, J.
IEEE.2009: 628–639
- **Databases with uncertainty and lineage** *32nd International Conference on Very Large Data Bases*
Benjelloun, O., Sarma, A. D., Hallevy, A., Theobald, M., Widom, J.
SPRINGER.2008: 243–64
- **Exploiting lineage for confidence computation in uncertain and probabilistic databases** *24th IEEE International Conference on Data Engineering/ 1st International Workshop on Secure Semantic Web*
Das Sarma, A., Theobald, M., Widom, J.
IEEE.2008: 1023–1032
- **Towards Special-Purpose Indexes and Statistics for Uncertain Data.**
Sarma, A., Das, Agrawal, P., Nabar, S., Widom, J.
2008
- **Towards a Streaming SQL Standard.**
Jain, N., Mishra, S., Srinivasan, A., Gehrke, J., Widom, J., Balakrishnan, H.
2008
- **Database Systems - The Complete Book.**
Garcia-Molina, H., Ullman, J., D., Widom, J.
Prentice Hall.2008
- **A First Course in Database Systems.**
Ullman, J., D., Widom, J.
Prentice Hall.2008
- **Optimization of Continuous Queries with Shared Expensive Filters.**
Munagala, K., Srivastava, U., Widom, J.
2007
- **Trio-One: Layering Uncertainty and Lineage on a Conventional DBMS.**
Mutsuzaki, M., Theobald, M., de Keijzer, A., Widom, J., Agrawal, P., Benjelloun, O.
2007
- **The CQL continuous query language: semantic foundations and query execution** *VLDB JOURNAL*
Arasu, A., Babu, S., Widom, J.
2006; 15 (2): 121-142
- **Declarative support for sensor data cleaning** *4th International Conference on Pervasive Computing*
Jeffery, S. R., Alonso, G., Franklin, M. J., Hong, W., Widom, J.
SPRINGER-VERLAG BERLIN.2006: 83–100
- **A Pipelined Framework for Online Cleaning of Sensor Data Streams**
Jeffery, S., Alonso, G., Franklin, M., J., Hong, W., Widom, J.

2006

- **Trio: A System for Data, Uncertainty, and Lineage.**
Agrawal, P., Benjelloun, O., Sarma, A., Das, Hayworth, C., Nabar, S., Sugihara, T., Widom, J.
2006
- **Query Optimization over Web Services.**
Srivastava, U., Widom, J., Munagala, K., Motwani, R.
2006
- **Estimating Data Stream Quality for Object-Detection Applications.**
Sarma, A., Das, Jeffery, S., R., Franklin, M., J., Widom, J.
2006
- **A Pipelined Framework for Online Cleaning of Sensor Data Streams (short paper).**
Jeffery, S., R., Alonso, G., Franklin, M., J., Hong, W., Widom, J.
2006
- **Generic Entity Resolution in the SERF Project.** *IEEE Data Engineering Bulletin, Special Issue on Data Quality*
Widom, J.
2006; 2 (29): 13-20
- **An Introduction to ULDBs and the Trio System.** *IEEE Data Engineering Bulletin, Special Issue on Probabilistic Databases*
Benjelloun, O., Sarma, A., Das, Hayworth, C., Widom, J.
2006; 1 (29): 5-16
- **Working Models for Uncertain Data.**
Sarma, A., Das, Benjelloun, O., Halevy, A., Widom, J.
2006
- **ULDBs: Databases with Uncertainty and Lineage.**
Benjelloun, O., Das Sarma, A., Halevy, A., Widom, J.
2006
- **The Lowell database - Research self assessment** *COMMUNICATIONS OF THE ACM*
Abiteboul, S., Agrawal, R., Bernstein, P., Carey, M., Ceri, S., Croft, B., DeWitt, D., Franklin, M., Molina, H. G., Gawlick, D., Gray, J., Haas, L., Halevy, et al
2005; 48 (5): 111-118
- **Adaptive caching for continuous queries** *21st International Conference on Data Engineering (ICDE 2005)*
Babu, S., Munagala, K., Widom, J., Motwani, R.
IEEE COMPUTER SOC.2005: 118-129
- **Trio: A System for Integrated Management of Data, Accuracy, and Lineage.**
Widom, J.
2005
- **Operator Placement for In-Network Stream Query Processing.**
Srivastava, U., Munagala, K., Widom, J.
2005
- **Content-Based Routing: Different Plans for Different Data.**
Bizarro, P., Babu, S., DeWitt, D., Widom, J.
2005
- **Representing Uncertain Data: Uniqueness, Equivalence, Minimization, and Approximation** *Technical Report*
Das Sarma, A., Nabar, S., U., Widom, J.
2005
- **Efficient Monitoring and Querying of Distributed, Dynamic Data via Approximate Replication.** *IEEE Data Engineering Bulletin, Special Issue on In-Network Query Processing*
Olston, C., Widom, J.

