Dennis E. Shasha – Curriculum Vitae

Education

1984	Ph.D.	Harvard University in applied mathematics Dissertation Advisor: N. Goodman
1980	M.Sc.	Syracuse University (overlapped work at IBM Data Systems Division)
1977	B.Sc.	Yale University

Academic Positions

2018– Julius Silver Professor of Computer Science
Courant Institute of Mathematical Sciences
New York University
251 Mercer Street, New York, New York 10012
telephone: 212-998-3086, email: shasha@cs.nyu.edu, fax: 212-995-4123
web: http://cs.nyu.edu/cs/faculty/shasha/index.html

1995– Professor of Computer Science
Courant Institute of Mathematical Sciences
New York University

1990–1995 Associate Professor of Computer Science
Courant Institute of Mathematical Sciences
New York University

1984–1990 Assistant Professor of Computer Science
Courant Institute of Mathematical Sciences
New York University

1991–1992, 1998–1999, 2006–2007
Invited Professor at INRIA
Roquencourt, France

2014 ACM Fellow

2015-2019 INRIA International Chair

2020 ACM Sigmod Contributions Award for innovative work in the data management community t

2023 Senior Member, U.S. National Academy of Inventors

Industrial Positions

1991– Database tuning and design consulting
Wall Street investment banks, Internet gaming, and biotech.
Primary clients: Morgan-Stanley, JP Morgan, Interactive Imaginations, and Union Bank of Switzerland. Also TRW, NCR, Bull, Bellcore, and the RATP (Paris rapid transit). Lastminute.com. Relational systems mainly.

1995–2000 Database Research Collaboration
Lucent Bell Laboratories and Bell Communication Research

1987–1995 AT&T Bell Laboratories, Unix System Laboratories, and Novell
Consulting work on transaction processing (concurrency control and recovery) and future UNIX kernel development.

1977–1980 IBM Data Systems Division
Hardware and microcode design of arithmetic, interrupt, and processor-to-channel communication for the IBM 3090 central processor. Also responsible for self-diagnosing circuit design.

Pro Bono

1987–1991 Ellis Island Restoration Commission
Technical consultant (pro bono work) for the design of the Immigrant Database Management System.

2003– Distinguished Science Advisor, New York Hall of Science
one of 20, including James D. Watson, Benoit Mandelbrot, and Rosalyn Yalow

Doctoral Students Supervised

1. Kaizhong Zhang, (1989; pattern recognition)
   The Editing Distance Between Trees: algorithms and applications
   Current Position: Full Professor of Computer Science at the University of Western Ontario (with tenure).

2. Theodore Johnson (1990; performance analysis)
   The Performance of Concurrent Data Structure Algorithms
   Current Position: Research scientist at ATT Laboratories.

3. Jose Perez-Carballo (1990; text databases)
   Design and Implementation of HyTeK: a Knowledge-based Hypertext System Current Position: Assistant Professor at Rutgers.

4. Tsong-Li Wang (1991; database query processing)

Query Optimization in Database and Information Retrieval Systems
Current Position: Full Professor at the New Jersey Institute of Technology, Newark (with tenure).

5. Vladimir Lanin (1991; concurrent data structures)
Semantically-based Concurrent Data Structure Algorithms Current Position: member of technical staff at Google, Israel.

6. Brian Anderson (1991; parallel transaction-based processing)
Persistent LINDA: design and implementation of a system to add transactions to LINDA Current Position: Chief Technical Officer, Consilient.

7. John Turek (1991; robust concurrent computation)
Algorithms for robust parallel computation. Current Position: Department Group Manager, next generation Web. IBM T. J. Watson Research Center.

8. Steve Rozen (1993: data structure selection for database systems),
Automating Physical Database Design: An Extensible Approach Current Position: Professor at Duke-National University of Singapore Graduate Medical School

9. Gilad Koren (1993: real time scheduling),
Competitive On-Line Scheduling for Overloaded Real-Time Systems Current Position: Professor at Natanyu College in Israel.

10. Karpjoo Jeong (1995: robust parallel computation),
(1995, *PLinda 2.0: Fault Tolerant Parallel Computation on Idle Workstations*) Current Position: Assistant Professor
Department of Computer Science and Engineering
Konkuk University
Mojin-Dong 93-1, Kwangjin-Ku
Seoul 133-701, Korea

11. Bin Li (1998: parallel data mining on networks of workstations),
(1998, *Free Parallel Data Mining* Current Position: Vice President
Citibank
New York, New York.

12. Peter Wyckoff (1998: parallel fault tolerance),
(1998, *Fault Tolerant Parallel Computing on Networks of Non-Dedicated Workstations*
Current Position: Data warehousing group at facebook.com

13. Peter Piatko (1998: complex document presentation and management)
(1998, *Thinksheet: a tool for information navigation*
Current Position: Research Scientist at SIAC Research.

14. David Tanzer(2000: efficient querying of Thinksheet expert systems)
(2000, *Queryable Expert Systems*
Current Position: Wall Street mathematical programmer.

15. Rosalba Giugno (2003)
Searching Algorithms and Data Structures for Combinatorial, Temporal and Probabilistic Databases Assistant Professor, University of Catania.

16. Alberto Lerner (2003)
Querying Ordered Data with AQuery CEO/Startup

17. Yunyue Zhu (2003)
High Performance Discovery in Time Series: techniques and case studies Trading system builder in finance.

18. Aristotle Tsirigos (2005)
Pattern Discovery for Hypothesis Generation in Biology Current position: NYU Medical School

19. Xiaojian Zhao (2006)
High Performance Algorithms for Multiple Streaming Time Series Current position: finance

20. Zhihua Wang (2006)
Time Series Matching: a Multi-filter Approach Current position: finance

21. Tyler Neylon (2006)
Sparse Solutions for Linear Prediction Problems Current position: founder of start-up

22. Xin Zhang (2006)
Fast Algorithms for Burst Detection Current position: finance

23. Chris Poultney (2010)
Structure Prediction and Visualization in Molecular Biology Google Research

24. Huang-Wen Chen (2010)
Machine Learning Approaches to Gene Duplication and Transcription Regulation Current position: post-doc in bioinformatics at Franklin Medical School

25. Eric Hielscher (2013)
Locality Optimization for Data Parallel Programs Current position: system programmer at Google, Inc.

26. Alex Rubinsteyn (2013)
Parakeet: Runtime compiler for an array-oriented subset of Python Current position: Research Scientist at Mt Sinai Hospital.

27. Noah Youngs (2014) co-advised with Richard Bonneau
Positive-Unlabeled Learning in the Context of Protein Function Prediction Current position: Research scientist at the Simons Foundation and founder of a data science/machine learning startup.

28. Roy Lowrance (2015) co-advised with Yann LeCun
Predicting the Market Value of Single-Family Residences Current position: Managing director of NYU Center for Data Science.

    Current position: Research scientist at the Simons Foundation and founder of a data science/machine learning startup.

29. Tian Jiang (2016) *Adaptive Geometric Search for Protein Design*
Current position: Facebook Research

30. Mustafa Anil Kocak (2017) (co-advised with Elza Erkip) *Reliable Online Prediction with Refuse Option*
Current position: Researcher at Broad Institute

31. Siddharth Krishna (2019) (co-advised with official advisor Thomas Wies)
Compositional Abstractions for Verifying Concurrent Data Structures
Current position: Researcher at Microsoft Research

32. Jacopo Cirrone (2021) *Learning Causality in Molecular Biology*
Current Position: Faculty Fellow, NYU

33. Qiyao Zhu (2023) *Heuristic energy-based cyclic peptide design*
Current Position: Simons Institute

34. Bingran Shen (2024) *Algorithmic Enhancements to Causal Inference Problems*

Publications

This list does not include:
1. submissions,
2. technical reports superseded by publications

Journal Publications

1. "Heuristic energy-based cyclic peptide design" Qiyao Zhu, Vikram Mulligan , Dennis Shasha (2025) PLOS Computational Biology 21(4): e1012290. https://doi.org/10.1371/journal.pcbi.1012290

2. "MultiGraphMatch: a subgraph matching algorithm for multigraphs" Giovanni Micale, Antonio Di Maria, Roberto Grasso, Vincenzo Bonnici, Alfredo Ferro, Dennis Shasha, Rosalba Giugno, Alfredo Pulvirenti ACM Transactions on Knowledge Discovery from Data 01 April 2025 https://doi.org/10.1145/372836

3. Liu, Xiaoteng, Taegyun Kim, and Dennis E. Shasha. 2025. "Bounce: A High Performance Satellite-Based Blockchain System" Network 5, no. 2: 9. https://doi.org/10.3390/network5020009

4. Joseph Vidal, Spriha Jha, Zhenyuan Liang, Ethan Delgado, Bereket Siraw Deneke, and Dennis Shasha. 2024. "Dynamic Decision Trees" Knowledge 4, no. 4: 506-542. https://doi.org/10.3390/knowledge4040027

5. "DietNerd: A Nutrition Question-Answering System That Summarizes and Evaluates Peer-Reviewed Scientific Articles" Shela Wu, Zubair Yacub, and Dennis Shasha. October 6, 2024. Applied Sciences 14, no. 19: 9021. https://doi.org/10.3390/app14199021

6. "ArcMatch: high-performance subgraph matching for labeled graphs by exploiting edge domains." Vincenzo Bonnici, Roberto Grasso, Giovanni Micale, Antonio Di Maria, Dennis Shasha, Alfredo Pulvirenti, Rosalba Giugno Data Mining Knowledge Discovery (2024). https://doi.org/10.1007/s10618-024-01061-8

7. "Machine Learning-Enhanced Pairs Trading" Hadad, Eli, Sohail Hodarkar, Beakal Lemeneh, and Dennis Shasha. 2024. Forecasting 6, no. 2: 434-455. https://doi.org/10.3390/forecast6020024 (invited paper; no page charges)

