Minos N. Garofalakis

Professor, School of ECE, Technical University of Crete
ACM Fellow (2018); IEEE Fellow (2017); Member, Academia Europaea (2023)

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Education

AUGUST '98	: *Ph.D. (Computer Sciences)*, University of Wisconsin–Madison. (Minor: Math & Statistics) Thesis Title: "Query Scheduling and Optimization in Parallel and Multimedia Databases" Advisor: Professor Yannis E. Ioannidis
DECEMBER '94	: *M.Sc. (Computer Sciences)*, University of Wisconsin–Madison.
AUG'92 - AUG'93	: *Postgraduate Fellow*, Department of Computer Engineering and Informatics, University of Patras, Greece.
JUNE '92	: *B.Eng. (Computer Engineering and Informatics)*, University of Patras, Greece (5 year curriculum). GPA: 9.21/10 *(Ranked FIRST – School of Engineering Valedictorian)* Thesis Title: "Automatic Verification of Concurrent Systems" Advisor: Professor Paul G. Spirakis

Work Experience

- TECHNICAL UNIVERSITY OF CRETE, SCHOOL OF ECE, CHANIA, GREECE   9/2008 – PRESENT
  TITLE: PROFESSOR, COMPUTER SCIENCE DIVISION & DIRECTOR, SOFTWARE TECHNOLOGY AND NETWORK APPLICATIONS LABORATORY (SOFTNET) *(as of 2/2009)*

  - *Chair*, Department of ECE, Technical Univ. of Crete (9/2011 - 9/2013)
  - *Member, Board of Directors*, TUC Property Management & Exploitation Company (4/2009 - 9/2015)

- HUAWEI INSTITUTE FOR STRATEGIC RESEARCH (ISR) AND BOOLE RESEARCH CENTRE (BRC), EDINBURGH, UK   6/2023 – PRESENT
  TITLE: SENIOR RESEARCH CONSULTANT, DATA ANALYTICS

- AGORA LABS, CAMBRIDGE, MA   3/2022 – PRESENT
  TITLE: CO-FOUNDER & DIRECTOR OF RESEARCH

- ATHENA RESEARCH AND INNOVATION CENTER, ATHENS, GREECE   6/2017 – 12/2025
  TITLE: DIRECTOR, INFORMATION MANAGEMENT SYSTEMS INSTITUTE (IMSI)

  - *Acting President and General Director*, ATHENA Research and Innovation Center (7/2025 - 12/2025)
  - *Executive Board Vice-President*, ATHENA Research and Innovation Center (9/2023 - 12/2025)
  - *Executive Board Member*, ATHENA Research and Innovation Center (6/2017 - 12/2025)

- *Steering Committee Member*, OPIX (a Technopolis Group/ATHENA RC spinoff), Athens, Greece (2/2021 - 9/2022)
- *Member*, Sectorial Scientific Council on Information and Communication Technologies & Mathematics, National Council for Research and Innovation (4/2018 - 10/2019)

- AMAZON WEB SERVICES (AWS), SEATTLE, WA   2/2022 – 2/2023
  TITLE: CONSULTING SENIOR PRINCIPAL SCIENTIST, DBS REDSHIFT

- LYNKEUS S.R.L., ROME, ITALY   8/2020 – 3/2022
  TITLE: CONSULTANT, PRIVATE DATA ANALYTICS

- INFORMATION SOCIETY, S.A., ATHENS, GREECE   11/2012 – 5/2015
  TITLE: MEMBER, BOARD OF DIRECTORS

- YAHOO! RESEARCH, SANTA CLARA, CA   2/2007 – 9/2008
  TITLE: PRINCIPAL RESEARCH SCIENTIST, COMMUNITY SYSTEMS GROUP

- UNIV. OF CALIFORNIA, BERKELEY, EECS DEPARTMENT, BERKELEY, CA   7/2006 – 9/2008
  TITLE: ADJUNCT ASSOCIATE PROFESSOR OF COMPUTER SCIENCE

- INTEL RESEARCH BERKELEY, BERKELEY, CA   7/2005 – 2/2007
  TITLE: SENIOR RESEARCH SCIENTIST

- BELL LABS, LUCENT TECHNOLOGIES, MURRAY HILL, NJ   9/98 – 7/2005
  TITLE: MEMBER OF TECHNICAL STAFF, INTERNET MANAGEMENT RESEARCH DEPARTMENT

- UNIVERSITY OF WISCONSIN, COMPUTER SCIENCES DEPARTMENT, MADISON, WI   6/94 – 8/98
  TITLE: RESEARCH ASSISTANT

- BELL LABS, LUCENT TECHNOLOGIES, MURRAY HILL, NJ   9/97 – 3/98
  TITLE: CONSULTANT, INFORMATION SCIENCES RESEARCH CENTER

- BELL LABS, LUCENT TECHNOLOGIES, MURRAY HILL, NJ   7/96 – 11/96
  TITLE: SUMMER INTERN, INFORMATION SCIENCES RESEARCH CENTER

- UNIVERSITY OF WISCONSIN, COMPUTER SCIENCES DEPARTMENT, MADISON, WI   8/93 – 5/94
  TITLE: TEACHING ASSISTANT

- UNIVERSITY OF PATRAS, DEPT. OF COMPUTER ENGINEERING AND INFORMATICS   8/92 – 6/93
  TITLE: GRADUATE TEACHING & RESEARCH ASSISTANT

Publications

[Over 17,000 bibliographic citations, author *h-index* = 71 (Google Scholar)]

Books, Monographs, Book Chapters, Edited Volumes & Journal Issues

1. Minos Garofalakis. "Distributed Data Streams", Entry in: *Encyclopedia of Database Systems (2nd ed.)* (Ling Liu and M. Tamer Özsu, Eds.), Springer, 2018.

2. Minos Garofalakis. "Wavelets on Streams", Entry in: *Encyclopedia of Database Systems (2nd ed.)* (Ling Liu and M. Tamer Özsu, Eds.), Springer, 2018.

3. Minos Garofalakis. "The Discrete Wavelet Transform and Wavelet Synopses", Entry in: *Encyclopedia of Database Systems (2nd ed.)* (Ling Liu and M. Tamer Özsu, Eds.), Springer, 2018.

4. Minos Garofalakis, Johannes Gehrke, and Rajeev Rastogi (Eds.). *"Data Stream Management – Processing High-Speed Data Streams"*, Springer-Verlag, New York (Data-Centric Systems and Applications Series), July 2016. (ISBN 978-3-540-28607-3)

5. Minos Garofalakis, Johannes Gehrke, and Rajeev Rastogi. "Data Stream Management: A Brave New World", Chapter in: *"Data Stream Management – Processing High-Speed Data Streams"* (Minos Garofalakis, Johannes Gehrke, and Rajeev Rastogi, Eds.), Springer-Verlag, New York, 2016.

6. Graham Cormode and Minos Garofalakis. "Join Sizes, Frequency Moments, and Applications", Chapter in: *"Data Stream Management – Processing High-Speed Data Streams"* (Minos Garofalakis, Johannes Gehrke, and Rajeev Rastogi, Eds.), Springer-Verlag, New York, 2016.

7. Alin Dobra, Minos Garofalakis, Johannes Gehrke, and Rajeev Rastogi. "Sketch-Based Multi-Query Processing over Data Streams", Chapter in: *"Data Stream Management – Processing High-Speed Data Streams"* (Minos Garofalakis, Johannes Gehrke, and Rajeev Rastogi, Eds.), Springer-Verlag, New York, 2016.

8. Minos Garofalakis. "Tracking Queries over Distributed Streams", Chapter in: *"Data Stream Management – Processing High-Speed Data Streams"* (Minos Garofalakis, Johannes Gehrke, and Rajeev Rastogi, Eds.), Springer-Verlag, New York, 2016.

9. Minos Garofalakis, Johannes Gehrke, and Rajeev Rastogi. "Conclusions and Looking Forward", Chapter in: *"Data Stream Management – Processing High-Speed Data Streams"* (Minos Garofalakis, Johannes Gehrke, and Rajeev Rastogi, Eds.), Springer-Verlag, New York, 2016.