2005; 1 (28): 11-18

- **Indexing relational database content offline for efficient keyword-based search** *9th International Database Engineering and Application Symposium (IDEAS 2005)*
Su, Q., Widom, J.
IEEE COMPUTER SOC.2005: 297–306
- **The pipelined set cover problem** *10th International Conference on Database Theory (ICDT 2005)*
Munagala, K., Babu, S., Motwani, R., Widom, J.
SPRINGER-VERLAG BERLIN.2005: 83–98
- **Exploiting k-constraints to reduce memory overhead in continuous queries over data streams** *ACM TRANSACTIONS ON DATABASE SYSTEMS*
Babu, S., Srivastava, U., Widom, J.
2004; 29 (3): 545-580
- **A denotational semantics for continuous queries over streams and relations** *SIGMOD RECORD*
Arasu, A., Widom, J.
2004; 33 (3): 6-11
- **Characterizing memory requirements for queries over continuous data streams** *21st ACM SIGMOD-SIGACT-SIGART Symposium on Principles of Database Systems (PODS)*
Arasu, A., Babcock, B., Babu, S., McAlister, J., Widom, J.
ASSOC COMPUTING MACHINERY.2004: 162–94
- **CQL: A language for continuous queries over streams and relations** *9th International Workshop on Data Bases and Programming Languages*
Arasu, A., Babu, S., Widom, J.
SPRINGER-VERLAG BERLIN.2004: 1–19
- **Mining the Space of Graph Properties.**
Jeh, G., Widom, J.
2004
- **StreaMon: An Adaptive Engine for Stream Query Processing.**
Babu, S., Widom, J.
2004
- **Resource Sharing in Continuous Sliding-Window Aggregates.**
Arasu, A., Widom., J.
2004
- **Memory-Limited Execution of Windowed Stream Joins.**
Srivastava, U., Widom, J.
2004
- **Flexible Time Management in Data Stream Systems.**
Srivastava, U., Widom., J.
2004
- **Enabling Privacy for the Paranoids.**
Aggarwal, G., Bawa, M., Ganesan, P., Garcia-Molina, H., Kenthapadi, K., Mishra, N.
2004
- **Adaptive Ordering of Pipelined Stream Filters.**
Babu, S., Motwani, R., Munagala, K., Nishizawa, I., Widom., J.
2004
- **Incremental computation and maintenance of temporal aggregates** *VLDB JOURNAL*
Yang, J., Widom, J.
2003; 12 (3): 262-283
- **Lineage tracing for general data warehouse transformations** *VLDB JOURNAL*