8. "Bipartite Networks Represent Causality Better Than Simple Networks: evidence, algorithms, and applications" Bingran Shen, Gloria Coruzzi, Dennis Shasha Frontiers 17 Apr 2024 doi: 10.3389/fgene.2024.1371607

9. "Bankruptcy prediction with low-quality financial information " Eduardo Mattos and Dennis Shasha Expert Systems With Applications Volume 237, Part A, 1 March 2024, article: 121418 September, 2023

10. "AutoTag: automated metadata tagging for film post-production" Marcelo Sandoval-Casta, Scandar Copti, Dennis Shasha Multimedia Tools and Applications pages 1-23 doi: 10.1007/s11042-023-15565-w June 20, 2023

11. "Forgetful Forests: Data Structures for Machine Learning on Streaming Data under Concept Drift" Zhehu Yuan, Yinqi Sun, Dennis Shasha MDPI Algorithms. vol 16, number 6, article 278. May 2023 doi: 10.3390/a16060278

12. "EnsInfer: a simple ensemble approach to network inference outperforms any single method" BMC Bioinformatics Bingran Shen, Gloria Coruzzi, and Dennis Shasha 10.1186/s12859-023-05231-1 (2023) 24:114 March 24, 2023 shortened link:https://rdcu.be/c8p5S

13. "How Coin Flipping Can Make Polls More Accurate" Dennis Shasha Scientific American, March 9, 2022. https://www.scientificamerican.com/article/how-coin-flipping-can-make-polls-more-accurate/

14. "BugDoc: Iterative debugging and explanation of pipeline executionsΣ" Raoni Lorenco, Juliana Freire, Eric Simon, Gabriel Weber, Dennis Shasha Received: 17 May 2021 / Revised: 21 October 2021 / Accepted: 21 January 2022 VLDB Journal part of Springer Nature 2022 https://doi.org/10.1007/s00778-022-00733-5

15. "Cell-by-cell dissection of phloem development links a maturation gradient to cell specialization" Pawel Roszak, ... Dennis Shasha, ... Kenneth D. Birnbaum, and Yrj Helariutta Science 24 Dec 2021 Vol 374, Issue 6575 DOI: 10.1126/science.aba55

16. "EpiPolicy: A Tool for Combating Epidemics" Anh Le Xuan Mai, Miro Mannino, Zain Tariq, Azza Abouzied, Dennis Shasha XRDS: Crossroads, The ACM Magazine for Students Volume 28 Issue 2 Winter 2021 pp 24-29 https://doi.org/10.1145/3495257

17. Pheniqs 2.0: accurate, high-performance Bayesian decoding and confidence estimation for combinatorial barcode indexing. Galanti, L., Shasha, D., Gunsalus, K.C. BMC Bioinformatics 22, 359 (2021). https://doi.org/10.1186/s12859-021-04267-5

18. "BestNeighbor: Efficient Evaluation of kNN Queries on Large Time Series Data" by Oleksandra Levchenko; Boyan Kolev; Djamel-Edine Yagoubi; Reza Akbarinia; Florent Masseglia; Themis Palpanas; Dennis Shasha; Patrick Valduriez Knowledge and Information Systems Journal, November, 2020 KAIS-D-20-00131R1 https://doi.org/10.1007/s10115-020-01518-4

19. "Inexpensive, non-invasive biomarkers predict Alzheimer transition using machine learning analysis of the Alzheimer's Disease Neuroimaging (ADNI) database" Juan Felipe Beltran,Brandon Malik Wahba,Nicole Hose,Dennis Shasha,Richard P. Kline ,For the Alzheimer's Disease Neuroimaging Initiative PLOS ONE July 27, 2020 https://doi.org/10.1371/journal.pone.0235663

20. "OutPredict: multiple datasets can improve prediction of expression and inference of causality." J Cirrone, MD. Brooks, R Bonneau, G M Coruzzi, and D Shasha (2020) Nature Scientific Reports Sci Rep 10, 6804 (2020). 22 April 2020. doi: https://doi.org/10.1038/s41598-020-63347-3 https://www.nature.com/articles/s41598-020-63347-3

21. "TACITuS: transcriptomic data collector, integrator, and selector on big data platform" Salvatore Alaimo, Antonio Di Maria, Dennis Shasha, Alfredo Ferro, Alfredo Pulvirenti BMC Bioinformatics 20, 366 (2019) doi:10.1186/s12859-019-2912-4

22. "VersionClimber: Version Upgrades Without Tears" Christophe Pradal , Sarah Cohen-Boulakia , Patrick Valduriez , Dennis Shasha Computing in Science & Engineering SEPTEMBER/OCTOBER 2019 Volume: 21, Issue:5 pp 87-93 Print ISSN: 1521-9615 Online ISSN: 1558-366X doi: 10.1109/MCSE.2019.2921898

23. "SafePredict: A Meta-Algorithm for Machine Learning That Uses Refusals to Guarantee Correctness", Mustafa Anil Kocak, David Ramirez, Elza Erkip, Dennis Shasha IEEE Transactions on Pattern Analysis and Machine Intelligence On page(s): 1-16 Print ISSN: 0162-8828 Online ISSN: 0162-8828 Digital Object Identifier: 10.1109/TPAMI.2019.2932415

24. "Network Walking charts transcriptional dynamics of nitrogen signaling by integrating validated and predicted genome-wide interactions" by Matthew Brooks, Jacopo Cirrone, Angelo Pasquino, Jose Alvarez, Joseph Swift, Shipra Mittal, Che-Lun Juang, Kranthi Varala, Rodrigo Gutierrez, Gabriel Krouk, Dennis Shasha, and Gloria Coruzzi [Paper NCOMMS-18-23259B] NATURE COMMUNICATIONS(2019) 10:1569 doi: 10.1038/s41467-019-09522-1 April 5, 2019

25. "Fast methods for finding significant motifs on labelled multi-relational networks" Giovanni Micale, Alfredo Pulvirenti, Alfredo Ferro, Rosalba Giugno, Dennis Shasha Journal of Complex Networks, cnz008, https://doi.org/10.1093/comnet/cnz008 13 March 2019

26. "Fast Subgraph Matching Strategies based on Pattern-only Heuristics", Antonino Aparo, Vincenzo Bonnici, Giovanni Micale, Alfredo Ferro, Dennis Shasha, Alfredo Pulvirenti, Rosalba Giugno Interdisciplinary Sciences: Computational Life Sciences, 11(1), 21-32 DOI 10.1007/s12539-019-00323-0 Feb 21, 2019

27. An adaptive geometric search algorithm for macromolecular scaffold selection Tian Jiang P Douglas Renfrew Kevin Drew Noah Youngs Glenn L Butterfoss Richard Bonneau Den Nis Shasha Protein Engineering, Design and Selection, Volume 31, Issue 9, 1 September 2018, Pages 345354, https://doi.org/10.1093/protein/gzy028

28. SuperNoder: a tool to discover over-represented modular structures in networks Danilo Dess1, Jacopo Cirrone, Diego Reforgiato Recupero, and Dennis Shasha BMC Bioinformatics 2018 19:318 Published on: 10 September 2018 https://doi.org/10.1186/s12859-018-2350-8

29. ParCorr: Efficient Parallel Methods to Identify Similar Time Series Pairs across Sliding Windows Djamel Edine Yagoubi, Reza Akbarinia, Boyan Kolev, Oleksandra Levchenko, Florent Masseglia, Patrick Valduriez, Dennis Shasha Data Mining and Knowledge Discovery September 2018, Volume 32, Issue 5, pp 1481-1507 https://doi.org/10.1007/s10618-018-0580-z

30. Temporal transcriptional logic of dynamic regulatory networks underlying nitrogen signaling and use in plants Kranthi Varala, Amy Marshall-Coln, Jacopo Cirrone, Matthew D. Brooks, Angelo V. Pasquino, Sophie Lran, Shipra Mittal, Tara M. Rock, Molly B. Edwards, Grace J. Kim, Sandrine Ruffel, W. Richard McCombie, Dennis Shasha, and Gloria M. Coruzzi PNAS June 19, 2018 115 (25) 6494-6499 https://doi.org/10.1073/pnas.1721487115

31. "Fast Analytical Methods for Finding Significant Labeled Graph Motifs" Giovanni Michale, Rosalba Giugno, Alfredo Ferro, Misael Mongiovi, Dennis Shasha, Alfredo Pulvirenti. Data Mining Knowledge Discovery 32(2): 504-531 (2018) https://doi.org/10.1007/s10618-017-0544-8

32. "Crowdsourcing Thousands of Specialized Labels: a Bayesian active training approach," M. Servajean; A. JOLY; D. Shasha; J. Champ; E. Pacitti, in IEEE Transactions on Multimedia , Volume: 19, Issue: 6, June 2017, pp. 1376-1391

33. "An expanded evaluation of protein function prediction methods shows an improvement in accuracy" Genome Biology201617:184 DOI: 10.1186/s13059-016-1037-6 7 September 2016 one of over 100 authors (for algorithmic contributions)

34. "Synthetic RNAs for gene regulation: design principles and computational tools." A. Lagana', D. Shasha, C. M. Croce. Front Bioeng Biotechnol 2014. doi: 10.3389/fbioe.2014.00065. December, 2014.