10. Minos Garofalakis, Etienne Rivière, Luís Veiga, Anita Sobe (Eds.). *Proceedings of the 5th International Workshop on Cloud Data and Platforms, CloudDP@EuroSys 2015*, Bordeaux, France, April 2015. (ACM 2015, ISBN 978-1-4503-3478-5)

11. Chee-Yong Chan, Minos Garofalakis, and Rajeev Rastogi. "Indexed Regular Expression Matching", Entry in: *Encyclopedia of Algorithms* (Ming-Yang Kao, Ed.), Springer, 2015.

12. Jianzhong Li, Xiaoyang Sean Wang, Minos Garofalakis, Ian Soboroff, Torsten Suel, Min Wang (Eds.): *Proceedings of the 23rd ACM International Conference on Conference on Information and Knowledge Management (CIKM'2014)*, Shanghai, China, November 3-7, 2014. (ACM 2014, ISBN 978-1-4503-2598-1)

13. Sihem Amer-Yahia, Vassilis Christophides, Anastasios Kementsietsidis, Minos Garofalakis, Stratos Idreos, Vincent Leroy (Eds.): *Proceedings of the 17th International Conference on Extending Database Technology (EDBT)*, Athens, Greece, March 24-28, 2014. OpenProceedings.org 2014 *(http://openproceedings.org/edbticdt2014/EDBT_toc.html)*

14. Graham Cormode, Ke Yi, Antonios Deligiannakis, and Minos Garofalakis (Eds.). *Proceedings of the First International Workshop on Big Dynamic Distributed Data (BD3) – Co-located with VLDB'2013*, Riva del Garda, Italy, August 30, 2013. *(http://ceur-ws.org, ISSN 1613-0073)*

15. Graham Cormode, Minos Garofalakis, Peter J. Haas, and Christopher M. Jermaine. "Synopses for Massive Data: Samples, Histograms, Wavelets, Sketches", *Foundations and Trends in Databases*, Vol. 4, No. 1-3, pp. 1-294, 2012. (ISBN 978-1601985163)

16. Minos Garofalakis. "Distributed Data Streams", Entry in: *Encyclopedia of Database Systems* (Ling Liu and M. Tamer Özsu, Eds.), Springer, 2009.

17. Minos Garofalakis. "Wavelets on Streams", Entry in: *Encyclopedia of Database Systems* (Ling Liu and M. Tamer Özsu, Eds.), Springer, 2009.

18. Minos Garofalakis. "The Discrete Wavelet Transform and Wavelet Synopses", Entry in: *Encyclopedia of Database Systems* (Ling Liu and M. Tamer Özsu, Eds.), Springer, 2009.

19. Chee-Yong Chan, Minos Garofalakis, and Rajeev Rastogi. "Regular Expression Indexing", Entry in: *Encyclopedia of Algorithms* (Ming-Yang Kao, Ed.), Springer, 2008.

20. Christoph Koch, Johannes Gehrke, Minos Garofalakis, Divesh Srivastava, Karl Aberer, Anand Deshpande, Daniela Florescu, Chee Yong Chan, Venkatesh Ganti, Carl-Christian Kanne, Wolfgang Klas, and Erich J. Neuhold (Editors). *Proceedings of the 33rd International Conference on Very Large Data Bases (VLDB'2007)*, University of Vienna, Austria, September 23-27, 2007, ACM Publications. *(ISBN 978-1-59593-649-3)*

21. Minos Garofalakis and Neoklis Polyzotis. "Very Large Databases", Chapter in: *Wiley Encyclopedia of Electrical and Electronics Engineering* (Benjamin W. Wah, Ed.), John Wiley & Sons, Inc., 2008.

22. Minos Garofalakis and Dan Suciu (Editors). *Special Issue on Probabilistic Data Management, IEEE Data Engineering Bulletin*, Vol. 29, No. 1, March 2006.

23. Minos Garofalakis (Editor). *Special Issue on In-Network Query Processing, IEEE Data Engineering Bulletin*, Vol. 28, No. 1, March 2005.

24. David Maier, Peter A. Tucker, and Minos Garofalakis. "Filtering, Punctuation, Windows and Synopses", Chapter in: *Stream Data Management* (N. Chaudhry, K. Shaw, M. Abdelguerfi, Eds.), Springer (Advances in Database Systems Series), 2005.

25. Minos N. Garofalakis and Renée J. Miller. "Very Large Databases", Chapter in: *Wiley Encyclopedia of Electrical and Electronics Engineering* (John G. Webster, Ed.), Volume 23, pp. 133-139, John Wiley & Sons, Inc., 1999.

Refereed Conference Publications

1. Apostolos Mavrogiannakis, Xian Wang, Ioannis Demertzis, Dimitris Papadopoulos, and Minos Garofalakis. "OBLIVIATOR: OBLIVIous Parallel Joins and other OperATORs in Shared Memory Environments", *Proceedings of the 34th USENIX Security Symposium*, Seattle, WA, August 2025.

2. Antheas Kapenekakis, Daniele Dell'Aglio, Martin Bøgsted, Minos Garofalakis, and Katja Hose. "Pasteur: Scaling Privacy-Aware Data Synthesis", *29th European Conference on Advances in Databases and Information Systems (ADBIS'2025)*, Tampere, Finland, September 2025. [** ADBIS'2025 Best Research Paper Award **]

3. Wieger R. Punter, Odysseas Papapetrou, and Minos Garofalakis. "OmniSketch: Efficient Multi-Dimensional High-Velocity Stream Analytics with Arbitrary Predicates", *Proceedings of the VLDB Endowment (PVLDB)*, Vol. 17, No. 3, 2023-2024. (presented at VLDB'2024, Guangzhou, China). [** VLDB'2024 Best Research Paper Award **]

4. Antheas Kapenekakis, Daniele Dell'Aglio, Charles Vesteghem, Laurids Poulsen, Martin Bøgsted, Minos Garofalakis, and Katja Hose. "Synthesizing Accurate Relational Data under Differential Privacy", *2024 IEEE International Conference on Big Data (IEEE BigData'2024)*, Washington DC, USA, December 2024.

5. Graham Cormode, Minos Garofalakis, and Michael Shekelyan. "Data-Independent Space Partitionings for Summaries", *Proceedings of the 40th ACM SIGMOD-SIGACT-SIGART Symposium on Principles of Database Systems (PODS'2021)*, Xi'an, Shaanxi, China, June 2021.

6. Michael Shekelyan, Anton Dignös, Johann Gamper, and Minos Garofalakis. "Approximating Multidimensional Range Counts with Maximum Error Guarantees", *Proceedings of the 37th IEEE International Conference on Data Engineering (ICDE'2021)*, Chania, Greece, April 2021.

7. Vasilis Samoladas and Minos Garofalakis. "Functional Geometric Monitoring for Distributed Streams", *Proceedings of the 22nd International Conference on Extending Database Technology (EDBT'2019)*, Lisbon, Portugal, March 2019.

8. Grigorios Chrysos, Odysseas Papapetrou, Dionisios Pnevmatikatos, Apostolos Dollas, and Minos Garofalakis. "Data stream statistics over sliding windows: How to summarize 150 million updates per second on a single node" (Long Presentation Paper), *Proceeedings of the 29th International Conference on Field-Programmable Logic and Applications (FPL'2019)*, Barcelona, Spain, September 2019.

9. Nikos Giatrakos, Alexander Artikis, Antonios Deligiannakis, and Minos Garofalakis. "Uncertainty-Aware Event Analytics over Distributed Settings" (Industrial Track Paper), *Proceedings of the 13th ACM International Conference on Distributed and Event-Based Systems (DEBS'2019)*, Darmstadt, Germany, June 2019.

10. Ekaterini Ioannou and Minos Garofalakis. "Holistic Query Processing over Information Extraction Pipelines", *Proceedings of the 44th International Conference on Very Large Databases (VLDB'2018, PVLDB Vol. 11, No. 2)*, Rio de Janeiro, Brazil, August 2018.

