

Jennie Rogers

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Evanston, IL 60208

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RESEARCH INTERESTS privacy-preserving analytics, data sharing, large-scale data management, cloud databases, database internals, management of science data, database performance, federated databases, polystores, oblivious databases

EDUCATION **Massachusetts Institute of Technology** 2013–2015
Postdoctoral Associate
• Advisor: Michael Stonebraker

Brown University 2006–2012
Ph.D., Computer Science
• Thesis: “Query Performance Prediction for Analytical Workloads”
• Advisor: Uğur Çetintemel

Sci.M., Computer Science 2004–2006
• Thesis: “Towards a Generic Compression Advisor”
• Advisor: Uğur Çetintemel

Rensselaer Polytechnic Institute 1999–2003
B.S., Computer Science
• Minor: Brain & Brain Behavior

ACADEMIC APPOINTMENTS **Northwestern University** 2015–Present
Assistant Professor

Northwestern University 2015–2018
Lisa Wissner–Slivka and Benjamin Slivka
Junior Professor in Computer Science

INDUSTRIAL EXPERIENCE **Qatar Computing Research Institute** October–November 2013
Visiting Scholar

NEC Labs of America Summer 2012
Research Intern

Paradigm4, Inc. Summer 2011
Research Intern

Naval Undersea Warfare Center 2003–2006
Scientist

Naval Research Enterprise Internship Program Summer 2002
Research Intern

TEACHING
EXPERIENCE

Assistant Professor 2015–Present
Northwestern University
EECS 339: Introduction to Database Systems–Winter 2015, Winter 2016, Fall 2016, Spring 2017,
Fall 2017, Winter 2018

EECS 395/495–46: Data Science Seminar–Fall 2015, Spring 2018, Fall 2018
EECS 395/495–46–Readings in Database Systems–Spring 2017

Graduate Teaching Assistant Spring 2008, 2010
Brown University
CSCI 1660–Introduction to Computer Security

Guest Lecturer

- “Lock Picking for Dummies,” Brown University CSCI1660–2007, 2008, 2010
- “Amazon Web Services Tutorial,” Brown University CSCI 2950T–2008, 2009, 2011, and Brandeis University COSI 12B–2011

JOURNAL
ARTICLES

Johes Bater, Xi He, William Ehrich, Ashwin Machanavajjhala, and Jennie Rogers. Shrinkwrap: Differentially-Private Query Processing in Private Data Federations. To appear in *PVLDB*, 2019.

Johes Bater, Gregory Elliott, Craig Eggen, Satyender Goel, Abel Kho, and Jennie Rogers. SMCQL: Secure Query Processing for Private Data Networks. In *PVLDB*, 10(6), pages 673–684, 2017.

Jennie Duggan, Aaron J. Elmore, Michael Stonebraker, Magdalena Balazinska, Bill Howe, Jeremy Kepner, Sam Madden, Dave Maier, Timothy Mattson, and Stan Zdonik. The BigDAWG Polystore System. In *Sigmod Record*, 44(2), pages 11–16, 2015.

Aaron J. Elmore, Jennie Duggan, Michael Stonebraker, Magdalena Balazinska, Ugur Cetintemel, Vijay Gadepally, Jeffrey Heer, Bill Howe, Jeremy Kepner, Tim Kraska, Sam Madden, Dave Maier, Timothy Mattson, Stavros Papadopoulos, Jeff Parkhurst, Nesime Tatbul, Manasi Vartak, and Stan Zdonik. A Demonstration of the BigDAWG Polystore System. In *PVLDB*, 8(12), pages 1908–1919, 2015.

Rebecca Taft, Essam Mansour, Marco Serafini, Jennie Duggan, Aaron J. Elmore, Ashraf Aboulnaga, Andrew Pavlo, and Michael Stonebraker. E-Store: Fine-Grained Elastic Partitioning for Distributed Transaction Processing Systems. In *PVLDB*, 8(3), pages 245–256, 2014.

Jennie Duggan. The Case for Personal Data-Driven Decision Making. In *PVLDB*, 7(11), pages 943–946, 2014.

Michael Stonebraker, Jennie Duggan, Leilani Battle, and Olga Papaemmanouil. SciDB DBMS Research at M.I.T. In *IEEE Data Engineering Bulletin*, 36(4), pages 21–30, 2013.

Philippe Cudre-Mauroux, Hideaki Kimura, Kian-Tat Lim, Jennie Rogers, Roman Simakov, Emad Soroush, Pavel Velikhov, Daniel Wang, Magdalena Balazinska, Jacek Becla, David DeWitt, Bobbi Heath, David Maier, Samuel Madden, Jignesh Patel, Michael Stonebraker, and Stanley Zdonik. A Demonstration of SciDB: A Science-Oriented DBMS. In *PVLDB*, 2(2), pages 1534–1537, 2009.