35. "Negative Example Selection for Protein Function Prediction: The NoGO Database" Noah Youngs, Duncan Penfold-Brown, Richard Bonneau, Dennis Shasha PLOS Computational Biology, June 12, 2014DOI: 10.1371/journal.pcbi.1003644 http://www.ploscompbiol.org/article/info:doi/10.1371/journal.pcbi.1003644

36. "miR-Synth: a computational resource for the design of multi-site multi-target synthetic miRNAs" Alessandro Lagana, Mario Acunzo, Giulia Romano, Alfredo Pulvirenti, Dario Veneziano, Luciano Cascione, Rosalba Giugno, Pierluigi Gasparini, Dennis Shasha, Alfredo Ferro and Carlo Maria Croce Nucleic Acids Research, March 13 2014 doi: 10.1093/nar/gku202

37. "GRAPES: A Software for Parallel Searching on Biological Graphs Targeting Multi-Core Architectures" Rosalba Giugno, Vincenzo Bonnici, Nicola Bombieri, Alfredo Pulvirenti, Alfredo Ferro, Dennis Shasha PLOS One, doi: http://www.plosone.org/article/info

38. "Gene regulatory networks in plants: learning causality from time and perturbation" Gabriel Krouk, Jesse Lingeman, Amy Marshall Colon, Gloria Coruzzi and Dennis Shasha Genome Biology, June 2013

39. "Parametric Bayesian Priors and Better Choice of Negative Examples Improve Protein Function Prediction" Noah Youngs, Duncan Penfold-Brown, Kevin Drew, Dennis Shasha, Richard Bonneau Bioinformatics 2013; doi: 10.1093/bioinformatics/btt110 http://bit.ly/11niyxr

40. "miR-EdiTar: A database of predicted A-to-I edited miRNA target sites" Alessandro Lagan, Alessio Paone, Dario Veneziano, Luciano Cascione, Pierluigi Gasparini, Stefania Carasi, Francesco Russo, Giovanni Nigita, Valentina Macca, Rosalba Giugno, Alfredo Pulvirenti, Dennis Shasha, Alfredo Ferro and Carlo M. Croce Bioinformatics 2012

41. "Nitrogen economics of root foraging: Transitive closure of the nitrate-cytokinin relay and distinct systemic signaling for N supply vs. demand." Sandrine Ruffel, Gabriel Krouk, Daniel Ristova, Dennis Shasha, Kenneth Birnbaum, and Gloria Coruzzi, Proc U.S. National Academy of Science November 8, 2011

42. "Rational design of temperature-sensitive alleles using computational structure prediction." Christopher S. Poultney, Glenn L. Butterfoss, Michelle R. Gutwein, Kevin Drew, David Gresham, Kristin C. Gunsalus, Dennis E. Shasha, Richard Bonneau. PLoS ONE 6(9): e23947. doi:10.1371/journal.pone.0023947

43. "The proteome folding project: proteome-scale prediction of structure and function" Kevin Drew, Patrick Winters, Glenn L. Butterfoss, ViktorsBerstis, Keith Uplinger, Jonathan Armstrong, Michael Riffle, Eric Schweighofer, Bill Braverman, David R. Goodlett, Trisha N. Davis, Dennis Shasha, Lars Malmstrom, and Richard Bonneau August 8, 2011, doi: 10.1101/gr.121475.111 Genome Res. 2011.

44. "Predictive network modeling of the high-resolution dynamic plant transcriptome in response to nitrate," Gabriel Krouk, Piotr Mirowski, Yann LeCun, Dennis E Shasha and Gloria M Coruzzi Genome Biology 2010, 11:R123 doi:10.1186/gb-2010-11-12-r123 Published: 23 December 2010

45. "Estimation of genome-wide redundancy in Arabidopsis thaliana," Huang-Wen Chen, Sunayan Bandyopadhyay, Dennis E. Shasha, and Kenneth D. Birnbaum accepted, BMC Evolutionary Biology 2010, 10:357; doi:10.1186/1471-2148-10-357

46. "Fast Elastic Peak Detection for Mass Spectrometry Data Mining," X. Zhang, D. Shasha, Y. Song and J. T. L. Wang, IEEE Transactions on Knowledge and Data Engineering, Issue 99. November 29, 2010, doi: 10.1109/TKDE.2010.238

47. "SING: Subgraph search In Non-homogeneous Graphs" Raffaele Di Natale , Alfredo Ferro , Rosalba Giugno , Misael Mongiovi , Alfredo Pulvirenti

and Dennis Shasha BMC Bioinformatics 2010, 11:96doi:10.1186/1471-2105-11-96 http://www.biomedcentral.com/1471-2105/11/96

48. "VirtualPlant: a software platform to support system biology research" Manpreet S. Katari, Steve D. Nowicki, Felipe F. Aceituno, Damion Nero, Jonathan Kelfer, Lee Parnell Thompson, Juan M. Cabello, Rebecca S. Davidson, Arthur P. Goldberg, Dennis E. Shasha, Gloria M. Coruzzi, and Rodrigo A. Gutierrez, Plant Physiology 152:500-515 (2010)

49. "miRo: a miRNA knowledge base" A. Lagana, S. Forte, A. Giudice, M. R. Arena, P. L. Puglisi, R. Giugno,A. Pulvirenti,D. Shasha, A. Ferro Database: The Journal of Biological Databases and Curation,Oxford University Press,2009 doi: 10.1093/database/bap008

50. "A Systems Approach Uncovers Restrictions for Signal Interactions Regulating Genome-wide Responses to Nutritional Cues in Arabidopsis" Gabriel Krouk, Daniel Tranchina, Laurence Lejay, Alexis A. Cruikshank, Dennis Shasha, Gloria M. Coruzzi, Rodrigo A. Guitierrez PLOS Computational Biology March 2009, volume 5, issue 3

51. "GraphClust: A Method for Clustering Databases of Graphs" Diego Reforgiato, Rodrigo Gutierrez, Dennis Shasha Journal of Information and Knowledge Management (JIKM) Volume: 7, Issue: 4 (December 2008) Page 231 - 241 http://www.worldscinet.com/cgi-bin/details.cgi?id=jsname:jikm&type=current

52. "Revelation on Demand", Nicolas Anciaux, Mehdi Benzine, Luc Bouganim, Philippe Pucheral and Dennis Shasha, Distributed and Parallel Databases Journal, vol 25, issue 1-2 (april 2009) pp. 5-28.

53. "DNA Hash Pooling and its Application" Dennis Shasha and Martyn Amos International Journal of Nanotechnology and Molecular Computation 1(1), 18-32, January-March 2009 (Previous version: arXiv:0705.3597)

54. "An integrated genetic, genomic and systems approach defines gene networks regulated by the interaction of light and carbon signaling pathways in Arabidopsis" Karen E Thum, Michael J Shin, Rodrigo Gutierrez, Indrani Mukherjee, Manpreet S Katari, Damion Nero, Dennis Shasha and Gloria M Coruzzi BMC Systems Biology 2008, 2:31 (04 Apr 2008)

55. Gutierrez, R.A., Lejay, L., Chiaromonte, F., Shasha, D.E., Coruzzi, G.M. (2007) "Qualitative network models and genome-wide expression data define carbon/nitrogen-responsive molecular machines in Arabidopsis". Genome Biol.: 8, pp. R7. "Must read" Factor 6 in the Faculty of 1000.

56. "GraphFind: Enhancing Graph Searching by Low Support Data Mining Techniques" A. Ferro, R. Giugno, M. Mongiovi, A. Pulvirenti, D. Skripin, D. Shasha, BMC Bioinformatics, vol. 8 ISSN: 1471-2105, 2007.

57. "Homology search for genes" Xuefeng Cui; Tomas Vinar; Brona Brejova; Dennis Shasha; Ming Li Bioinformatics. 2007 Jul 1;23 (13):i97-i103 17646351 (P,S,E,B,D)

58. "Insights into the genomic nitrate response using genetics and the Sungear software system" Rodrigo A. Gutirrez, Miriam L. Gifford, Chris Poultney, Rongchen Wang, Dennis E. Shasha, Gloria M. Coruzzi and Nigel M. Crawford JXB Advance Access published online on April 29, 2007 Journal of Experimental Botany, doi:10.1093/jxb/erm079

59. A. Ferro, R. Giugno, G. Pigola, A. Pulvirenti, D. Skripin, G. D. Bader, D. Shasha "NetMatch: a Cytoscape Plugin for Searching Biological Networks" Bioinformatics, 2007 23(7):910-912; doi:10.1093/bioinformatics/btm032

60. Christopher S. Poultney, Rodrigo A. Gutirrez, Manpreet S. Katari, Miriam L. Gifford, W. Bradford Paley, Gloria M. Coruzzi and Dennis E. Shasha "Sungear: Interactive visualization and functional analysis of genomic datasets" Bioinformatics, 2007; Jan 15;23(2):259-61 doi: 10.1093/bioinformatics/btl496

61. Charles J. Colbourn, Sosina S. Martirosyan, Gary L. Mullen, Dennis Shasha, George B. Sherwood, Joseph L. Yucas "Products of Mixed Covering Arrays of Strength Two" Journal of Combinatorial Designs Volume 14, Issue 2, Date: March 2006, Pages: 124-138

62. Jason T. L. Wang, Huiyuan Shan, Dennis Shasha and William H. Piel, "Fast Structural Search in Phylogenetic Databases," Evolutionary Bioinformatics Online, Vol. 1, October 2005, pp. 37-46.

63. Michael Rabin and Dennis Shasha "Preventing Piracy while Preserving Privacy" Dr. Dobb's Journal, October 2005.

64. Rodrigo Gutierrez, Dennis Shasha, and Gloria Coruzzi, "Systems Biology for the Virtual Plant" Plant Physiology, June 2005, vol. 38, pp. 550-554.

65. J. T. L. Wang, X. Wang, D. Shasha and K. Zhang, "MetricMap: An Embedding Technique for Processing Distance-Based Queries in Metric Spaces," IEEE Transactions on Systems, Man and Cybernetics, Part B, Cybernetics, Vol. 35, No. 5, October 2005, pp. 973-987.

66. "Making Snapshot Isolation Serializable" Alan Fekete, Dimitrios Liarokapis, Elizabeth O'Neil, Patrick O'Neil, Dennis Shasha ACM TODS, June 2005 vol. 30, number 2. pp. 492-528

67. "In Vitro and In Silico Cloning of Xenopus laevis SOD2 cDNA and its Phylogenetic Analysis" Michele Purrello, Cinzia di Pietro, Marco Ragusa,

Alfredo Pulvirenti, Rosalba Giugno, Valetina di Pietro, Giovanni Emmanuele, Salvo Travali, Marina Sclia, Dennis Shasha, and Alfredo Ferro. DNA and Cell Biology, volume 24, number 2, 2005, pp. 111-116.