11. Minos Garofalakis and Vasilis Samoladas. "Distributed Query Monitoring via Convex Analysis: Towards Composable Safe Zones", *Proceedings of the 20th International Conference on Database Theory (ICDT'2017)*, Venice, Italy, March 2017. [** Invited to the "Best of ICDT'2017" Special Issue of Theory of Computing Systems **]

12. Ioannis Demertzis, Stavros Papadopoulos, Odysseas Papapetrou, Antonios Deligiannakis, and Minos Garofalakis. "Practical Private Range Search Revisited", *Proceedings of the 2016 ACM SIGMOD International Conference on Management of Data (SIGMOD'2016)*, San Francisco, California, June 2016. [** Invited to ACM Transactions on Database Systems **]

13. Nikos Giatrakos, Antonios Deligiannakis, and Minos Garofalakis. "Scalable Approximate Query Tracking over Highly Distributed Data Streams", *Proceedings of the 2016 ACM SIGMOD International Conference on Management of Data (SIGMOD'2016)*, San Francisco, California, June 2016.

14. Arnon Lazerson, Izchak Sharfman, Daniel Keren, Assaf Schuster, Minos Garofalakis, and Vasilis Samoladas. "Monitoring Distributed Streams using Convex Decompositions", *Proceedings of the 41st International Conference on Very Large Databases (VLDB'2015, PVLDB Vol. 8, No. 5)*, Kohala Coast, Hawaii, August 2015.

15. Odysseas Papapetrou and Minos Garofalakis. "Continuous Fragmented Skylines over Distributed Streams", *Proceedings of the 30th IEEE International Conference on Data Engineering (ICDE'2014)*, Chicago, Illinois, USA, March 2014.

16. Ekaterini Ioannou and Minos Garofalakis. "Analytics over Probabilistic Unmerged Duplicates", *Proceedings of the 8th International Conference on Scalable Uncertainty Management (SUM'2014)*, Oxford, UK, September 2014. *(short paper)*

17. Minos Garofalakis, Daniel Keren, and Vasilis Samoladas. "Sketch-based Geometric Monitoring of Distributed Stream Queries", *Proceedings of the 39th International Conference on Very Large Databases (VLDB'2013, PVLDB Vol. 6, No. 10)*, Trento, Italy, August 2013.

18. Stavros Papadopoulos, Graham Cormode, Antonios Deligiannakis, and Minos Garofalakis. "Lightweight Authentication of Linear Algebraic Queries on Data Streams", *Proceedings of the 2013 ACM SIGMOD International Conference on Management of Data (SIGMOD'2013)*, New York, New York, June 2013. [** Invited to ACM Transactions on Database Systems **]

19. Kalliopi D. Kalantzaki, Ekaterini S. Bei, K. P. Exarchos, Michalis Zervakis, D. I. Fotiadis, and Minos Garofalakis. "Identification of altered MET network in Oral Cancer Progression based on Nonparametric Network Design", *Proceedings of the 35th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC'2013)*, Osaka, Japan, July 2013.

20. Odysseas Papapetrou, Minos Garofalakis, and Antonios Deligiannakis. "Sketch-based Querying of Distributed Sliding-Window Data Streams", *Proceedings of the 38th International Conference on Very Large Databases (VLDB'2012, PVLDB Vol. 5, No. 10)*, Istanbul, Turkey, August 2012.

21. Nikos Giatrakos, Antonios Deligiannakis, Minos Garofalakis, Izchak Sharfman, and Assaf Schuster. "Prediction-based Geometric Monitoring over Distributed Data Streams", *Proceedings of the 2012 ACM SIGMOD International Conference on Management of Data (SIGMOD'2012)*, Scottsdale, Arizona, May 2012.

22. Kalliopi D. Kalantzaki, Ekaterini S. Bei, Minos Garofalakis, and Michalis Zervakis. "Biological Interaction Networks Based on Sparse Temporal Expansion of Graphical Models", *Proceedings of the 12th IEEE International Conference on BioInformatics and BioEngineering (BIBE'2012)*, Larnaca, Cyprus, November 2012.

23. Daisy Zhe Wang, Michael J. Franklin, Minos Garofalakis, and Joseph M. Hellerstein. "Hybrid In-Database Inference for Declarative Information Extraction", *Proceedings of the 2011 ACM SIGMOD International Conference on Management of Data (SIGMOD'2011)*, Athens, Greece, June 2011.

24. Vibhor Rastogi, Nilesh Dalvi, and Minos Garofalakis. "Large-Scale Collective Entity Matching", *Proceedings of the 37th International Conference on Very Large Databases (VLDB'2011, PVLDB Vol. 4, No. 4)*, Seattle, Washington, August 2011.

25. Daisy Zhe Wang, Michael J. Franklin, Minos Garofalakis, and Joseph M. Hellerstein. "Querying Probabilistic Information Extraction", *Proceedings of the 36th International Conference on Very Large Databases (VLDB'2010, PVLDB Vol. 3, No. 1)*, Singapore, September 2010.

26. Daisy Zhe Wang, Eirinaios Michelakis, Michael J. Franklin, Minos Garofalakis, and Joseph M. Hellerstein. "Probabilistic Declarative Information Extraction", *Proceedings of the 26th IEEE International Conference on Data Engineering (ICDE'2010)*, Long Beach, California, USA, March 2010. *(short paper)*

27. Graham Cormode, Antonios Deligiannakis, Minos Garofalakis, and Andrew McGregor. "Probabilistic Histograms for Probabilistic Data", *Proceedings of the 35th International Conference on Very Large Databases (VLDB'2009)*, Lyon, France, August 2009.

28. Graham Cormode and Minos Garofalakis. "Histograms and Wavelets on Probabilistic Data", *Proceedings of the 25th IEEE International Conference on Data Engineering (ICDE'2009)*, Shanghai, China, March 2009. [** ICDE'2009 Best Paper Award – Invited to IEEE Trans. on Knowledge and Data Engineering **]

29. Daisy Zhe Wang, Eirinaios Michelakis, Minos Garofalakis, and Joseph M. Hellerstein. "BAYESSTORE: Managing Large, Uncertain Data Repositories with Probabilistic Graphical Models", *Proceedings of the 34th International Conference on Very Large Databases (VLDB'2008)*, Auckland, New Zealand, August 2008.

30. Ashwin Machanavajjhala, Erik Vee, Minos Garofalakis, and Jayavel Shanmugasundaram. "Scalable Ranked Publish/Subscribe", *Proceedings of the 34th International Conference on Very Large Databases (VLDB'2008)*, Auckland, New Zealand, August 2008.

31. Graham Cormode and Minos Garofalakis. "Sketching Probabilistic Data Streams", *Proceedings of the 2007 ACM SIGMOD International Conference on Management of Data (SIGMOD'2007)*, Beijing, China, June 2007.

32. Ryan J. Huebsch, Minos Garofalakis, Joseph M. Hellerstein, and Ion Stoica. "Sharing Aggregate Computation for Distributed Queries", *Proceedings of the 2007 ACM SIGMOD International Conference on Management of Data (SIGMOD'2007)*, Beijing, China, June 2007.

33. Minos Garofalakis, Joseph M. Hellerstein, and Petros Maniatis. "Proof Sketches: Verifiable In-Network Aggregation", *Proceedings of the 23rd IEEE International Conference on Data Engineering (ICDE'2007)*, Istanbul, Turkey, April 2007.

34. Raphael Chand, Pascal Felber, and Minos Garofalakis. "Tree-Pattern Similarity Estimation for Scalable Content-based Routing", *Proceedings of the 23rd IEEE International Conference on Data Engineering (ICDE'2007)*, Istanbul, Turkey, April 2007.

35. Ling Huang, Xuanlong Nguyen, Minos Garofalakis, Joseph M. Hellerstein, Michael Jordan, Anthony D. Joseph, and Nina Taft. "Communication-Efficient Online Detection of Network-Wide Anomalies", *Proceedings of the 26th Annual Joint Conference of the IEEE Communications and Computer Societies (IEEE INFOCOM'2007)*, Anchorage, Alaska, May 2007.

36. Wei Wang, Minos Garofalakis, and Kannan Ramchandran. "Distributed Sparse Random Projections for Compressible Sensor Data", *Proceedings of the 6th International Conference on Information Processing in Sensor Networks (IPSN'2007)*, Cambridge, Massachusetts, April 2007.