CONFERENCE
PAPERS

Rebecca Taft, Willis Lang, Jennie Duggan, Aaron J. Elmore, Michael Stonebraker, and David DeWitt. STeP: Scalable Tenant Placement for Managing Database-as-a-Service Deployments. In *SoCC*, pages 388–400, 2016.

Jennie Duggan, Olga Papaemmanouil, Leilani Battle, and Michael Stonebraker. Skew-Aware Join Execution for Array Databases. In *SIGMOD*, pages 123–135, 2015.

Jennie Duggan and Michael L. Brodie. Hephaestus: Data Reuse for Accelerating Scientific Discovery. In *CIDR* 2015.

Jennie Duggan, Aaron Elmore, Tim Kraska, Sam Madden, Tim Mattson, and Michael Stonebraker. The BigDawg Architecture and Reference Implementation. In *NEDB* 2015.

Jennie Duggan and Michael Stonebraker. Incremental Elasticity for Array Databases. In *SIGMOD*, pages 409–420, 2014.

Jennie Duggan, Olga Papaemmanouil, Uğur Çetintemel, and Eli Upfal. Contender: A Resource Modeling Approach for Concurrent Query Performance Prediction. In *EDBT*, pages 109–120, 2014.

Jennie Duggan, Yun Chi, Hakan Hacigümüs, Shenghuo Zhu, and Uğur Çetintemel. Packing Light: Portable Workload Performance Prediction for the Cloud. In *DMC*, ICDE Workshops, pages 258–265, 2013.

Jennie Duggan, Uğur Çetintemel, Olga Papaemmanouil, and Eli Upfal. Performance Prediction for Concurrent Database Workloads. In *SIGMOD*, pages 337–348, 2011.

Jennie Rogers, Roman Simakov, Emad Soroush, Pavel Velikhov, Magdalena Balazinska, David DeWitt, Bobbi Heath, David Maier, Sam Madden, Jignesh Patel, Michael Stonebraker, Stan Zdonik, Artyom Smirnov, Konstantin Knizhnik, Paul Brown. Overview of SciDB: Large Scale Array Storage, Processing and Analysis. In *SIGMOD*, pages 963–968, 2010.

Jennie Rogers, Olga Papaemmanouil, and Uğur Çetintemel. A Generic Auto-Provisioning Framework for Cloud Databases. In *SMDB*, ICDE Workshops, pages 63–68, 2010.

Philippe Cudre-Mauroux, Hideaki Kimura, Kian-Tat Lim, Jennie Rogers, Sam Madden, Michael Stonebraker, Stan Zdonik, Paul Brown. SS-DB: A Standard Science DBMS Benchmark. In *XLDB* 2010.

Yanif Ahmad, Olga Papaemmanouil, Uğur Çetintemel, and Jennie Rogers. Simultaneous Equation Systems for Query Processing on Continuous-Time Data Streams. In *ICDE*, pages 666–675, 2008.

Michael Stonebraker, Chuck Bear, Uğur Çetintemel, Mitch Cherniack, Tingjian Ge, Nabil Hachem, Stavros Harizopoulos, John Lifter, Jennie Rogers, and Stanley Zdonik. One Size Fits All? Part 2: Benchmarking Studies. In *CIDR*, pages 173–184, 2007.

STUDENTS

Ph.D.: Johes Bater (2015–), Madhav Suresh (2017–)

M.S.: Surabhi Ravishankar (2015–2016), Adel Lahlou (2016–2017), William Ehrich (2017–2018)

ACADEMIC SERVICE

Conference Leadership

- Chair, Finance–ACM Special Interest Group on Management of Data Conference, 2020.
- Co-Chair, Local Arrangements–ACM Special Interest Group on Management of Data Conference, May 2017
- Co-Chair, Mentorship–ACM Special Interest Group on Management of Data Conference,

May 2017

- Co-Chair, Demo Program Committee–ACM Special Interest Group on Management of Data Conference, June 2016
- Co-Chair, Ph.D. Workshop–International Conference on Very Large Databases, August 2015
- Proceedings Chair–Business Intelligence for the Real Time Enterprise, International Conference on Very Large Databases Workshop, September 2014
- Student Volunteer Coordinator–ACM Special Interest Group on Management of Data Conference, June 2009