68. "Antipole Tree Indexing to Support Range Search and K-Nearest Neighbor Search in Metric Spaces" Domenico Cantone, Alfredo Ferro, Alfredo Pulvirenti, Diego Reforgiata, Dennis Shasha IEEE Transactions on Knowledge and Data Engineering, vol. 17, no. 5 (April 2005), pp. 535-550.

69. "Database Systems" Dennis E. Shasha and Philippe Bonnet in special issue of Dr. Dobb's Journal on Database Development December 2004.

70. "Adaptive Combinatorial Design to explore Large Experimental Spaces: approach and validation" Laurence V. Lejay, Dennis E. Shasha, Peter M. Palenchar, Andrei Y. Kouranov, Alexis A. Cruikshank, Michael F. Chou, Gloria M. Coruzzi Systems Biology, volume 1, issue 2, December 2004, pp. 206-212.

71. "Fast structural search in phylogenetic databases" Jason Wang, Shan, Dennis Shasha, William Piel Applied Bioinformatics, to appear.

72. "A gene expression map of the Arabidopsis root" Kenneth Birnbaum, Dennis E. Shasha, Jean Y. Wang, Jee W. Jung, Georgina M. Lambert, David W. Galbraith, and Philip N. Benfey Science, Dec 12 2003: 1956-1960 (A review article in the Research Focus section of Trends in Biotechnology called the article "At the end of 2003, the root biology community was blessed with what has become today already a historical paper that described for the first time a genome wide expression analysis of Arabidopsis root development [2].")

73. Dennis Shasha "Plant Systems Biology: Lessons from a Fruitful Collaboration" Plant Physiology, June 2003, Vol 132, pp. 1-2.

74. Alfredo Ferro, G. Pigola, Alfredo Pulvirenti, Dennis Shasha: "Fast Clustering and Minimum Weight Matching Algorithms for Very Large Mobile Backbone Wireless Networks." Int. J. Found. Comput. Sci. 14(2): 223-236 (2003)

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2. Anh Mai, Nikunj gupta, Azza Abouzied, and Dennis Shasha Planning Multiple Epidemic Interventions with Reinforcement Learning IJCAI-23 AI for Social Good, August 2023

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6. "Acronym Expander at SDU@AAAI-21: an Acronym Disambiguation Module" Joo L. M. Pereira, Helena Galhardas and Dennis Shasha AAAI-21 Workshop on Scientific Document Understanding

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Invited Papers

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2. "Incremental Methods for Simple Problems in Time Series: algorithms and experiments" Xiaojian Zhao, Xin Zhang, Tyler Neylon, Dennis Shasha International Database Engineering and Applications Symposium, July 2005, pp. 3-16 (invited, keynote).

3. "Activist Data Mining for Computational Science: Tools and Applications" Dennis Shasha, pp. 6-10 Database Tuning: Principles, Experiments, and Guidance p. 1 18th Brazilian Symposium on Databases October 2003 (Manaus)

4. "High Volume Transaction Processing Without Concurrency Control, Two Phase Commit, SQL or C++", Arthur Whitney, Dennis Shasha, Steve Apter. pp. 211-217 Seventh International Workshop on High Performance Transaction Systems, September, 1997, Asimolar, California.

5. "Some Approaches to Index Design for Cube Forests" Theodore Johnson and Dennis Shasha Issue: Supporting On-line Analytical Processing (editor: Daniel Barbara) March 1997 issue of the IEEE Data Engineering Bulletin http://www.research.microsoft.com/research/db/debull/

Web Sites

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   http://cs.nyu.edu/cs/faculty/shasha/papers/tree.html [ordered tree matching]

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   http://cs.nyu.edu/cs/faculty/shasha/fintime.html [benchmark for financial databases]

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1. "FireRevit: Using Revit Files to Identify the Room Locations of Fires and Escape Routes" Luhan Sheng and Dennis Shasha, October 2020. New York University Computer Science Technical Report TR2020-995

2. "Detecting Missing and Spurious Edges in Large, Dense Networks Using Parallel Computing" Sam Coolidge, Dan Simon, and Dennis Shasha NYU Computer Science TR2016-986, December 19, 2016

3. "Finding Prospects for Shopping Centers: a machine learning approach" Jonathan Kogan; Rishabh Jain; Joe Jean; Roy Lowrance; Dennis Shasha NYU Computer Science TR2016-984 2016

4. "Alphacodes: Usable, Secure Transactions with Untrusted Providers using Human Computable Puzzles," Ashlesh Sharma, Varun Chandrasekaran, Fareeha Amjad, Dennis Shasha, Lakshminarayanan Subramanian http://cs.nyu.edu/media/publications/982.pdf NYU Computer Science TR2016-982

5. "A Crop Recommendation Tool for Organic Farmers," Jasmine Hsu and Dennis Shasha September 2015 TR2015-975

6. "Acronym Disambiguation" Benjamin D. Turtel, Dennis Shasha June 2015 TR2015-973

7. "VerifiableAuction: An Auction System for a Suspicious World" Michael Rosenberg and Dennis Shasha, October 2014, TR2014-971

8. "Online Machine Learning Algorithms For Currency Exchange Prediction" Eleftherios Soulas and Dennis Shasha, April 2013, TR2013-953

9. "Repeatability & Workability Evaluation of SIGMOD 2009" S. Manegold, I. Manolescu, L. Afanasiev, J. Feng, G. Gou, M. Hadjieleftheriou, S. Harizopoulos, P. Kalnis, K. Karanasos, D. Laurent, M. Lupu, N. Onose, C. Re, V. Sans, P. Senellart, T. Wu, and D. Shasha Sigmod Record, September 2009 http://www.sigmod.org/publications/sigmod-record/0909/index.html

10. "The repeatability experiment of SIGMOD 2008" Ioana Manolescu, Loredana Afanasiev, Andrei Arion, Jens Dittrich, Stefan Manegold, Neoklis Polyzotis, Karl Schnaitter, Pierre Senellart, Spyros Zoupanos, Dennis Shasha: SIGMOD Record 37(1): 39-45 (2008)

11. " Verifying a Design Pattern for the Fault-Tolerant Execution of Parallel Programs" Ekkart Kindler and Dennis Shasha NYU TR TR2000-803

12. "An Extensible Framework for Data Cleaning" Helena Galhardas, Daniela Florescu, Dennis Shasha and Eric Simon, INRIA, July, 1999

13. "Hierarchically Split Cube Forests for Decision Support: description and tuned design" Ted Johnson and Dennis Shasha NYU Computer Science Technical Report 727, November, 1996.

14. "Reference Manual for ATBE — a tool for approximate tree pattern matching" T-L. Wang, K. Jeong, K. Zhang, and Dennis Shasha NYU Computer Science Technical Report 551, March, 1991.

15. "Beyond Fail-Stop: Wait-Free Serializability and Resiliency in the Presence of Slow-Down Failures" J. Turek and Dennis Shasha, NYU Computer Science Technical Report 514, September, 1990.

16. "An Analytical Model for the Performance of Concurrent B Tree Algorithms" V. Lanin, J. Schmidt and Dennis Shasha, Ultracomputer Note 124, Computer Science Technical Report 311, 1987.

Authored Books

1. *High Performance, Low Energy, and Trustworthy Blockchains Using Satellites* Dennis Shasha, Taegyun Kim, Joseph Bonneau, Yan Michalevsky, Gil Shotan and Yonatan Winetraub (2023), Foundations and Trends in Networking: Vol. 13, No. 4, pp 252-325. DOI: 10.1561/1300000070. issn:1554-057X

2. *Data Structures for Data-Intensive Applications: Tradeoffs and Design Guidelines*, Manos Athanassoulis, Stratos Idreos and Dennis Shasha (2023), Foundations and Trends in Databases: Vol. 13: No. 1-2, pp 1-168. http://dx.doi.org/10.1561/1900000059 July 31, 2023

3. *Automated Verification of Concurrent Search Structures* Morgan Claypool Synthesis Lectures on Computer Science June 2021, 188 pages, (https://doi.org/10.2200/S01089ED1V01Y
Siddharth Krishna, Nisarg Patel, Dennis Shasha, Thomas Wies

4. *Statistics is Easy: Case Studies on Real Scientific Datasets* Morgan Claypool Synthesis Lectures on Mathematics and Statistics April 2021, (https://doi.org/10.2200/S01078ED1V
Manpreet Singh Katari, Sudarshini Tyagi, Dennis Shasha

5. *Network Inference in Molecular Biology – a hands-on framework* Jesse Lingeman and Dennis Shasha, Springer Verlag, 2012, 109 pages, ISBN 978-1461431121.

6. *Stored Clocked Programs Inside DNA: a simplifying framework for Nanocomputing* Jessie Chang and Dennis Shasha Morgan and Claypool, 2011, 66 pages
ISBN: 9781608456956 paperback
ISBN: 9781608456963 ebook

7. *Natural Computing: DNA, Quantum Bits, and the Future of Smart Machines* Dennis Shasha and Cathy Lazere, W. W. Norton, 2010, 288 pages
ISBN-10: 0393336832
ISBN-13: 978-0393336832
Translated to French (Dunod), Chinese (posts and telephone) and Italian (Santachiara) complete and Japanese (Uni Agency) and to Turkish (Tubitak).

8. *Statistics is Easy!* Dennis Shasha and Manda Wilson, Morgan Claypool publishing 2008, 74 pages, (doi:10.2200/S00142ED1V01Y200807MAS001) http://www.morganclaypool.com/doi/abs/10.2200/S00142ED1V01Y200807MAS001 A resampling (distribution-free) approach to statistics written for computer scientists, engineers, and natural scientists.