- Cui, Y. W., Widom, J.
2003; 12 (1): 41-58
- **Exploiting hierarchical domain structure to compute similarity** *ACM TRANSACTIONS ON INFORMATION SYSTEMS*
Ganesan, P., Garcia-Molina, H., Widom, J.
2003; 21 (1): 64-93
 - **STREAM: The Stanford Stream Data Manager.**
Arasu, A., Babcock, B., Babu, S., Datar, M., Ito, K., Nishizawa, I., Widom, J.
2003
 - **Scaling Personalized Web Search.**
Jeh, G., Widom, J.
2003
 - **Query Processing, Resource Management, and Approximation in a Data Stream Management System.**
Motwani, R., Widom, J., Arasu, A., Babcock, B., Babu, S., Datar, M.
2003
 - **An Abstract Semantics and Concrete Language for Continuous Queries over Streams and Relations**
Arasu, A., Babu, S., Widom, J.
2003
 - **Adaptive Filters for Continuous Queries over Distributed Data Streams.**
Olston, C., Jiang, J., Widom, J.
2003
 - **Extended version** *appeared in SIAM Journal on Computing*
Feder, T., Motwani, R., Panigrahy, R., Olston, C., Widom, J.
2003; 2 (32): 538-547
 - **Monitoring Stream Properties for Continuous Query Processing**
Srivastava, U., Babu, S., Widom, J.
2003
 - **Computing the median with uncertainty** *SIAM JOURNAL ON COMPUTING*
Feder, T., Motwani, R., Panigrahy, R., Olston, C., Widom, J.
2003; 32 (2): 538-547
 - **Best-Effort Cache Synchronization with Source Cooperation.**
Olston, C., Widom, J.
2002
 - **SimRank: A Measure of Structural-Context Similarity.**
Jeh, G., Widom, J.
2002
 - **Preliminary shorter version**
Arasu, A., Babcock, B., Babu, S., McAlister, J., Widom, J.
2002
 - **Models and Issues in Data Stream Systems.**
Babcock, B., Babu, S., Datar, M., Motwani, R., Widom, J.
2002
 - **Characterizing Memory Requirements for Queries over Continuous Data Streams**
Arasu, A., Babcock, B., Babu, S., McAlister, J., Widom, J.
2002
 - **Continuous queries over data streams** *SIGMOD RECORD*
Babu, S., Widom, J.

2001; 30 (3): 109-120

- **Adaptive precision setting for cached approximate values** *ACM SIGMOD International Conference on Management of Data*
Olston, C., Loo, B. T., Widom, J.
ASSOC COMPUTING MACHINERY.2001: 355-66
- **Incremental computation and maintenance of temporal aggregates** *17th International Conference on Data Engineering*
Yang, J., Widom, J.
IEEE COMPUTER SOC.2001: 51-60
- **A Data Stream Management System for Network Traffic Management.**
Babu, S., Subramanian, L., Widom., J.
2001
- **Lineage Tracing for General Data Warehouse Transformations.**
Cui, Y., Widom, J.
2001
- **Run-Time Translation of View Tuple Deletions Using Data Lineage.** *Technical Report*
Cui, Y., Widom, J.
2001
- **An algebraic approach to static analysis of active database rules** *ACM TRANSACTIONS ON DATABASE SYSTEMS*
Baralis, E., Widom, J.
2000; 25 (3): 269-332
- **WSQ/DSQ: A practical approach for combined querying of databases and the Web** *International Conference on Management of Data*
Goldman, R., Widom, J.
ASSOC COMPUTING MACHINERY.2000: 285-96
- **TIP: A temporal extension to Informix** *International Conference on Management of Data*
Yang, J., Ying, H. C., Widom, J.
ASSOC COMPUTING MACHINERY.2000: 596-96
- **Tracing the lineage of view data in a warehousing environment** *ACM TRANSACTIONS ON DATABASE SYSTEMS*
Cui, Y. W., Widom, J., Wiener, J. L.
2000; 25 (2): 179-227
- **Lore: A database management system for XML** *DR DOBBS JOURNAL*
Goldman, R., McHugh, J., Widom, J.
2000; 25 (4): 76-?
- **Temporal view self-maintenance** *7th International Conference on Extending Database Technology*
Yang, J., Widom, J.
SPRINGER-VERLAG BERLIN.2000: 395-412
- **Lineage Tracing in a Data Warehousing System.**
Cui, Y., Widom, J.
2000
- **Storing Auxiliary Data for Efficient Maintenance and Lineage Tracing of Complex Views.**
Cui, Y., Widom, J.
2000
- **Practical Lineage Tracing in Data Warehouses.**
Cui, Y., Widom, J.
2000
- **Practical Applications of Triggers and Constraints: Successes and Lingering Issues.**
Ceri, S., Cochrane, R., J., Widom, J.