37. Ling Huang, Minos Garofalakis, Anthony D. Joseph, and Nina Taft. "Communication-Efficient Tracking of Distributed Cumulative Triggers", *Proceedings of the 27th International Conference on Distributed Computing Systems (ICDCS'2007)*, Toronto, Canada, June 2007.

38. Sumit Ganguly, Minos Garofalakis, Rajeev Rastogi, and Krishan Sabnani. "Streaming Algorithms for Robust, Real-time Detection of DDoS Attacks", *Proceedings of the 27th International Conference on Distributed Computing Systems (ICDCS'2007)*, Toronto, Canada, June 2007.

39. Joseph M. Hellerstein, Tyson Condie, Minos Garofalakis, Boon Thau Loo, Petros Maniatis, Timothy Roscoe, and Nina A. Taft. "Public Health for the Internet (PHI) – Towards a New Grand Challenge for Information Management", *Proceedings of the 3rd Biennial Conference on Innovative Data Systems Research (CIDR'2007)*, Asilomar, California, January 2007, pp. 332-340.

40. Yuri Breitbart, Minos Garofalakis, Anupam Gupta, Amit Kumar, and Rajeev Rastogi. "On Configuring BGP Route Reflectors", *Proceedings of the 2nd International Conference on Communication System Software and Middleware (COMSWARE'2007)*, Bangalore, India, January 2007.

41. Shawn R. Jeffery, Minos Garofalakis, and Michael J. Franklin. "Adaptive Cleaning for RFID Data Streams", *Proceedings of the 32nd International Conference on Very Large Databases (VLDB'2006)*, Seoul, Korea, September 2006, pp. 163-174. [** **Invited to the "Best of VLDB'2006" Special Issue of The VLDB Journal **]

42. Frederick Reis, Minos Garofalakis, and Joseph M. Hellerstein. "Compact Histograms for Hierarchical Identifiers" *Proceedings of the 32nd International Conference on Very Large Databases (VLDB'2006)*, Seoul, Korea, September 2006, pp. 870-881.

43. Boon Thau Loo, Tyson Condie, Minos Garofalakis, David E. Gay, Joseph M. Hellerstein, Petros Maniatis, Raghu Ramakrishnan, Timothy Roscoe, and Ion Stoica. "Declarative Networking: Language, Execution, and Optimization", *Proceedings of the 2006 ACM SIGMOD International Conference on Management of Data (SIGMOD'2006)*, Chicago, Illinois, June 2006, pp. 97-108.

44. Graham Cormode, Minos Garofalakis, and Dimitris Sacharidis. "Fast Approximate Wavelet Tracking on Streams", *Proceedings of the 10th International Conference on Extending Database Technology (EDBT'2006)*, Munich, Germany, March 2006, pp. 4-22.

45. Neoklis Polyzotis and Minos Garofalakis. "XCluster Synopses for Structured XML Content", *Proceedings of the 22nd IEEE International Conference on Data Engineering (ICDE'2006)*, Atlanta, Georgia, April 2006.

46. Ling Huang, Xuanlong Nguyen, Minos Garofalakis, Michael Jordan, Anthony D. Joseph, and Nina Taft. "In-Network PCA and Anomaly Detection", *Proceedings of the 20th Annual Conference on Neural Information Processing Systems (NIPS'2006)*, Vancouver, B.C., Canada, December 2006.

47. Graham Cormode and Minos Garofalakis. "Sketching Streams Through the Net: Distributed Approximate Query Tracking", *Proceedings of the 31st International Conference on Very Large Databases (VLDB'2005)*, Trondheim, Norway, August 2005, pp. 13-24. [** **Invited to the "Best of VLDB'2005" Special Issue of The VLDB Journal** **]

48. Graham Cormode, Minos Garofalakis, S. Muthukrishnan, and Rajeev Rastogi. "Holistic Aggregates in a Networked World: Distributed Tracking of Approximate Quantiles", *Proceedings of the 2005 ACM SIGMOD International Conference on Management of Data (SIGMOD'2005)*, Baltimore, Maryland, June 2005, pp. 25-36.

49. Sumit Ganguly, Minos Garofalakis, Amit Kumar, and Rajeev Rastogi. "Join-Distinct Aggregate Estimation over Update Streams", *Proceedings of the 24th ACM SIGMOD-SIGACT-SIGART Symposium on Principles of Database Systems (PODS'2005)*, Baltimore, Maryland, June 2005.

50. Antonios Deligiannakis, Minos Garofalakis, and Nick Roussopoulos. "A Fast Approximation Scheme for Probabilistic Wavelet Synopses", *Proceedings of the 17th International Conference on Scientific and Statistical Database Management (SSDBM'2005)*, Santa Barbara, California, June 2005, pp. 243-252.

51. Abhinandan Das, Sumit Ganguly, Minos Garofalakis, and Rajeev Rastogi. "Distributed Set-Expression Cardinality Estimation", *Proceedings of the 30th International Conference on Very Large Databases (VLDB'2004)*, Toronto, Canada, August 2004.

52. Minos Garofalakis and Amit Kumar. "Deterministic Wavelet Thresholding for Maximum-Error Metrics", *Proceedings of the 23rd ACM SIGMOD-SIGACT-SIGART Symposium on Principles of Database Systems (PODS'2004)*, Paris, France, June 2004, pp. 166-176. [** **Invited to ACM Transactions on Database Systems** **]

53. Neoklis Polyzotis, Minos Garofalakis, and Yannis Ioannidis. "Approximate XML Query Answers", *Proceedings of the 2004 ACM SIGMOD International Conference on Management of Data (SIGMOD'2004)*, Paris, France, June 2004, pp. 263-274.

54. Wenfei Fan, Chee-Yong Chan, and Minos Garofalakis. "Secure XML Querying with Security Views", *Proceedings of the 2004 ACM SIGMOD International Conference on Management of Data (SIGMOD'2004)*, Paris, France, June 2004, pp. 587-598.

55. Alin Dobra, Minos Garofalakis, Johannes Gehrke, and Rajeev Rastogi. "Sketch-Based Multi-Query Processing over Data Streams", *Proceedings of the 9th International Conference on Extending Database Technology (EDBT'2004)*, Heraklion-Crete, Greece, March 2004, pp. 551-568.

56. Sumit Ganguly, Minos Garofalakis, and Rajeev Rastogi. "Processing Data-Stream Join Aggregates Using Skimmed Sketches", *Proceedings of the 9th International Conference on Extending Database Technology (EDBT'2004)*, Heraklion-Crete, Greece, March 2004, pp. 569-586.

57. Neoklis Polyzotis, Minos Garofalakis, and Yannis Ioannidis. "Selectivity Estimation for XML Twigs", *Proceedings of the 20th IEEE International Conference on Data Engineering (ICDE'2004)*, Boston, Massachusetts, March 2004, pp. 264-275.

58. Wenfei Fan, Minos Garofalakis, Ming Xiong, and Xibei Jia. "Composable XML Integration Grammars", *Proceedings of the 13th ACM Conference on Information and Knowledge Management (CIKM'2004)*, Washington, D.C., November 2004, pp. 2-11.

59. Minos Garofalakis and Amit Kumar. "Correlating XML Data Streams Using Tree-Edit Distance Embeddings", *Proceedings of the 22nd ACM SIGMOD-SIGACT-SIGART Symposium on Principles of Database Systems (PODS'2003)*, San Diego, California, June 2003, pp. 143-154. [** **Invited to ACM Transactions on Database Systems** **]

60. Sumit Ganguly, Minos Garofalakis, and Rajeev Rastogi. "Processing Set Expressions over Continuous Update Streams", *Proceedings of the 2003 ACM SIGMOD International Conference on Management of Data (SIGMOD'2003)*, San Diego, California, June 2003, pp. 265-276.

61. Yigal Bejerano, Yuri Breitbart, Minos Garofalakis, and Rajeev Rastogi. "Physical Topology Discovery for Large Multi-Subnet Networks", *Proceedings of the 22nd Annual Joint Conference of the IEEE Communications and Computer Societies (IEEE INFOCOM'2003)*, San Francisco, California, April 2003, pp. 342-352.