9. *Iraq's Last Jews: Stories of Daily Life, Upheaval, and Escape from Modern Babylon* Tamar Morad, Dennis Shasha, and Robert Shasha 2008, 256 pages, Palgrave Macmillan. ISBN: 978-0230608108 A book of oral histories. Sales 1068 (hard cover) and 2657 (paper). Finalist for the National Jewish Book Award in the Sephardic Culture category.

10. *Puzzles for Programmers and Pros* John Wiley/Wrox, May 2007. Puzzles and methods to solve puzzles. Translations to Korean and Japanese (Ohmsha). Reprinted in India (JWS-India).

11. *The Puzzler's Elusion: A Tale of Fraud, Pursuit, and the Art of Logic* Thunder's Mouth Press, March 2006. A further collection of puzzles from Scientific American and Dr. Dobb's Journal. Translation to traditional Chinese 2007.

12. *Puzzling Adventures* W. W. Norton, January 2005. A collection of puzzles from Scientific American and Dr. Dobb's Journal. Puzzle contest was won by Jeremiah Farrell and written about on May 19, 2006 in the NY Sun under the title "A Washington Square Park Puzzle is Solved" by Gary Shapiro in the Arts and Letters section.) Translation to Portugese in progress.

13. *High Performance Discovery in Time Series: techniques and case studies* Dennis Shasha and Yunyue Zhu, Springer Verlag Publishers, Monographs in Computer Science, June 2004, ISBN 0387008578, 270 Pages.

14. *Database Tuning : Principles Experiments and Troubleshooting Techniques* Dennis Shasha and Philippe Bonnet, Morgan Kaufmann Publishers, June 2002, ISBN 1-55860-753-6, Paper, 464 Pages. (Translations to Russian (Kudits obraz), simplified Chinese (Publishing House of Electronics Industry, phei), and Korean (Brain Korea) are complete.)

15. *Dr. Ecco's Cyberpuzzles : 36 Puzzles for Hackers and Other Mathematical Detectives* Dennis E. Shasha W. W. Norton, 2002. ISBN 0-393-05120-X, 231 pages. (Translations to Simplified Chinese, Korean, Polish, Turkish, Czech, Hungarian, French, German, Portugese (Gradiva), and traditional Chinese.)

16. *Red Blues : Voices from the Last Wave of Russian Immigrants* by Dennis Shasha, Marina Shron Holmes and Meier, 2002. Among the reviews: http://www.qualitative-research.net/fqs-texte/1-07/07-1-19-e.htm

17. *Out of Their Minds: the lives and discoveries of 15 great computer scientsts* by Dennis Shasha and Cathy Lazere, Springer-Verlag, New York, August, 1995.
(Book of short biographies and research philosophies. Translated to Japanese, Korean, traditional Chinese (Taiwan), and simplified Chinese (China).) The Chinese publisher Ituring interviewed me and provide a Chinese version: http://www.ituring.com.cn/article/details/12519 and an English version: http://www.ituring.com.cn/article/12520

18. *Database Tuning — a principled approach*, by Dennis Shasha, Prentice-Hall, Englewood Cliffs, NJ, 1992.
(Book to help practitioners improve the performance of database applications that are built on top of commercial database management systems.)

19. *Codes, Puzzles, and Conspiracy* by Dennis Shasha, W. H. Freeman, New York 1992. Republished by Dover in 2004.
(Adventures of a mathematical detective whose problems are often algorithmic or combinatoric in nature. Second in series. Translated to French, Portuguese, Slovenian, and Turkish. Also translated to Spanish in two separate editions.)

20. *The Puzzling Adventures of Dr. Ecco* by Dennis Shasha, W. H. Freeman, New York 1988. Dover, 1997.
(Adventures of a mathematical detective whose problems are often algorithmic or combinatoric in nature. First in series. Translated to Chinese, French, German, Italian, Spanish, Japanese, Portuguese (Rba), Turkish, Slovenian, and Hungarian. Cited by Professor Andy Liu, selected the Canadian Professor of the Year in 1999, as his favorite book for teaching mathematics at the University of Alberta. The book is also used at Grant MacEwan College.)

Co-Edited Books

1. *Data Mining in Bioinformatics* J. T. L. Wang, M. J. Zaki, H. T. T. Toivonen and D. Shasha (eds.), 350 pages, Springer-Verlag, ISBN: 1-85233-671-4, August 2005.

2. *Pattern Discovery in Biomolecular Data: Tools, Techniques, and Applications* Jason Wang, Bruce Shapiro, and Dennis Shasha (Eds.) Oxford University Press, November, 1999.

Patents

1. "Conditional Transition Networks and Computational Processes for Use in Interactive Computer-based Systems" Dennis Shasha, March 2, 1998 US 5,809,212.

2. "Method and apparatus for optimizing and structuring data by designing a cube forest data structure for hierarchically split cube forest template" Theodore Johnson and Dennis Shasha, October 31, 2000, US 6,141,655.

3. "Concurrent Reconciliation of an Update Stream with Database Reassignment of Scheduling Databases" Peter Koppstein, Benjamin Park and Dennis Shasha, November, 2000, US 6,138,118.

4. "Fault Tolerant Storage System" Ted Johnson and Dennis Shasha April, 2001, US 6,219,800.

5. "Method and Apparatus for loading Data into a Cube Forest Data Structure" Ted Johnson and Dennis Shasha U.S. Patent 6,334,125 December 25, 2001

6. "Method and Apparatus for Querying a Cube Forest Data Structure" Ted Johnson and Dennis Shasha U.S. Patent 6,424,967 July 23, 2002

7. "Methods and Apparatus for Protecting Information" Michael Rabin and Dennis Shasha U.S. Patent 6,697,948 February 24, 2004 (29 references)

8. "Methods And Apparatus For Protecting Information" Michael O. Rabin, Dennis E. Shasha Australia, Patent 767286 19 February 2004

9. "Methods And Apparatus For Protecting Information" Michael O. Rabin, Dennis E. Shasha New Zealand Patent 515938 November 11, 2004

10. "Methods And Apparatus For Protecting Information" Michael O. Rabin, Dennis E. Shasha Mexico Patent 224912 December 13, 2004

11. "Method and Apparatus for Protecting Information and Privacy" Michael Rabin and Dennis Shasha U.S. Patent 6,889,209 May 3, 2005. (7 references)

12. "Method and Apparatus for Protecting Information" Michael Rabin and Dennis Shasha U.S. Patent 7,073,197 July 4, 2006.

13. "Method and Apparatus for Protecting Information" Michael Rabin and Dennis Shasha U.S. Patent 7,131,144 October 31, 2006.

14. "Detection and Identification Methods for Software" Michael O. Rabin, Dennis E. Shasha, Carleton J. Bosley, Ramon Caceres, Aaron Ingram, Timir Karia, David Molnar and Yossi Beinart U.S. Patent 7,287,159 October 23, 2007.

15. "Method and apparatus for protecting information and privacy" Michael Rabin and Dennis Shasha U.S. Patent 7,406,593 July 29, 2008

16. "System and process of determining a biological pathway based on a treatment of a biological specimen" Peter Palenchar, Dennis Shasha, Michael Chou, Marc Rejali, Yair Dorsett, Andrei Kouranov, Gloria Coruzzi U.S. Patent 7,739,053 June 15, 2010

17. "Method and Apparatus for Protecting Information and Privacy" Michael Rabin and Dennis Shasha U.S. Patent 7,747,873 June 29, 2010

18. "System and Method for Representing the Interactions between Multiple Inputs and At Least One Output" Dennis Shasha, Rodrigo Gutierrez, W. Bradford Paley, Christopher Poultney, and Gloria Coruzzi U.S. Patent 7,805,703 September 28, 2010

19. "Method and Apparatus for Protecting Information and Privacy" Michael Rabin and Dennis Shasha U.S. Patent 7,991,995 August 2, 2011.

20. "Method and Apparatus for Protecting Information and Privacy" Michael Rabin and Dennis Shasha U.S. Patent 8,327,453 December 4, 2012

21. "Database outsourcing with access privacy" Dennis Shasha, Peter Williams, and Radu Sion U.S. Patent 8,458,451 June 4, 2013

22. "Methods and systems for multi-dimensional motion" Dennis Shasha and Mike Whittaker, U.S. Patent 13/155,448 Patent number 8689698, April 8, 2014

23. "Methods and systems for multi-dimensional motion" Dennis Shasha and Mike Whittaker, U.S. Patent number 8931417 Jan 13, 2015

24. "Computer System, Client Device and Method" Dennis Shasha and Arthur Meacham, U.S. Patent Number 9171271 Oct. 27, 2015

25. "Corrupting data structures for privacy protection" Dennis Shasha US Patent 9,507,734 November 29, 2016

26. "Secure Transactions Using Alphacodes" Lakshminarayanan Subramanian, Ashlesh Sharma, Dennis Shasha U.S. Patent No. 9,680,806 on June 13, 2017

27. "System and method for mitigating frequency offsets in wireless systems" Aditya Dhananjay, Sundeep Rangan, Dennis Shasha U.S. Patent No 9,912,510 on March 6, 2018

28. "System, method and computer-accessible medium for simulation and emulation of wireless cluster and/or tapped delay line models" Aditya Dhananjay, Sundeep Rangan, Dennis Shasha US10841026B2, 2020-11-17

29. "System, Method And Computer-accessible Medium For Power Measurement For MmWave Cellular System" Marco Mezzavilla, Aditya Dhananjay, Dennis Shasha, Sundeep Rangan U.S. Patent No US 11452031 on Sept 20, 2022.