Peer Review

- Program Committee–Conference on Innovative Data Systems Research, January 2019
- Program Committee–ACM Special Interest Group on Management of Data Conference, June 2018
- Panel–National Science Foundation, Big Data Panel, January 2018
- Program Committee–ACM Special Interest Group on Management of Data Conference, May 2017
- Program Committee–International Conference on Very Large Databases, August 2017
- Program Committee–Conference on Innovative Data Systems Research, January 2017
- Program Committee–International Conference on Data Engineering, October 2016
- Program Committee–ACM Special Interest Group on Management of Data Conference, June 2016
- Journal Reviewer–The International Journal on Very Large Databases, February 2016
- Program Committee–International Conference on Very Large Databases, August 2015
- Program Committee–Symposium on Cloud Computing, August 2015
- Best Paper Award Committee–Symposium on Cloud Computing, August 2015
- Journal Reviewer–ACM Sigmod Record, June 2015
- Journal Reviewer–Transactions on Knowledge and Data Engineering, May 2015
- Proposal Reviewer–Netherlands Organisation for Scientific Research, March 2015
- Panelist–National Science Foundation, Computer & Information Science & Engineering, 2014
- Program Committee–Symposium on Cloud Computing, October 2014
- External Reviewer–International Conference on Very Large Databases, August 2009
- External Reviewer–Extending Database Technology, March 2009

UNIVERSITY
SERVICE

- Barris Chair Search Committee, 2016–2018
- Faculty Search Committee Member, 2018
- Strategy and Planning Committee Member, 2016–present
- Panelist–Northwestern University Postdoctoral Forum, “Academic Careers”, June 2015
- Curriculum Committee, 2015–present
- Panelist–Brown University Women in Computer Science, “Applying to Graduate School,” December 2012
- Mentor–Brown University Women in Computer Science, 2006–2007
- Mentor–Women in Computing at Rensselaer Polytechnic Institute, 2001–2003

INVITED TALKS

- “SMCQL: Secure Query Processing for Private Data Networks,” *VLDB*, August 2017.
- “VaultDB: Secure Querying for Database Federations”, Exelon Corporate Strategy Team Meeting, June 2017.
- “SMCQL: Secure Query Processing for Private Data Networks,” *Intel Corporation*, August 2016.
- “Virtual Experiments for Distributed Research Networks,” *University of Wisconsin Database Group*, October 2015.
- “Virtual Experiments for Distributed Research Networks,” *Stanford University Database Group*, October 2015.
- “Virtual Experiments for Distributed Research Networks,” *University of Washington Database Group*, October 2015.
- “Virtual Experiments for Distributed Research Networks,” *IBM Research*, September 2015.
- “Polystore Optimization and Data Placement,” *Intel Corporation*, September, 2015.
- “Hephaestus: Data Reuse for Accelerating Scientific Discovery,” *Greater Chicago Area Systems Research Workshop*, April 2015.
- “Bridging the Gap: Multi-Database Systems for Data Science,” *DePaul University*, April 2015.
- “Bridging the Gap: Multi-Database Systems for Data Science,” *Northwestern University*, February 2015.
- “Hephaestus: Data Reuse for Accelerating Scientific Discovery,” *Conference on Innovative Data Systems Research*, January 2015.
- “The Last Mile: Engaging People with Data Management,” *University of Massachusetts, Amherst*, September 2014.
- “The Case for Personal Data-Driven Decision Making,” *VLDB*, September 2014.
- “Incremental Elasticity for Array Databases,” *SIGMOD*, June 2014.
- “Managing Arrays for Science Applications at Scale,” *Cornell University*, April 2014.
- “Managing Arrays for Science Applications at Scale,” *Microsoft Research*, April 2014.
- “Managing Arrays for Science Applications at Scale,” *University of Maryland*, April 2014.
- “Managing Arrays for Science Applications at Scale,” *Northeastern University*, March 2014.
- “Contender: A Resource Modeling Approach for Concurrent Query Performance Prediction,” *EDBT*, March 2014.
- “Managing Arrays for Science Applications at Scale,” *IBM Research*, March 2014.
- “Managing Arrays for Science Applications at Scale,” *Tufts University*, March 2014.
- “Managing Arrays for Science Applications at Scale,” *Northwestern University*, March 2014.
- “Managing Arrays for Science Applications at Scale,” *University of Chicago*, March 2014.
- “Incremental Data Placement for Array Databases,” *Qatar Computing Research Institute*, October 2013.
- “Incremental Elasticity for Scientific Databases,” *University of Massachusetts, Lowell*, August 2013.
- “Performance Prediction for Concurrent Database Workloads,” *SIGMOD*, June 2011.
- “A Generic Auto-Provisioning Framework for Cloud Databases,” *SMDB*, January 2010.

ADDITIONAL WRITINGS

Jennie Duggan. Query Modeling and Optimization in the BigDAWG Polystore System. ISTC Big Data Blog, February 2016.

Michael L. Brodie and Jennie Duggan. Big Data Is Opening the Door To Revolutions: Databases Should Be Next. SIGMOD Blog, November 2014.

Michael Goodrich and Roberto Tamassia. Introduction to Computer Security. Addison Wesley, October 2010. Contributor to “Chapter 2: Physical Security”

Jennie Duggan. “Tunnels, Bunkers and Nukes: My Underground Vacation.” *Conduit!* 20(1), Brown Computer Science.