62. Neoklis Polyzotis and Minos Garofalakis. "Structure and Value Synopses for XML Data Graphs", *Proceedings of the 28th International Conference on Very Large Databases (VLDB'2002)*, Hong Kong, China, August 2002, pp. 466-477.

63. Chee-Yong Chan, Minos Garofalakis, and Rajeev Rastogi. "RE-Tree: An Efficient Index Structure for Regular Expressions", *Proceedings of the 28th International Conference on Very Large Databases (VLDB'2002)*, Hong Kong, China, August 2002, pp. 251-262. [** Invited to the "Best of VLDB'2002" Special Issue of The VLDB Journal **]

64. Chee-Yong Chan, Wenfei Fan, Pascal Felber, Minos Garofalakis, and Rajeev Rastogi. "Tree Pattern Aggregation for Scalable XML Data Dissemination", *Proceedings of the 28th International Conference on Very Large Databases (VLDB'2002)*, Hong Kong, China, August 2002, pp. 826-837.

65. Minos Garofalakis and Phillip B. Gibbons. "Wavelet Synopses with Error Guarantees", *Proceedings of the 2002 ACM SIGMOD International Conference on Management of Data (SIGMOD'2002)*, Madison, Wisconsin, June 2002, pp. 476-487. [** Invited to ACM Transactions on Database Systems **]

66. Neoklis Polyzotis and Minos Garofalakis. "Statistical Synopses for Graph-Structured XML Databases", *Proceedings of the 2002 ACM SIGMOD International Conference on Management of Data (SIGMOD'2002)*, Madison, Wisconsin, June 2002, pp. 358-369.

67. Alin Dobra, Minos Garofalakis, Johannes Gehrke, and Rajeev Rastogi. "Processing Complex Aggregate Queries over Data Streams", *Proceedings of the 2002 ACM SIGMOD International Conference on Management of Data (SIGMOD'2002)*, Madison, Wisconsin, June 2002, pp. 61-72.

68. Rajeev Rastogi, Yuri Breitbart, Minos Garofalakis, and Amit Kumar. "Optimal Configuration of OSPF Aggregates", *Proceedings of the 21st Annual Joint Conference of the IEEE Computer and Communications Societies (IEEE INFOCOM'2002)*, New York City, New York, June 2002, pp. 874-882.

69. Chee-Yong Chan, Pascal Felber, Minos Garofalakis, and Rajeev Rastogi. "Efficient Filtering of XML Documents with XPath Expressions", *Proceedings of the 18th IEEE International Conference on Data Engineering (ICDE'2002)*, San Jose, California, February 2002, pp. 235-244.

70. Shivnath Babu, Minos Garofalakis, and Rajeev Rastogi. "SPARTAN: A Model-Based Semantic Compression System for Massive Data Tables", *Proceedings of the 2001 ACM SIGMOD International Conference on Management of Data (SIGMOD'2001)*, Santa Barbara, California, May 2001, pp. 283-294.

71. Amol Deshpande, Minos Garofalakis, and Rajeev Rastogi. "Independence is Good: Dependency-Based Histogram Synopses for High-Dimensional Data", *Proceedings of the 2001 ACM SIGMOD International Conference on Management of Data (SIGMOD'2001)*, Santa Barbara, California, May 2001, pp. 199-210.

72. Yuri Breitbart, Chee-Yong Chan, Minos Garofalakis, Rajeev Rastogi, and Avi Silberschatz. "Efficiently Monitoring Bandwidth and Latency in IP Networks", *Proceedings of the 20th Annual Joint Conference of the IEEE Computer and Communications Societies (IEEE INFOCOM'2001)*, Anchorage, Alaska, April 2001, pp. 933-942.

73. Amol Deshpande, Minos Garofalakis, and Michael I. Jordan. "Efficient Stepwise Selection in Decomposable Models", *Proceedings of the 17th Conference on Uncertainty in Artificial Intelligence (UAI'2001)*, Seattle, Washington, August 2001.

74. Kaushik Chakrabarti, Minos Garofalakis, Rajeev Rastogi, and Kyuseok Shim. "Approximate Query Processing Using Wavelets", *Proceedings of the 26th International Conference on Very Large Databases (VLDB'2000)*, Cairo, Egypt, September 2000, pp. 111-122. [** **Invited to the "Best of VLDB'2000" Special Issue of The VLDB Journal** **]

75. Minos Garofalakis, Aristides Gionis, Rajeev Rastogi, S. Seshadri, and Kyuseok Shim. "XTRACT: A System for Extracting Document Type Descriptors from XML Documents", *Proceedings of the 2000 ACM SIGMOD International Conference on Management of Data (SIGMOD'2000)*, Dallas, Texas, May 2000, pp. 165-176.

76. Minos Garofalakis, Dongjoon Hyun, Rajeev Rastogi, and Kyuseok Shim. "Efficient Algorithms for Constructing Decision Trees with Constraints", *Proceedings of the 6th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD'2000)*, Boston, Massachusetts, August 2000, pp. 335-339.

77. Yuri Breitbart, Minos Garofalakis, Cliff Martin, Rajeev Rastogi, S. Seshadri, and Avi Silberschatz. "Topology Discovery in Heterogeneous IP Networks", *Proceedings of the 19th Annual Joint Conference of the IEEE Computer and Communications Societies (IEEE INFOCOM'2000)*, Tel-Aviv, Israel, March 2000, pp. 265-274.

78. Minos N. Garofalakis, Rajeev Rastogi, and Kyuseok Shim. "SPIRIT: Sequential Pattern Mining with Regular Expression Constraints", *Proceedings of the 25th International Conference on Very Large Databases (VLDB'99)*, Edinburgh, Scotland, September 1999, pp. 223-234.

79. Minos N. Garofalakis, Yannis E. Ioannidis, and Banu Özden. "Resource Scheduling for Composite Multimedia Objects", *Proceedings of the 24th International Conference on Very Large Databases (VLDB'98)*, New York City, New York, August 1998, pp. 74-85.

80. Minos N. Garofalakis, Yannis E. Ioannidis, Banu Özden, and Avi Silberschatz. "Throughput-Competitive Admission Control for Continuous Media Databases", *Proceedings of the 17th ACM SIGMOD-SIGACT-SIGART Symposium on Principles of Database Systems (PODS'98)*, Seattle, Washington, June 1998, pp. 79-88.

81. Minos N. Garofalakis, Banu Özden, and Avi Silberschatz. "Resource Scheduling in Enhanced Pay-Per-View Continuous Media Databases", *Proceedings of the 23rd International Conference on Very Large Databases (VLDB'97)*, Athens, Greece, August 1997, pp. 516-525.

82. Minos N. Garofalakis and Yannis E. Ioannidis. "Parallel Query Scheduling and Optimization with Time- and Space-Shared Resources", *Proceedings of the 23rd International Conference on Very Large Databases (VLDB'97)*, Athens, Greece, August 1997, pp. 296-305.

83. Minos N. Garofalakis and Yannis E. Ioannidis. "Multi-dimensional Resource Scheduling for Parallel Queries", *Proceedings of the 1996 ACM SIGMOD International Conference on Management of Data (SIGMOD'96)*, Montreal, Canada, June 1996, pp. 365-376.

Refereed Journal Publications

1. Wieger R. Punter, Odysseas Papapetrou, and Minos Garofalakis. "OmniSketch: Multi-dimensional update stream analytics with arbitrary predicates", *The VLDB Journal*, Vol. 35, No. 1, January 2026.

2. Wieger R. Punter, Odysseas Papapetrou, and Minos Garofalakis. "OmniSketch: Streaming Data Analytics with Arbitrary Predicates", *ACM SIGMOD Record (Research Highlights)*, Vol. 54, No. 1, March 2025.

3. Ioannis Flouris, Nikos Giatrakos, Antonios Deligiannakis, and Minos Garofalakis. "Network-Wide Complex Event Processing over Geographically Distributed Data Sources", *Information Systems*, Vol. 88, February 2020.

4. Nikos Giatrakos, Elias Alevizos, Alexander Artikis, Antonios Deligiannakis, and Minos Garofalakis. "Complex Event Recognition in the Big Data Era: A Survey", *The VLDB Journal*, Vol. 29, No. 1, January 2020.