30. "System and Method for Emulation of Wireless Channels and Multi-antenna Transmit and Receive Circuits" Aditya Dhananjay, Sundeep Rangan, Dennis Shasha U.S. Patent US201562260077

31. "System, method and computer-accessible medium for predicting wireless signal degradation " Dennis Shasha, Aditya Dhananjay, Marco Mezzavilla, Sundeep Rangan US11523399B2, 12/6/2022

32. "System and method for emulation of wireless channels and multi-antenna transmit and receive circuits" Aditya Dhananjay, Sundeep Rangan, Dennis Shasha US-11641222-B2, 5/2/2023

33. "Secure, Energy-efficient Public Blockchain" Dennis Shasha US 11,689,372 B2, June 27, 2023

34. "Switched analog-digital architecture for wireless antenna arrays and methods for use thereof" Sundeep RanganTheodore S. RappaportDennis Shasha US 12,238,645, February 25, 2025

Co-Edited Conference Proceeding

1. Catriel Beeri, Atsushi Ohori and Dennis E. Shasha (Eds.) *Database Programming Languages (DBPL-4) Proceedings of the Fourth International Workshop on Database Programming Languages - Object Models and Lanaguages,* Manhattan, New York City, USA, 30 August - 1 September 1993 ISBN: 3-540-19853-9 / Springer-Verlag Workshops in Computing Series Feb. 94.

Invited Book Chapters

1. Distributed Algorithms to Find Similar Time Series "Oleksandra Levchenko, Boyan Kolev, Djamel-Edine Yagoubi, Dennis Shasha, Themis Palpanas, Patrick Valduriez, Reza Akbarinia, Florent Masseglia" in *Machine Learning and Knowledge Discovery in Databases* Lecture Notes in Computer Science, volume 11908. April 30, 2020.

2. "gLabTrie: A Data Structure for Motif Discovery with Constraints" Misael Mongiov, Giovanni Micale, Alfredo Ferro, Rosalba Giugno, Alfredo Pulvirenti, Dennis Shasha in *Graph Data Management* 71-95 Publisher: Springer 2018

3. Short chapters in the Encyclopedia of Database Systems "Tuning Concurrency Control", "Schema Tuning", "Physical Layer Tuning", "Index Tuning", "Administration Wizards", "Performance Monitoring Tools", "Benchmark Frameworks", "Data Generation", "Database Benchmarks", "Tuning Concurrency Control", "Transaction Chopping". Philippe Bonnet and Dennis Shasha

4. "Fast Methods for Statistical Arbitrage" Eleftherios Soulas and Dennis Shasha pp. 473-497 in *Data Stream Management: Processing High-Speed Data Streams* eds: Minos Garofalakis, Johannes Gehrke, Rajeev Rastogi Springer, Jul 11, 2016, 576 pages ISBN 978-3-540-28608-0

5. gLabTrie: a data structure for motif discovery with constraints Misael Mongiovi, Giovanni Micale, Alfredo Ferro, Rosalba Giugno, Alfredo Pulvirenti and Dennis Shasha in Advances in Graph Data Management, Springer Verlag, eds: Fletcher, Hidders, Larriba-Pey 2016

6. "Visualizing the Outcomes of N Experiments on M Entities: an aid to insight" Chris Poultney and Dennis Shasha in *Plant Systems Biology* Gloria Coruzzi and Rodrigo Gutierrez (eds) Blackwell Publishing Ltd 12 pages.

7. Cinzia Di Pietro, Alfredo Ferro, Giuseppe Pigola, Alfredo Pulvirenti, Michele Purrello, Marco Ragusa, Dennis Shasha AntiClustAl: Multiple sequence alignment by antipole clustering Data Mining in Bioinformatics 2005: pp. 43-57.

8. "Tuning Database Design for High Performance" Dennis Shasha and Philippe Bonnet, in *CRC Handbook of Computer Science and Engineering* 2004 Allen Tucker (ed.) in press

9. "Scheduling Overloaded Real-Time Systems with Competitive/Worst Case Guarantees" Gilad Koren and Dennis Shasha in *Handbook of Scheduling: Algorithms, Models, and Performance Analysis* Joseph Y-T Leung, Chapman Hall/CRC, publishers.

10. "Approximate Tree Pattern Matching" Dennis Shasha and Kaizhong Zhang, in *Pattern Matching in Strings, Trees, and Arrays* A. Apostolico and Z. Galil (eds.) pp. 341-371. Oxford University Press, 1997. ISBN 0-19-511367-5

11. "Tuning Database Design for High Performance" Dennis Shasha, in *CRC Handbook of Computer Science and Engineering* 1997, ISBN 0-8493-2909-4 Allen Tucker (ed.) pp 995 - 1011

Web Publications

1. "FinTime, a financial time series benchmark," http://cs.nyu.edu/cs/faculty/shasha/fintime.html Kaiippallimalil J. Jacob and Dennis Shasha April, 1999.

Invited Talks

1. April 23, 2025 "Heuristic energy-based cyclic peptide design" Institut National de Recherche en Agronomie et Ecologie, Montpellier

2. February 26, 2025 "DietNerd: A Nutrition Question-Answering System That Summarizes and Evaluates Peer-Reviewed Scientific Articles" University of Verona, Italy.

3. February 13, 2025 "DietNerd: A Nutrition Question-Answering System That Summarizes and Evaluates Peer-Reviewed Scientific Articles" University of Catania, Italy.

4. January 10, 2025 "Bipartite networks represent causality better than simple networks: evidence, algorithms, and applications" Universidad de Buenos Aires

5. December 16, 2024 "DietNerd: A Nutrition Question-Answering System That Summarizes and Evaluates Peer-Reviewed Scientific Articles" Workshop Instituto de Inteligencia Artificial, LNCC Petropolis Brazil

6. December 4, 2024. "AI-Aided Advisors: Design and Validation" MorrocoAI Annual Conference 2024 (Keynote by zoom)

7. June 10, 2024 Bipartite networks represent causality better than simple networks: evidence, algorithms, and applications IMAG (Institut Montpellirain Alexander Grothendiec), Montpellier France

8. May 31, 2024 Jup2Kub – a system to convert a Jupyter Notebook to a distributed fault tolerant reproducible workflow INRIA, Montpellier France

9. April 15, 2024 SafePredict University of Bolzano, Italy

10. APril 4, 2024 Bounce Blockchain University of Padua, Italy

11. March 19, 2024 SafePredict University of Verona, Italy

12. March 12, 2024 Statistics is Easy: case studies on scientific datasets University of Catania, Italy

13. May 8, 2023 Bounce Blockchain University of Friborg, Switzerland

14. March 21, 22 2023 Statistics is Easy: case studies on scientific datasets University of Verona (4 hour lecture over two days)

15. September 30, 2021 SafePredict and Friends Stanford Machine Learning Systems Seminar (MLSys) https://www.youtube.com/watch?v=W2q-8MiW8no

16. December 5, 2020 SafePredict: Reducing Errors by Refusing to Predict (Occasionally) IIT Delhi, KnowDis Machine Learning Day conference

17. November 12, 2019 The Puzzling Tango Between Life Sciences and Algorithms Second day keynote address, AI for Health conference, New York City

18. May 27, 2019 Bounce Blockchain INRIA Montpellier.

19. August 26, 2018 SafePredict: Reducing Errors by Refusing to Predict (Occasionally) 33rd BRAZILIAN SYMPOSIUM ON DATABASES (SBBD 2018)

20. Feb 6, 2018 SafePredict: Reducing Errors by Refusing to Predict (Occasionally) first speaker in the seminar series on Machine Learning and Data Science Icahn Institute for Genomics and Multiscale Biology

21. January 22, 2018 The Changing Nature of Invention in Computer Science. University of Nicosia, Cyprus.

22. June 30, 2017 Version Climber: a reproducibility-based approach for upgrading complex software INESC, Lisbon, Portugal

23. June 1, 2017 Reducing Errors by Refusing to Guess (Occasionally) INRIA, Montpellier France

24. April 7, 2017 Reducing Errors by Refusing to Guess (Occasionally) University of California at Los Angeles

25. February 9, 2017 Reducing Errors by Refusing to Guess (Occasionally) INGEBI-CONICET Buenos Aires (1428) Argentina

26. January 23, 2017 Reducing Errors by Refusing to Guess (Occasionally) Technion, Israel

27. January 23, 2017 The Changing Nature of Invention in Computer Science Technion, Israel

28. January 22, 2017 Reducing Errors by Refusing to Guess (Occasionally) University of Tel Aviv, Israel

29. October 19, 2016 Banquet Talk – logical puzzles with a deck of cards ICLP16 – 32nd International Conference on Logic Programming

30. July 14, 2016 " Fast Analytical Methods for Finding Significant Colored Graph Motifs" 2nd International ScaDS Summer School on Big Data Leipzig Germany

31. June 8, 2016 "Fast data analytics for time series and other ordered data" BDA MDD 2016 (Masses de Donnees Distribuees) Urrugne, France.

32. October 12, 2015 Liquid Version Climber: a reproducibility-based approach for upgrading complex software ATT Labs, New York City.

33. September 1 and 2, 2015: Graph Motifs: query and discovery EDBT Summer School 2015, Palamos, Spain.

34. May 19, 2015: Computational Reproducibility: why needed, first tools, open problems DigiCosme, Ensta Tech, Paris, France

35. April 2, 2015: The Changing Nature of Invention in Computer Science. INRIA Sophia Antipolis

36. April 1, 2015: Network Inference from CRISPR-like Experiments INRIA Sophia Antipolis

37. March 6, 2015: Statistics is Easy, INRIA Montpellier.

38. September 2014: The Changing Nature of Invention in Computer Science. ¡a href=https://www.youtube.com/watch?list=PLn0nrSd4xjjZa4KDqFBCMOnk52CItWqyU&v=8dkZC ACM Webinar. ¡/a¿

39. "Fast Methods for Finding Patterns in Time Series" Microsoft Research, New York July 15, 2014.

40. "Statistics is Easy" Microsoft Research, New York July 15, 2014.