2000

- **Performance Issues in Incremental Warehouse Maintenance.**

Labio, W., J., Yang, J., Cui, Y., Garcia-Molina, H., Widom, J.
2000

- **Computing the Median with Uncertainty.**

Feder, T., Motwani, R., Panigrahy, R., Olston, C., Widom, J.
2000

- **Summarizing and Searching Sequential Semistructured Sources.** *Technical Report*

Goldman, R., Widom, J.
2000

- **Implementing Parameterized Range Types in an Extensible DBMS.** *Technical Report*

Yang, J., Widom, J., Brown, P.
2000

- **From Semistructured Data to XML: Migrating the Lore Data Model and Query Language.** *Markup Languages: Theory & Practice*

Goldman, R., McHugh, J., Widom, J.
2000; 2 (2)

- **Offering a Precision-Performance Tradeoff for Aggregation Queries over Replicated Data.**

Olston, C., Widom, J.
2000

- **Database System Implementation.**

Garcia-Molina, H., Ullman, J., D., Widom, J.
Prentice Hall.2000

- **Better Static Rule Analysis for Active Database Systems.** *ACM Transactions on Database Systems*

Baralis, E., Widom, J.
2000; 3 (25): 269-332

- **Managing historical semistructured data** *THEORY AND PRACTICE OF OBJECT SYSTEMS*

Chawathe, S. S., Abiteboul, S., Widom, J.
1999; 5 (3): 143-162

- **Ozone: Integrating Structured and Semistructured Data.**

Lahiri, T., Abiteboul, S., Widom, J.
1999

- **Compile-Time Path Expansion in Lore.**

McHugh, J., Widom, J.
1999

- **Approximate DataGuides.**

Goldman, R., Widom, J.
1999

- **From Semistructured Data to XML: Migrating the Lore Data Model and Query Language.**

Goldman, R., McHugh, J.
1999

- **Optimizing Branching Path Expressions.** *Technical Report*

McHugh, J., Widom, J.
1999

- **Query optimization for XML** *25th International Conference on Very Large Data Bases*

McHugh, J., Widom, J.