5. Nikos Giatrakos, Antonios Deligiannakis, Minos Garofalakis, and Yannis Kotidis. "Omnibus Outlier Detection in Sensor Networks using Windowed Locality Sensitive Hashing", *Future Generation Computer Systems*, Vol. 110, 2020.

6. Nikos Giatrakos, Nikos Katzouris, Antonios Deligiannakis, Alexander Artikis, Minos Garofalakis, George Paliouras, Holger Arndt, Raffaele Grasso, Ralf Klinkenberg, Miguel Ponce de Leon, Gian Gaetano Tartaglia, Alfonso Valencia, and Dimitrios Zissis. "Interactive Extreme: Scale Analytics Towards Battling Cancer", *IEEE Technology and Society Magazine*, Vol. 38, No. 2, June 2019.

7. Ioannis Demertzis, Stavros Papadopoulos, Odysseas Papapetrou, Antonios Deligiannakis, Minos Garofalakis, and Charalampos Papamanthou. "Practical Private Range Search in Depth", *ACM Transactions on Database Systems*, Vol. 43, No. 1, March 2018. (SIGMOD/PODS'2016 Special Issue).

8. Odysseas Papapetrou and Minos Garofalakis. "Monitoring Distributed Fragmented Skylines", *Distributed and Parallel Databases*, Vol. 76, 2018.

9. Nikos Giatrakos, Antonios Deligiannakis, Minos Garofalakis, Daniel Keren, and Vasilis Samoladas. "Scalable Approximate Query Tracking over Highly Distributed Data Streams with Tunable Accuracy Guarantees", *Information Systems*, Vol. 36, No. 4, 2018.

10. Ioannis Flouris, Nikos Giatrakos, Antonios Deligiannakis, Minos Garofalakis, Michael Kamp, and Michael Mock. "Issues in Complex Event Processing: Status and Prospects in the Big Data Era", *Journal of Systems and Software*, 127:217-236, 2017.

11. Odysseas Papapetrou, Minos Garofalakis, and Antonios Deligiannakis. "Sketching Distributed Sliding-Window Data Streams", *The VLDB Journal*, Vol. 24, No. 3, June 2015.

12. Ekaterini Ioannou and Minos Garofalakis. "Query Analytics over Probabilistic Databases with Unmerged Duplicates", *IEEE Transactions on Knowledge and Data Engineering*, Vol. 27, No. 8, August 2015.

13. Minos Garofalakis. "Approximate Geometric Query Tracking over Distributed Streams", *IEEE Data Engineering Bulletin*, Vol. 38, No. 3, September 2015 (Special Issue on Approximate Query Processing and Applications), pp. 103-112.

14. Stavros Papadopoulos, Graham Cormode, Antonios Deligiannakis, and Minos Garofalakis. "Lightweight Query Authentication on Streams", *ACM Transactions on Database Systems*, Vol. 39, No. 4, December 2014 (SIGMOD/PODS'2013 Special Issue).

15. Nikos Giatrakos, Antonios Deligiannakis, Minos Garofalakis, Izchak Sharfman, and Assaf Schuster. "Distributed Geometric Query Monitoring using Prediction Models", *ACM Transactions on Database Systems*, Vol. 39, No. 2, May 2014.

16. Kalliopi D. Kalantzaki, Ekaterini S. Bei, K. P. Exarchos, Michalis Zervakis, Minos Garofalakis, and D. I. Fotiadis. "Nonparametric Network Design and Analyses of Disease Genes in Oral Cancer Progression", *IEEE Journal of Biomedical and Health Informatics*, Vol. 18, No. 2, March 2014.

17. Stavros Christodoulakis, Minos Garofalakis, Euripides G.M. Petrakis, Antonios Deligiannakis, Vasilis Samoladas, Ekaterini Ioannou, Odysseas Papapetrou, and Stelios Sotiriadis. "Data Management Research at the Technical University of Crete", *ACM SIGMOD Record*, Vol. 42, No. 4, December 2013.

18. Kalliopi D. Kalantzaki, Ekaterini S. Bei, Minos Garofalakis, and Michalis Zervakis. "Biological Interaction Networks based on Non-Parametric Estimation", *International Journal of Biomedical Engineering and Technology*, Vol. 13, No. 4, 2013.

19. Graham Cormode and Minos Garofalakis. "Wavelets and Histograms on Probabilistic Data", *IEEE Transactions on Knowledge and Data Engineering*, Vol. 22, No. 8, August 2010 ("Best of ICDE'2009" Special Issue), pp. 1142-1157.

20. Boon Thau Loo, Tyson Condie, Minos Garofalakis, David E. Gay, Joseph M. Hellerstein, Petros Maniatis, Raghu Ramakrishnan, Timothy Roscoe, and Ion Stoica. "Declarative Networking", *Communications of the ACM*, Vol. 52, No. 11, November 2009, pp. 87-95.

21. Alin Dobra, Minos Garofalakis, Johannes Gehrke, and Rajeev Rastogi. "Multi-Query Optimization for Sketch-Based Estimation", *Information Systems*, Vol. 34, No. 2, April 2009, pp. 209-230.

22. Graham Cormode and Minos Garofalakis. "Approximate Continuous Querying over Distributed Streams", *ACM Transactions on Database Systems*, Vol. 33, No. 2, June 2008.

23. Shawn R. Jeffery, Michael J. Franklin, and Minos Garofalakis. "An Adaptive RFID Middleware for Supporting Metaphysical Data Independence", *The VLDB Journal*, Vol. 17, No. 2, March 2008 ("Best of VLDB'2006" Special Issue).

24. Rob Ennals, Eric Brewer, Minos Garofalakis, Michael Shadle, and Prashant Gandhi. "Intel Mash Maker: Join the Web", *ACM SIGMOD Record*, 2008.

25. Yahoo! Research Community Systems Group. "Community Systems Research at Yahoo!", *ACM SIGMOD Record*, September 2007.

26. Antonios Deligiannakis, Minos Garofalakis, and Nick Roussopoulos. "Extended Wavelets for Multiple Measures", *ACM Transactions on Database Systems*, Vol. 32, No. 2, June 2007.

27. Neoklis Polyzotis and Minos Garofalakis. "XSKETCH Synopses for XML Data Graphs", *ACM Transactions on Database Systems*, Vol. 31, No. 3, September 2006, pp. 1014-1063.

28. Minos Garofalakis. "Wavelet-based Approximation Techniques in Database Systems", *IEEE Signal Processing Magazine (Exploratory DSP Column)*, November 2006. *(Invited contribution)*

29. Minos Garofalakis, Kurt P. Brown, Michael J. Franklin, Joseph M. Hellerstein, Daisy Zhe Wang, Eirinaios Michelakis, Liviu Tancau, Eugene Wu, Shawn R. Jeffery, and Ryan Aipperspach. "Probabilistic Data Management for Pervasive Computing: The *Data Furnace* Project", *IEEE Data Engineering Bulletin*, Vol. 29, No. 1, March 2006 (Special Issue on Probabilistic Data Management), pp. 57-63.

30. Minos Garofalakis and Amit Kumar. "Wavelet Synopses for General Error Metrics", *ACM Transactions on Database Systems*, Vol. 30, No. 4, December 2005 (SIGMOD/PODS'2004 Special Issue), pp. 888-928.

31. Minos Garofalakis and Amit Kumar. "XML Stream Processing Using Tree-Edit Distance Embeddings", *ACM Transactions on Database Systems*, Vol. 30, No. 1, March 2005 (SIGMOD/PODS'2003 Special Issue), pp. 279-332.

32. Graham Cormode and Minos Garofalakis. "Efficient Strategies for Continuous Distributed Tracking Tasks", *IEEE Data Engineering Bulletin*, Vol. 28, No. 1, March 2005 (Special Issue on In-Network Query Processing), pp. 33-39.

33. Sumit Ganguly, Minos Garofalakis, and Rajeev Rastogi. "Tracking Set-Expression Cardinalities over Continuous Update Streams", *The VLDB Journal*, Vol. 13, No. 4, December 2004 (Special Issue on Data Stream Processing), pp. 354-369.