41. "The Changing Nature of Invention in Computer Science" Bloomberg, New York February 26, 2014

42. "The Changing Nature of Invention in Computer Science" Masdar research institute, Abu Dhabi, January 14, 2014

43. "Fast Methods for Finding Patterns in Time Series" Big Data in Finance May 3, 2013

44. "Stored Clocked DNA Computing" University of Southern California March 13, 2013

45. "Stored Clocked DNA Computing" INRIA Sophia-Antipolis Janauary 28, 2013

46. "Changing Nature of Invention in Computer Science" UC Santa Barbara April 9, 2012

47. "Stored Clocked DNA Computing" IBM Research September 28, 2011

48. "Stored Clocked DNA Computing" Carnegie Mellon University September 16, 2011

49. "Natural Computing" ATT Tech Talk, April 2011 http://techchannel.att.com/

50. "Digital Rights Management" ATT Tech Talk, April 2011 http://techchannel.att.com/

51. " Data Quality is Bad? Deal With It" DIMACS/CCICADA Workshop on Data Quality Metrics February 4, 2011.

52. "Linguistic Explorer: a tool for cross-linguistic research" Middlebury College, October 22, 2010

53. "Secure Data Outsourcing" BBI Colloquium in Berlin, Technische Universitat, May 29, 2009.

54. "Secure Data Outsourcing" Telcordia, January 29, 2009.

55. "DNA Hash Pooling and its Applications" Program in Integrative Information, Computer and Application Sciences. Princeton University. April 14, 2008.

56. "Dealing with Scale in Visualization and Machine Learning" Bringing Plant and Computing Scientists Together to Solve Plant Biology's Grand Challenges 2008. Cold Spring Harbor Lab. April 7, 2008.

57. "Biocomputational Puzzles: data, algorithms, and visualizations" Extending Database Technology, 2008, p. 2. Nantes, France. March 27, 2008.

58. "StrangerDB: database management with an untrusted server" Universite Pierre et Marie Curie, Paris. May 23, 2007.

59. "The Nature of Invention in Computer Science: a collaborative reflection based on the book *Out of their Minds*" Humboldt University, Berlin. May 7, 2007.

60. "Upstart Puzzles" Distinguished lecture series. Max Planck Institut fuer Informatik, Saarbruecken, Germany April 25, 2007.

61. "The Nature of Invention in Computer Science: a collaborative reflection based on the book *Out of their Minds*" American University of Paris, France, April 23, 2007.

62. "Biocomputational Puzzles" University of Montpellier, France February 1, 2007.

63. "StrangerDB: database management with an untrusted server" Conference on Management of Data (COMAD) keynote, Delhi, India, December 15, 2006

64. "The Nature of Invention in Computer Science: a collaborative reflection based on the book *Out of their Minds*" French Ministry of Research, Paris, France, November 29, 2006.

65. "Biocomputational Puzzles" Ecole Polytechnique de Lausanne, Switzerland, November 11, 2006.

66. "Fast Calculations of Simple Primitives in Time Series" Universite Marne la Vallee, France, November 7, 2006.

67. "Upstart Puzzles" American University of Paris, France, November 7, 2006.

68. "StrangerDB: database management with an untrusted server" Utrecht, the Netherlands. September 18, 2006

69. "The Nature of Invention in Computer Science: a collaborative reflection based on the book *Out of their Minds*" Utrecht, the Netherlands. September 18, 2006

70. "StrangerDB: database management with an untrusted server" DB/IR conference. Rutgers New Jersey, April 29 2006

71. "Biocomputational Puzzles" IBM corporation, September 30, 2005.

72. "Biocomputational Puzzles" Xerox corporation, July 28, 2005, distinguished lecture series.

73. "Incremental Methods for Simple Problems in Time Series: algorithms and experiments" Xiaojian Zhao, Xin Zhang, Tyler Neylon, and Dennis Shasha International Database Engineering and Applications Symposium, July 2005, Montreal Canada July 25, 2005.

74. "Privacy-preserving Piracy Prevention", Fifth Haifa Worokshop on Interdisciplinary Applications of Graph Theory, Combinatorics and Algorithms, May 16, 2005

75. "Biocomputational Puzzles" Sloan Kettering (Chris Sander group) May 12, 2005

76. "Privacy-preserving Piracy prevention" Massachusetts Institute of Technology March 14, 2005

77. "Upstart Puzzles" University of Waterloo, Canada. January 18, 2005

78. "Privacy-preserving Piracy prevention" University of Waterloo, Canada. January 17, 2005

79. "The Graph of Life" American Museum of Natural History, New York, USA January 14, 2005

80. "Upstart Puzzles" City University of New YOrk May 13, 2004.

81. "Upstart Puzzles" Distinguished Speaker Seminar Series - Dennis Shasha New Jersey Institute of Technology. February 25, 2004.

82. "Upstart Puzzles" Canadian Mathematical Society, June 15, 2003. Plenary speaker.

83. "Tools for Time Course Data", New York Academy of Sciences, May 21, 2003

84. "Aquery: a database system for order" Stanford University, January 10, 2003

85. "Building a Database for Order" New England Database Symposium, Brandeis, April 12, 2002.

86. "Mathematical Insight, Science, and Finance" Penn State, February 28, 2002

87. "Graphs, Puzzles, and Graph Generators" DIMACS, November 16, 2001.

88. "Activist Data Mining (as applied to Carbon:Nitrogen sensing in plants)" DIMACS Summer School on New Frontiers in Data Mining August 17, 2001. Rutgers New Jersey.

89. "Figuring Out Transcription Factor Networks" IBM Yorktown Research, April 26, 2000. Laxmi Parida, host.

90. "Approximate Graph Matching: approaches and a tool" University of Pennsylvania. April 13, 2000. Peter Buneman, host.

91. "Figuring Out Transcription Factor Networks" Rockefeller University, April 4, 2000. Eric Siggia, host.

92. 5 talks at the University of Catania June 17 and 18, 1999:
    i) Data Mining and Tree Matching
    ii) An attribute management system
    iii) Time Series in Finance.
    iv) Advanced Database Tuning and Configuration
    v) Upstart Puzzles

93. Time Series in Finance
    Dennis Shasha
    ENST Bretagne, France
    invited by: Philippe Picouet

94. Time Series in Finance
Dennis Shasha Summer School in Extending Database Technology, May 20, 1999, La Baule, France.

95. An Attribute Management System
Dennis Shasha Humboldt University, Berlin, Germany April 30, 1999. (invited by Professor Oliver Guenther)

96. A System for Exploration Management
Dennis Shasha University of Aachen, April 8, 1999. (invited by Professor Matthias Jarke)

97. A System for Exploration Management
Dennis Shasha University of Rome, La Sapienza March 4, 1999. (invited by Professor Maurizio Lenzerini)

98. A System for Exploration Management
Dennis Shasha ETH, Zurich Switzerland February 22, 1999. (invited by Professor Hans-Joerg Schek)

99. A System for Exploration Management
Dennis Shasha University of Saarbruecken, Germany February 19, 1999. (invited by Professor Gerhard Weikum)

100. A System for Exploration Management
Dennis Shasha University of Muenster, Germany December 9, 1998. (invited by Professor Gottfried Vossen)

101. "Time Series in Finance: the array database approach" Dennis Shasha VLDB Conference, August, 1998.

102. New York's Top Software Researchers
Top Researchers from NYU
Wednesday, March 11, 1998
153 E. 53rd St., NY, NY "Thinksheet: a Spreadsheet for Complex Thinking" Dennis Shasha sponsored by the New York Software Industry Association.

103. "Free Parallel Data Mining" ACM Sigmod 1998, Bin Li and Dennis Shasha.

104. "Lessons from Wall Street: case studies in database tuning, configuration, and replication" Dennis Shasha ACM Sigmod 1997, pp. 498-501.

105. "Structural Matching and Discovery in Document Databases" ACM SIGMOD 1997, demonstration. J. T. L. Wang, Dennis Shasha, G. J. S. Chang, L. Relihan and K. Zhang, *Proceedings of the ACM SIGMOD International Conference on Management of Data*, Tucson, Arizona, May 1997, pp. 560-563.

106. "Finding Patterns in Scientific Databases" Dennis Shasha National Science Foundation, Arlington, Virginia. April, 1997.

107. "High Volume Transaction Processing
Without Concurrency Control, Two Phase Commit, SQL or C++" Dennis Shasha University of Texas at Austin, February 1997.

108. "High Volume Transaction Processing
Without Concurrency Control, Two Phase Commit, SQL or C++" Dennis Shasha Bell Communications Research September 19, 1996

109. "Thinksheet: a tool for tailoring complex documents" ACM SIGMOD 1996, June, 1996, demonstration (Peter Piatko, Roman Yangarber, Daoi Lin, Dennis Shasha)

110. "Hierarchically Split Cube Forests for Decision Support: Description and Tuned Design" Dennis Shasha February 21, 1996, Northeastern University

111. "Thinksheet: a system to help readers and writers of complex documents" Dennis Shasha Bell Communications Research, Morristown New Jersey, October 19, 1995.

112. "Thinksheet: a system to help readers and writers of complex documents" Dennis Shasha Inria, Rocquencourt, France. July 15, 1995.

113. "Pattern Matching and Pattern Discovery in Scientific, Program, and Document Databases" T-L. Wang, K. Zhang and Dennis Shasha at ACM Sigmod 95.

114. "Database Tuning: principles and surprises" Dennis Shasha New York Academy of Sciences (Computer Science section), October, 1994.

115. "Upstart Puzzles" Dennis Shasha New York Academy of Sciences (math section), March, 1993.

116. "Database Tuning: a principled approach" Dennis Shasha ACM SIGMOD conference, June, 1992.

117. "Database Tuning: a principled approach" Dennis Shasha Very Large Database Systems Conference, June, 1992.

118. "D-Over: an optimal algorithm for overloaded real-time systems" Dennis Shasha Institut Nationale de Recherche en Informatique et en Automatique, France, January, 1992.

119. "D-Over: an optimal algorithm for overloaded real-time systems" Dennis Shasha University of Paris, 6, April, 1992.