MORGAN KAUFMANN PUB INC.1999: 315–326

- **Interactive query and search in semistructured databases** *International Workshop on the World Wide Web and Databases (WebDB 98)*
Goldman, R., Widom, J.
SPRINGER-VERLAG BERLIN.1999: 52–62
- **Representing and querying changes in semistructured data** *IEEE Computer-Society 14th International Conference on Data Engineering (ICDE 98)*
Chawathe, S. S., Abiteboul, S., Widom, J.
IEEE COMPUTER SOC.1998: 4–13
- **Indexing Semistructured Data.** *Technical Report*
McHugh, J., Widom, J., Abiteboul, S., Luo, Q., Rajaraman, A.
1998
- **A Location Management Technique to Support Lifelong Numbering in Personal Communications Services.** *ACM Mobile Computing and Communications Review*
Lam, D., Cui, Y., Cox, D., C., Widom, J.
1998; 1 (2): 27-35
- **Efficient PCS call setup protocols** *17th Annual Joint Conference of the IEEE-Computer-Society/IEEE-Communications-Society (INFOCOM 98)*
Cui, Y. W., Lam, D., Widom, J., Cox, D. C.
I E E E.1998: 728–736
- **Maintaining temporal views over non-temporal information sources for data warehousing** *6th International Conference on Extending Database Technology (EDBT 98)*
Yang, J., Widom, J.
SPRINGER-VERLAG BERLIN.1998: 389–403
- **Protocols for integrity constraint checking in federated databases** *DISTRIBUTED AND PARALLEL DATABASES*
Grefen, P., Widom, J.
1997; 5 (4): 327-355
- **Efficient and flexible location management techniques for wireless communication systems** *WIRELESS NETWORKS*
Jannink, J., Lam, D., Shivakumar, N., Widom, J., Cox, D. C.
1997; 3 (5): 361-374
- **Teletraffic modeling for personal communications services** *IEEE COMMUNICATIONS MAGAZINE*
Lam, D., Cox, D. C., Widom, J.
1997; 35 (2): 79-87
- **DataGuides: Enabling query formulation and optimization in semistructured databases** *23rd International Conference on Very Large Databases*
Goldman, R., Widom, J.
MORGAN KAUFMANN PUB INC.1997: 436–445
- **Integrating Dynamically-Fetched External Information into a DBMS for Semistructured Data.**
McHugh, J., Widom, J.
1997
- **Change Management in Heterogeneous Semistructured Databases.** *Demonstration description*
Chawathe, S., Gossain, V., Liu, X., Widom, J., Abiteboul, S.
1997
- **The STRIP Rule System for Efficiently Maintaining Derived Data.**
Adelberg, B., Garcia-Molina, H., Widom, J.
1997
- **On-Line Warehouse View Maintenance.**
Quass, D., Widom, J.
1997
- **Querying Semistructured Heterogeneous Information.** *Journal of Systems Integration*

- Quass, D., Rajaraman, A., Ullman, J., D., Widom, J., Sagiv, Y.
1997; 3(4 (7): 381-407
- **Query Optimization for Semistructured Data.** *Technical Report*
McHugh, J., Widom, J.
1997
 - **Per-User Profile Replication in Mobile Environments: Algorithms, Analysis, and Simulation Results.** *ACM/Baltzer Journal of Mobile Networks and Applications*
Shivakumar, N., Jannink, J., Widom, J.
1997; 2 (2): 129-140
 - **LORE: A Database Management System for Semistructured Data.** *ACM SIGMOD Record*
McHugh, J., Abiteboul, S., Goldman, R., Quass, D., Widom, J.
1997; 3 (26): 54-66
 - **Integrating Dynamically-Fetched External Information into a DBMS for Semistructured Data.** *ACM SIGMOD Record*
McHugh, J., Widom, J.
1997; 4 (26): 24-31
 - **The TSIMMIS Approach to Mediation: Data Models and Languages.** *Journal of Intelligent Information Systems*
Garcia-Molina, H., Papakonstantinou, Y., Quass, D., Rajaraman, A., Sagiv, Y., Ullman, J., D., Widom, J.
1997; 2 (8): 117-132
 - **The Lorel Query Language for Semistructured Data.** *International Journal on Digital Libraries*
Abiteboul, S., Quass, D., McHugh, J., Widom, J., Wiener, J., L.
1997; 1 (1): 68-88
 - **The WHIPS prototype for data warehouse creation and maintenance** *13th International Conference on Data Engineering*
Wiener, J. L., Gupta, H., Labio, W. J., Zhuge, Y., GARCIA-MOLINA, H., Widom, J.
IEEE COMPUTER SOC.1997: 589-589
 - **A location management technique to support lifelong numbering in personal communications services** *IEEE Global Telecommunications Conference (GLOBECOM 97)*
Lam, D., Cui, Y. W., Cox, D. C., Widom, J.
IEEE.1997: 704-710
 - **Clustering association rules** *13th International Conference on Data Engineering*
Lent, B., Swami, A., Widom, J.
IEEE COMPUTER SOC.1997: 220-231
 - **The Starburst active database Rule System** *IEEE TRANSACTIONS ON KNOWLEDGE AND DATA ENGINEERING*
Widom, J.
1996; 8 (4): 583-595
 - **Making views self-maintainable for data warehousing** *4th International Conference on Parallel and Distributed Information Systems*
Quass, D., Gupta, A., Mumick, I. S., Widom, J.
IEEE, COMPUTER SOC PRESS.1996: 158-169
 - **LORE: A Lightweight Object REpository for Semistructured Data.**
Quass, D., Widom, J., Goldman, R., Haas, K., Luo, Q., McHugh, J.
1996
 - **Integrity Constraint Checking in Federated Databases.**
Grefen, P., Widom, J.
1996
 - **Efficient and Flexible Location Management Techniques for Wireless Communication Systems.**
Jannink, J., Lam, D., Shivakumar, N., Widom, J., Cox, D., C.
1996