34. Minos Garofalakis and Phillip B. Gibbons. "Probabilistic Wavelet Synopses", *ACM Transactions on Database Systems*, Vol. 29, No. 1, March 2004 (SIGMOD/PODS'2002 Special Issue), pp. 43-90.

35. Yuri Breitbart, Minos Garofalakis, Ben Jai, Cliff Martin, Rajeev Rastogi, and Avi Silberschatz. "Topology Discovery in Heterogeneous IP Networks: The NetInventory System", *IEEE/ACM Transactions on Networking*, Vol. 12, No. 3, June 2004, pp. 401-414.

36. Minos Garofalakis, Aristides Gionis, Rajeev Rastogi, S. Seshadri, and Kyuseok Shim. "DTD Inference from XML Documents: The XTRACT Approach", *IEEE Data Engineering Bulletin*, Vol. 26, No. 3, September 2003 (Special Issue on Structure Discovery), pp. 18-24.

37. Chee-Yong Chan, Minos Garofalakis, and Rajeev Rastogi. "RE-Tree: An Efficient Index Structure for Regular Expressions", *The VLDB Journal*, Vol. 12, No. 2, August 2003 ("Best of VLDB'2002" Special Issue), pp. 102-119.

38. Rajeev Rastogi, Yuri Breitbart, Minos Garofalakis, and Amit Kumar. "Optimal Configuration of OSPF Aggregates", *IEEE/ACM Transactions on Networking*, Vol. 11, No. 2, April 2003, pp. 181-194.

39. Minos Garofalakis, Dongjoon Hyun, Rajeev Rastogi, and Kyuseok Shim. "Building Decision Trees with Constraints", *Data Mining and Knowledge Discovery*, Vol. 7, No. 2, April 2003, pp. 187-214.

40. Minos Garofalakis, Aristides Gionis, Rajeev Rastogi, S. Seshadri, and Kyuseok Shim. "XTRACT: Learning Document Type Descriptors from XML Document Collections", *Data Mining and Knowledge Discovery*, Vol. 7, No. 1, January 2003, pp. 23-56.

41. Pascal Felber, Chee-Yong Chan, Minos Garofalakis, and Rajeev Rastogi. "Scalable Filtering of XML Data for Web Services", *IEEE Internet Computing*, Vol. 7, No. 1, January/February 2003, pp. 49-57.

42. Chee-Yong Chan, Pascal Felber, Minos Garofalakis, and Rajeev Rastogi. "Efficient Filtering of XML Documents with XPath Expressions", *The VLDB Journal*, Vol. 11, No. 4, December 2002 (Special Issue on XML Data Management), pp. 354-379.

43. Minos Garofalakis, Rajeev Rastogi, and Kyuseok Shim. "Mining Sequential Patterns with Regular Expression Constraints", *IEEE Transactions on Knowledge and Data Engineering*, Vol. 14, No. 3, May/June 2002, pp. 530-552.

44. Minos Garofalakis, Yannis Ioannidis, Banu Özden, and Avi Silberschatz. "Competitive On-line Scheduling of Continuous-Media Streams", *Journal of Computer and Systems Sciences*, Vol. 64, No. 2, March 2002, pp. 219-248.

45. Shivnath Babu, Minos Garofalakis, and Rajeev Rastogi. "SPARTAN: Using Constrained Models for Guaranteed-Error Semantic Compression", *ACM SIGKDD Explorations*, Vol. 4, No. 1, June 2002 (Special Issue on Constraints in Data Mining), pp. 11-20.

46. Kaushik Chakrabarti, Minos Garofalakis, Rajeev Rastogi, and Kyuseok Shim. "Approximate Query Processing Using Wavelets", *The VLDB Journal*, Vol. 10, No. 2-3, September 2001 ("Best of VLDB'2000" Special Issue), pp. 199-223.

47. Minos Garofalakis and Rajeev Rastogi. "Scalable Data Mining with Model Constraints", *ACM SIGKDD Explorations*, Vol. 2, No. 2, December 2000 (Special Issue on Scalable Data Mining), pp. 39-48.

48. Minos N. Garofalakis, Banu Özden, and Avi Silberschatz. "On Periodic Resource Scheduling for Continuous Media Databases", *The VLDB Journal*, Vol. 7, No. 4, December 1998 (Special Issue on Multimedia Databases), pp. 206-225.

49. Minos N. Garofalakis and Yannis E. Ioannidis. "Scheduling Issues in Multimedia Query Optimization", *ACM Computing Surveys*, Vol. 27, No. 4, December 1995 (Symposium on Multimedia), pp. 590-592.

Workshop and Invited Papers, Demonstration/Tutorial/Panel Abstracts, Other Manuscripts

1. Minos Garofalakis. "A Bird's-Eye View of Complex Streaming Data Analytics" *(Invited Keynote Talk)*, *Proceedings of the 19th International Conference on Distributed Event-Based Systems (DEBS'2025)*, Gothenburg, Sweden, June 2025.

2. Kostas Filippopolitis, Yannis Foufoulas, Minos Garofalakis, Apostolos Glenis, Yannis E. Ioannidis, Thanasis-Michail Karampatsis, Maria-Olympia Katsouli, Evdokia Mailli, Asimakis Papageorgiou-Mariglis, Giorgos Papanikos, George Pikramenos, Jason Sakellariou, Alkis Simitsis, Pauline Ducouret, Philippe Ryvlin, and Manuel-Guy Spuhler. "MIP: Advanced Data Processing and Analytics for Science and Medicine" (demo paper), *Proceedings of the 27th International Conference on Extending Database Technology (EDBT'2024)*, Paestum, Italy, March 2024. [** **EDBT'2024 Best Demonstration Award** **]

3. Minos Garofalakis. "Have your Data and Share it too: Private Data Analytics at Scale" *(Invited Keynote Talk)*, *2023 IEEE International Conference on Big Data (IEEE BigData'23)*, Sorrento, Italy, December 2023.

4. Minos Garofalakis. "Complex-Event Mining over Centralized and Distributed Data Streams" *(Invited Keynote Talk)*, *4th International Conference on Process Mining (ICPM'22)*, Bolzano, Italy, October 2022.

5. Vassilis Digalakis Jr., George N. Karystinos, and Minos Garofalakis. "Improved Pan-Private Stream Density Estimation", *arXiv:2111.08784 [cs.CR]*, November 2021.

6. Nikos Giatrakos, David Arnu, Theodoros Bitsakis, Antonios Deligiannakis, Minos Garofalakis, Ralf Klinkenberg, Aris Konidaris, Antonis Kontaxakis, Yannis Kotidis, Vasilis Samoladas, Alkis Simitsis, George Stamatakis, Fabian Temme, Mate Torok, Edwin Yaqub, Arnau Montagud, Miguel Ponce, Holger Arndt, and Stefan Burkard. "INforE: Interactive Cross-platform Analytics for Everyone" (demo Paper), *Proceedings of the 29th ACM International Conference on Conference on Information and Knowledge Management (CIKM'2020)*, Online Event, October 2020. [** **CIKM'2020 Best Demonstration Award** **]

7. Nikos Giatrakos, Alexander Artikis, Antonios Deligiannakis, and Minos Garofalakis. "Complex Event Recognition in the Big Data Era" (Tutorial Abstract), *Proceedings of the 43rd International Conference on Very Large Databases (VLDB'2017, PVLDB Vol. 10)*, Munich, Germany, August 2017.

8. Ioannis Flouris, Vasiliki Manikaki, Nikos Giatrakos, Antonios Deligiannakis, Minos Garofalakis, Michael Mock, Sebastian Bothe, Inna Skarbovsky, Fabiana Fournier, Marko Stajcer, Tomislav Krizan, Jonathan Yom-Tov, and Taji Curin. "FERARI: A Prototype for Complex Event Processing over Streaming Multi-cloud Platforms" (demo Paper), *Proceedings of the 2016 ACM SIGMOD International Conference on Management of Data (SIGMOD'2016)*, San Francisco, California, June 2016.

9. Ioannis Flouris, Vasiliki Manikaki, Nikos Giatrakos, Antonios Deligiannakis, Minos Garofalakis, Michael Mock, Sebastian Bothe, Inna Skarbovsky, Fabiana Fournier, Marko Stajcer, Tomislav Krizan, Jonathan Yom-Tov, and Marijo Volarevic. "Complex Event Processing over Streaming Multi-Cloud Platforms - The FERARI Approach" (demo Paper), *Proceedings of the 10th ACM International Conference on Distributed Event-Based Systems (DEBS'2016)*, Irvine, California, June 2016.