120. "Promises Versus Assumptions in Database Fault Tolerance," Dennis Shasha and J. Turek *VIIemes Journees Bases de Donnees Avancees* 25-27 Septembre 1991, pp. 349-366.

121. "PLinda: Linda + Transactions + Query Processing + Fault Tolerance" Dennis Shasha ETH, Zurich (December 3, 1991) and Aachen, West Germany (October 7, 1991)

122. "Wait-Free Serializability and Recoverability" Dennis Shasha IBM T. J. Watson Research Laboratories December 19, 1990

123. "Towards a Theory of Hypermedia" Dennis Shasha IBM T. J. Watson Research Laboratories February 16, 1990

124. "A Toolkit for Finding the Editing Distance between Trees" Dennis Shasha IBM T. J. Watson Research Laboratories February 16, 1990

Service

Administrative Positions Within NYU

Director of Graduate Studies in Computer Science, 1999-2005
Director of the Masters in Information Systems, 1997-1998

Editorship

1. Co-editor-in-chief of *Information Systems*, a journal published by Elsevier North-Holland. (with Professors Matthias Weidlich and Stefanie Rinderle-Ma) 1993-present

2. Puzzle Columnist, Communications of the ACM, 2015-present

Reviewing Service

1. Sigmod 2025, Best reproducibility paper chair

2. Journals: Knowledge and Information Systems (Springer),

3. China-Israel Science Foundation reviewer

4. Sigmod 2023, best reproducibility paper chair

5. Sigmod 2022, best reproducibility paper chair

6. ICDE 2022, best paper award committee chair

7. Sigmod 2021, best paper award committee chair

8. EDBT 2021, reviewer for industrial track

9. Transactions on Knowledge Discovery from Data, reviewer May 2019
10. Member of best paper awards committee, ACM SIGMOD 2019.
11. Springer Nature BMC Bioinformatics Reviewer, April 2019
12. Chair of best paper awards committee, 35th IEEE International Conference on Data Engineering (ICDE 2019)
13. Austrian Science Fund July 2018
14. US National Science Foundation Large Panel, November 2017
15. Reviewer for Data Analysis and Machine Intelligence, November 2017
16. Reviewer for Habilitation Diriger des Recherches of the Universit de Montpellier for Dr. Dino Ienco, July, 2016.
17. International Conference on Scientific and Statistical Database Management, Program Committee member 2016.
18. Vienna Science and Technology Fund, reviewer May 2015
19. Bases de Donnees Avancees 2015, program committee member.
20. ACM Sigmod 2015, program committee member.
21. ACM Sigmod 2014, program committee member.
22. Extended Database Technology (EDBT) 2014 Program committee member.
23. Proceedings of the National Academy of Science, 2013
24. NSF Large Project Proposals, panel 2012
25. KDD 2011 (Knowledge and Data Discovery), program committee
26. Transactions on Knowledge Discovery in Data, 2010
27. VLDB program committee, 2010
28. NSF Large Project Proposals, panel 2010
29. Combinatorial Pattern Recognition, 2010, program committee
30. NSF reviewer, 2009
31. ACM SIGMOD 2008, program chair
32. Genome Research, reviewer

33. VLDB 2007, tutorial co-chair
34. ACM SIGMOD 2007, program committee.
35. Second International Workshop on Self-Managing Database Systems (2007), program committee.
36. ICDE 2007 (23rd International Conference on Data Engineering), program committee.
37. NSF Panel May 10-12 2006 for Arabidopsis 2010 grants (plant biology).
38. KDD 2006 (Knowledge and Data Discovery), program committee
39. ICDM 2005 (International Conference on Data Mining), program committee member
40. VLDB 2005 program committee.
41. VLDB 2004 (Very Large Databases), program committee member.
42. NASA Intelligent Systems reviewer, May 2004.
43. National Science Foundation panel, medium ITR grants. May 19,20 2003.
44. Workshop on Bioinformatics 2003, program committee member.
45. Best paper award committee, 2002 ACM SIGKDD 2002 (Knowledge Discovery and Data Mining)
46. member of program committee, Extending Database Technology, 2002.
47. member of program committee, Scientific Data Management, 2002.
48. member of program committee, KDD 2001, (Knowledge and Data Discovery)
49. member of program committee, COMAD 2000
50. member of program committee, SSDBM2000 (Scientific and Statistical Database Management)
51. member of program committee, VLDB 2000 (Very Large Database Conference)
52. tutorial chair, ACM SIGMOD 99.
53. member of program committee, BDA'98 (French Database Conference).
54. member of program committee, 10th Conference on Scientific and Statistical databases, 1998

55. co-chair of the industrial committee, Very Large Data Base Conference, 1998.

56. member of program committee, Combinatorial Pattern Recognition, 1996.

57. member of program committee, ACM Sigmod 1996.

58. member of program committee, Very Large Data Base Conference 1995.

59. member of program committee, IEEE Real-time Systems Symposium, 1995

60. panel chair, ACM SIGMOD 1995.

61. member of program committee, ACM Principles of Database Systems, 1994.

62. member of program committee, EDBT (extending database technology conference) 1994.

63. Co-chair of program committee, Database Programming Language Workshop, August, 1993.

64. Member of program committee, ACM Sigmod Conference program committee, May, 1993.

65. Member of program committee, 2nd International Symposium on Databases in Parallel and Distributed Systems 1990

66. Member of program committee, Very Large Data Base Conference 1991.

Journal Reviews:

1. IEEE Computational Biology and Bioinformatics 2008.

2. Genome Research, 2003

3. Plant Cell 2003.

4. ACM Trans on Computer Systems, 2003.

5. ACM Crossroads, 2002, in interdisciplinary computer science.

6. National Science Foundation Panel: 1993.

7. National Science Foundation Panel: 1995.

8. Europhysics Letters

9. Articles reviewed for Journal of the ACM,
   ACM Transactions on Database Systems,
   ACM Transactions on Office Information Systems,
   IEEE Journal on Selected Areas in Communications,
   Real Time Systems Journal,
   IEEE Computer,
   IEEE Transactions on Software Engineering,
   IEEE Transactions on Computer,
   IEEE Transactions on Knowledge and Data Engineering (most recent 2009)
   ACM Computing Surveys
   Siam Journal on Computing
   Acta Informatica,
   Journal of Parallel and Distributed Computing,
   Journal of Man-Machine Studies,
   Letters on Programming Languages and Systems,
   Journal of Algorithms,
   VLDB Journal,
   Algorithmica.

10. Proposals reviewed for National Science Foundation.

11. Proposal reviewed for the French minister of research (1992) and Centre National de Recherche Scientifique (1993).

12. Proposal reviewed for Australian Research Council. (1994).

13. Proposals reviewed for the Israel Science Foundation (1998).

14. Books reviewed for Academic Press, Addison Wesley, Prentice Hall, Morgan Kaufmann, Birkhauser.

15. External appraiser for Univ. of Toronto and Rutgers.

Research Funding

1. Conceptual Data Integration for the Virtual Plant PI: Gloria Coruzzi (FAS-Bio)/Dennis Shasha 6/1/2005 - 5/31/2008 Award number DBI-0445666

2. Genomics of Comparative Seed Evolution Gloria Coruzzi/Dennis Shasha 10/1/2004 - 9/30/2009 Award Number: DBI-0421604

3. High-throughput functional analysis of differentiation network genes Kenneth Birnbaum (FAS-Bio)/Dennis Shasha 9/1/05 - 8/31/09 Award Number: DBI-0519984

4. Primitives for Online Time Series Analysis Dennis Shasha, PI IIS-0414763

5. Arabidopsis 2010: Genomics Approaches to Finding Transcriptional Networks Philip Benfey, PI MCB-0209754

6. Cold Spring Harbor/NYU/NYBG Genomics Consortium 2001-2004. Support for one graduate student.

7. N2010: Nitrogen Networks in Plants National Science Foundation : 2001-2005. Collaborators: Dan Bush, Nigel Crawford and Gloria Coruzzi, UIUC, UCSD and NYU. NSF Award Number: 0115586

8. *ASES: an approximate search engine for structure* 2000-2003. National Science Foundation. Award number: 9988345. Approximately, $282,440 over three years.

9. Grant: 1F32 GM20716-01 *Research Fellowship Award, Department of Health and Human Services, National Institutes of Health. For project entitled: "Using Computers to Analyze Transcription Factor Networks"* Duration: 3 years Activation date: July 1, 2000. Support for Dr. Ken Birnbaum in our joint project. ($100,848 over three years)

10. IRI 97-11374, Isolation Testing, 3-yr grant from 9/1/97 to 8/31/00. (www.cs.umb.edu/ isotest) PI: Pat and Betty O'Neil 1/2 month per year consultant.

11. *"Pattern Discovery in Combinatorial Databases: Algorithms, Applications, and Software for the Scientific Community.*, 1996-1999. IRI-9531554, approximately $135,000 per year.

12. *Discovering Motifs in Scientific Databases*, principal investigator, 1993-1995, National Science Foundation IRI-9224601.

13. *The Design and Implementation of Griffin*, Co-principal investigator (with R. Dewar, B. Goldberg, M. Harrison, and E. Schonberg), 1989–1993, Office of Naval Research.

14. *Robust Parallel Computation*, Co-principal investigator (with Z. Kedem), 1991-1992, National Science Foundation.

15. *Performance of Concurrent Data Structure Algorithms*, Principal Investigator, 1989-1991, National Science Foundation.

16. *Research on Semantically-based Concurrency Control for Data Structures*, Principal Investigator, 1985-1988, National Science Foundation.

Who's Who Entries

1. International Authors and Writers Who's Who, fifteenth edition.

Personal Data

1. Born 1955, male, married (wife is artist), two children. All are U.S. citizens, U.S. born.

2. Foreign Languages: French (nearly fluent), German (newspaper-level reading knowledge, conversant), and Spanish (newspaper-level reading knowledge).