Jennie Duggan (née Rogers)

Northwestern University EECS
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Evanston, IL 60208

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Interests

Large-scale data processing, cloud computing, core database internals, scientific data management, database performance, big data, data science

Education

Brown University December 2012
Ph.D., Computer Science
- Thesis: "Query Performance Prediction for Analytical Workloads"
- Advisor: Uğur Çetintemel

Brown University May 2009
Sci.M., Computer Science
- Thesis: "Towards a Generic Compression Advisor"
- Advisor: Uğur Çetintemel

Rensselaer Polytechnic Institute May 2003
B.S., Computer Science
- Minor: Brain & Brain Behavior

Academic Appointments

Northwestern EECS 2015–Present
Assistant Professor

MIT CSAIL 2013–2015
Postdoctoral Associate

Brown University 2006–2012
Research Assistant

Rensselaer Polytechnic Institute 2002–2003
Research Assistant

Industrial Experience

Qatar Computing Research Institute October–November 2013
Visiting Scholar

NEC Labs of America Summer 2012
Research Intern

Paradigm4 Summer 2011
Research Intern

Naval Undersea Warfare Center 2003–2006
Scientist

Naval Research Enterprise Internship Program Summer 2002
Research Intern

Teaching Experience

Graduate Teaching Assistant Spring 2008, 2010

Brown University CSCI 1660–Introduction to Computer Security

- Created homework questions, researched course material, and prepared lecture slides

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

Awards & Honors

- 2009 Google Workshop for Women Engineers Invitee
- 2006–2007 US Navy Long Term Training Award
- 2005 Society of Women Engineers Helen Martha Sternberg Award

Academic Service

- Co-Chair, Demo Committee–ACM Special Interest Group on Management of Data Conference, June 2016
- Program Committee–International Conference on Very Large Databases, August 2015
- Program Committee–International Conference on Very Large Databases, Ph.D. Symposium, August 2015
- Panelist–National Science Foundation, Computer & Information Science & Engineering, 2014
- Program Committee–Symposium on Cloud Computing, October 2014
- Proceedings Chair–Business Intelligence for the Real Time Enterprise, International Conference on Very Large Databases Workshop, September 2014
- Panelist–Brown University Women in Computer Science, "Applying to Graduate School," December 2012
- External Reviewer–International Conference on Very Large Databases, August 2009
- Student Volunteer Coordinator–ACM Special Interest Group on Management of Data Conference, June 2009
- External Reviewer–Extending Database Technology, March 2009
- Mentor–Brown University Women in Computer Science, 2006–2007
- Mentor–Naval Research Enterprise Internship Program, Summer 2004, 2005
- Mentor–Women at RPI, 2001–2003

Publications

Jennie Duggan, Olga Papaemmanouil, Leilani Battle, and Michael Stonebraker. Skew-Aware Join Execution for Array Databases. To appear in *SIGMOD* 2015.

Jennie Duggan and Michael L. Brodie. Hephaestus: Data Reuse for Accelerating Scientific Discovery. In *CIDR* 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. To appear in *PVLDB*, Vol. 8, 2015.

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

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.

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

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, Samuel Madden, Jignesh Patel, Michael Stonebraker, Stanley Zdonik, Artyom Smirnov, Konstantin Knizhnik, and 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, 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.

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.

Miscellaneous Writings

Jennie Duggan, contributor to "Chapter 2: Physical Security," in Michael Goodrich and Roberto Tamassia. Introduction to Computer Security. Addison Wesley, October 2010.

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

The Database Group. "Major Database Conference Comes to Providence." *Conduit!* 18(2), Brown Computer Science.

Invited Talks

- "Hephaestus: Data Reuse for Accelerating Scientific Discovery," *CIDR*, 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 Almaden*, 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.