- **Change Detection in Hierarchically Structured Information .**
Chawathe, S., Rajaraman, A., Garcia-Molina, H., Widom, J.
1996
- **A System Prototype for Warehouse View Maintenance.**
Wiener, J., L., Gupta, H., Labio, W., J., Zhuge, Y., Garcia-Molina, H., Widom, J.
1996
- **Active Database Systems: Triggers and Rules for Advanced Database Processing.**
Widom, J., Ceri, S.
Morgan Kaufmann.1996
- **Integrating Heterogeneous Databases: Lazy or Eager?.** *ACM Computing Surveys*
Widom, J.
1996; 4 (28A)
- **A toolkit for constraint management in heterogeneous information systems** *12th IEEE International Conference on Data Engineering*
Chawathe, S. S., GARCIAMOLINA, H., Widom, J.
I E E E, COMPUTER SOC PRESS.1996: 56–65
- **Modeling location management in personal communications services** *1996 5th IEEE International Conference on Universal Personal Communications*
Lam, D., Jannink, J., Cox, D. C., Widom, J.
IEEE.1996: 596–601
- **STATIC ANALYSIS TECHNIQUES FOR PREDICTING THE BEHAVIOR OF ACTIVE DATABASE RULES** *ACM TRANSACTIONS ON DATABASE SYSTEMS*
Aiken, A., Hellerstein, J. M., Widom, J.
1995; 20 (1): 3-41
- **OBJECT EXCHANGE ACROSS HETEROGENEOUS INFORMATION SOURCES** *11th International Conference on Data Engineering*
Papakonstantinou, Y., GARCIAMOLINA, H., Widom, J.
I E E E, COMPUTER SOC PRESS.1995: 251–260
- **View Maintenance in a Warehousing Environment.**
Zhuge, Y., Garcia-Molina, H., Hammer, J., Widom, J.
1995
- **Using Delta Relations to Optimize Condition Evaluation in Active Databases.**
Baralis, E., Widom, J.
1995
- **User Profile Replication for Faster Location Lookup in Mobile Environments.**
Shivakumar, N., Widom., J.
1995
- **The TSIMMIS Approach to Mediation: Data Models and Languages.**
Garcia-Molina, H., Papakonstantinou, Y., Quass, D., Rajaraman, A., Sagiv, Y., Ullman, J., D., Widom, J.
1995
- **Research Problems in Data Warehousing.**
Widom, J.
1995
- **The Stanford Data Warehousing Project.** *IEEE Data Engineering Bulletin, Special Issue on Materialized Views and Data Warehousing*
Hammer, J., Garcia-Molina, H., Labio, W., J., Widom, J., Zhuge, Y.
1995; 2 (18): 41-48
- **Querying Semistructured Heterogeneous Information.**
Quass, D., Rajaraman, A., Ullman, J., D., Widom, J., Sagiv, Y.
1995

- **DERIVING INCREMENTAL PRODUCTION RULES FOR DEDUCTIVE DATA** *INFORMATION SYSTEMS*
Ceri, S., Widom, J.
1994; 19 (6): 467-490
- **Constraint Checking with Partial Information.**
Gupta, A., Sagiv, Y., Ullman, J., D., Widom, J.
1994
- **Active Database Systems** *Modern Database Systems: The Object Model, Interoperability, and Beyond*
Dayal, U., Hanson, E., N., Widom, J.
edited by Kim, W.
Addison-Wesley.1994
- **The Tsimmis Project: Integration of Heterogeneous Information Sources.**
Chawathe, S., Garcia-Molina, H., Hammer, J., Ireland, K., Papakonstantinou, Y., Ullman, J., D., Widom, J.
1994
- **Deriving Incremental Production Rules for Deductive Data.** *Information Systems*
Ceri, S., Widom, J.
1994; 6 (19): 467-490
- **Validating Constraints with Partial Information: Research Overview.**
Widom, J., Gupta, A., Sagiv, Y., Ullman, J., D.
1994
- **An Algebraic Approach to Rule Analysis in Expert Database Systems.**
Baralis, E., Widom, J.
1994
- **An Overview of Production Rules in Database Systems.** *The Knowledge Engineering Review*
Hanson, E., N., Widom, J.
1993; 2 (8): 121-143
- **Managing Semantic Heterogeneity with Production Rules and Persistent Queues.**
Ceri, S., Widom, J.
1993
- **Deductive and Active Databases: Two Paradigms or Ends of a Spectrum?**
Widom, J.
1993
- **Local Verification of Global Integrity Constraints in Distributed Databases.**
Gupta, A., Widom, J.
1993
- **A Denotational Semantics for the Starburst Production Rule Language.** *ACM SIGMOD Record*
Widom, J.
1992; 3 (21): 4-9
- **PRODUCTION RULES IN PARALLEL AND DISTRIBUTED DATABASE ENVIRONMENTS** *18TH INTERNATIONAL CONF ON VERY LARGE DATA BASES (VLDB 92)*
Ceri, S., Widom, J.
MORGAN KAUFMANN PUB INC.1992: 339-351
- **Behavior of Database Production Rules: Termination, Confluence, and Observable Determinism.**
Aiken, A., Widom, J., Hellerstein, J., M.
1992
- **The Starburst Rule System: Language Design, Implementation, and Applications.** *IEEE Data Engineering Bulletin, Special Issue on Active Databases*
Widom, J.

1992; 4 (15): 15-18

- **Production Rules in Parallel and Distributed Database Environments.**
Ceri, S., Widom, J.
1992
- **Trace-Based Network Proof Systems: Expressiveness and Completeness.** *ACM Transactions on Programming Languages and Systems*
Widom, J., Gries, D., Schneider, F., B.
1992; 3 (14): 396-416
- **Deriving Production Rules for Incremental View Maintenance.**
Ceri, S., Widom, J.
1991
- **DERIVING PRODUCTION RULES FOR INCREMENTAL VIEW MAINTENANCE** *17th International Conference on Very Large Data Bases*
Ceri, S., Widom, J.
MORGAN KAUFMANN PUB INC.1991: 577-589
- **Implementing Set-Oriented Production Rules as an Extension to Starburst.**
Widom, J., Cochrane, R., J., Lindsay, B.
1991
- **Deriving Production Rules for Constraint Maintenance.**
Ceri, S., Widom, J.
1990
- **DERIVING PRODUCTION RULES FOR CONSTRAINT MAINTENANCE** *16th International Conference on Very Large Data Bases*
Ceri, S., Widom, J.
MORGAN KAUFMANN PUB INC.1990: 566-577
- **Set-Oriented Production Rules in Relational Database Systems.**
Widom, J., Finkelstein, S., J.
1990
- **A Temporal-Logic Based Compositional Proof System for Real-Time Message Passing.**
Hooman, J., Widom, J.
1989
- **Expressiveness Bounds for Completeness in Trace-Based Network Proof Systems.**
Widom, J., Panangaden, P.
1988
- **Completeness and Incompleteness of Trace-Based Network Proof Systems.**
Widom, J., Gries, D., Schneider, F., B.
1987
- **Whiteboards: a Graphical Database Tool.** *ACM Transactions on Office Information Systems*
Donahue, J., Widom, J.
1986; 1 (4): 24-41