10. Apostolos Nydriotis, Pavlos Malakonakis, Nikos Pavlakis, Grigorios Chrysos, Ekaterini Ioannou, Euripides Sotiriades, Minos Garofalakis, and Apostolos Dollas. "Leveraging Reconfigurable Computing in Distributed Real-time Computation Systems", *Proceedings of the First International Workshop on Big Data Processing - Reloaded (BDPR'2016 – in conjunction with EDBT/ICDT'2016)*, Bordeaux, France, March 2016.

11. Ioannis Flouris, Nikos Giatrakos, Minos Garofalakis, and Antonios Deligiannakis. "Issues in Complex Event Processing Systems", *1st IEEE International Workshop on Real Time Data Stream Analytics (RTStreams'2015)*, Helsinki, Finland, August 2015. [** **Invited to Journal of Systems and Software** **]

12. Minos Garofalakis. "Querying Big, Dynamic, Distributed Data" *(Invited Keynote Talk), 17th ACM International Workshop on Data Warehousing and OLAP (DOLAP'2014)*, Shanghai, China, November 2014.

13. Minos Garofalakis. "Querying Distributed Data Streams" *(Invited Keynote Talk), Proceedings of the 18th East-European Conference on Advances in Databases and Information Systems (ADBIS'2014)*, Ohrid, FYROM, September 2014.

14. Evangelos E. Papalexakis, Nicholas D. Sidiropoulos, and Minos Garofalakis. "Reviewer Profiling Using Sparse Matrix Regression", *Proceedings of the 2010 Workshop on Optimization-Based Methods for Emerging Data Mining Problems (OEDM'2010 – in conjunction with IEEE ICDM'2010)*, Sydney, Australia, December 2010.

15. Graham Cormode and Minos Garofalakis. "Streaming in a Connected World: Querying and Tracking Distributed Data Streams" (Tutorial Abstract), *Proceedings of the 11th International Conference on Extending Database Technology (EDBT'2008)*, Nantes, France, March 2008.

16. Eirinaios Michelakis, Daisy Zhe Wang, Minos Garofalakis, and Joseph Hellerstein. "Granularity Conscious Modeling for Probabilistic Databases", *Proceedings of the 1st Workshop on Data Mining of Uncertain Data (DUNE'2007 – in conjunction with IEEE ICDM'2007)*, Omaha, Nebraska, October 2007.

17. Ling Huang, Minos Garofalakis, Anthony D. Joseph, and Nina Taft. "Approximate Decision Making in Large-Scale Distributed Systems" (poster), *Proceedings of the NIPS'2007 Workshop on Statistical Learning Techniques for Solving Systems Problems (MLSys'2007)*, Whistler, B.C., December 2007.

18. Graham Cormode and Minos Garofalakis. "Streaming in a Connected World: Querying and Tracking Distributed Data Streams" (Tutorial Abstract), *Proceedings of the 2007 ACM SIGMOD International Conference on Management of Data (SIGMOD'2007)*, Beijing, China, June 2007.

19. Robert Ennals and Minos Garofalakis. "MashMaker: Mashups for the Masses" (demo Paper), *Proceedings of the 2007 ACM SIGMOD International Conference on Management of Data (SIGMOD'2007)*, Beijing, China, June 2007.

20. Graham Cormode and Minos Garofalakis. "Streaming in a Connected World: Querying and Tracking Distributed Data Streams" (Tutorial Abstract), *Proceedings of the 32nd International Conference on Very Large Databases (VLDB'2006)*, Seoul, Korea, September 2006, pp. 1266.

21. Ling Huang, Minos Garofalakis, Joseph M. Hellerstein, Anthony D. Joseph, and Nina Taft. "Toward Sophisticated Detection with Distributed Triggers", *Proceedings of the SIGCOMM'2006 Workshop on Mining Network Data (MineNet'06)*, Pisa, Italy, September 2006.

22. Graham Cormode, Minos Garofalakis, and Dimitris Sacharidis. "Fast Approximate Wavelet Tracking on Streams", *Proceedings of the 5th Hellenic Data Management Symposium (HDMS'2006)*, Thessaloniki, Greece, September 2006.

23. Antonios Deligiannakis, Minos Garofalakis, and Nick Roussopoulos. "A Fast Approximation Scheme for Probabilistic Wavelet Synopses", *Proceedings of the 4th Hellenic Data Management Symposium (HDMS'2005)*, Athens, Greece, August 2005.

24. Neoklis Polyzotis and Minos Garofalakis. "Approximate Answers for XML Queries with Range Predicates", *Proceedings of the 4th Hellenic Data Management Symposium (HDMS'2005)*, Athens, Greece, August 2005.

25. Minos Garofalakis, Ioana Manolescu, Marco Mesiti, George Mihaila, Ralf Schenkel, Bhavani Thuraisingham, and Vasilis Vassalos. "What's Next in XML and Databases?" (Panel Abstract, DataX'2004 Workshop), In: *Current Trends in Database Technology – EDBT 2004 Workshops*, Springer-Verlag Lecture Notes in Computer Science (LNCS), Vol. 3268/2004, pp. 318-324.

26. Natasha Drukh, Neoklis Polyzotis, Minos Garofalakis, and Yossi Matias. "Fractional XSKETCH Synopses for XML Databases", *Proceedings of the 2nd International XML Database Symposium (XSym'2004)*, Toronto, Canada, August 2004.

27. Neoklis Polyzotis, Minos Garofalakis, and Yannis Ioannidis. "Approximate Twig-Query Processing", *Proceedings of the 3rd Hellenic Data Management Symposium (HDMS'2004)*, Athens, Greece, June 2004, pp. 182-194.

28. Minos Garofalakis, Johannes Gehrke, and Rajeev Rastogi. "Querying and Mining Data Streams: You Only Get One Look" (Tutorial Abstract), *Proceedings of the 2002 ACM SIGMOD International Conference on Management of Data (SIGMOD'2002)*, Madison, Wisconsin, June 2002, pp. 635.

29. Minos Garofalakis and Rajeev Rastogi. "Network Data Mining and Analysis: The NEMESIS Project" (Invited Industrial Paper), *Proceedings of the 6th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD'02)*, Taipei, Taiwan, May 2002, pp. 1-12.

30. Neoklis Polyzotis and Minos Garofalakis. "XSKETCH Synopses for XML", *Proceedings of the 1st Hellenic Data Management Symposium (HDMS'2002)*, Athens, Greece, July 2002.

31. Shivnath Babu, Minos Garofalakis, Rajeev Rastogi, and Avi Silberschatz. "Model-Based Semantic Compression for Network-Data Tables", *Proceedings of the 2001 Workshop on Network-Related Data Management (NRDM'2001)*, Santa Barbara, California, May 2001.

32. Minos Garofalakis and Rajeev Rastogi. "Data Mining Meets Network Management: The NEMESIS Project", *Proceedings of the 2001 ACM SIGMOD Workshop on Research Issues in Data Mining and Knowledge Discovery (DMKD'2001)*, Santa Barbara, California, May 2001.

33. Minos N. Garofalakis, Rajeev Rastogi, S. Seshadri, and Kyuseok Shim. "Data Mining and the Web: Past, Present and Future" (Invited Paper), *Proceedings of the 2nd Workshop on Web Information and Data Management (WIDM'99)*, Kansas City, Missouri, November 1999, pp. 43-47.

34. Minos N. Garofalakis, Sridhar Ramaswamy, Rajeev Rastogi, and Kyuseok Shim. "Of Crawlers, Portals, Mice, and Men: Is there more to Mining the Web?" (Panel Abstract), *Proceedings of the 1999 ACM SIGMOD International Conference on Management of Data (SIGMOD'99)*, Philadelphia, Pennsylvania, May 1999, pp. 504.

35. Minos N. Garofalakis. "Query Scheduling and Optimization in Parallel and Multimedia Databases", *Ph.D. Thesis*, University of Wisconsin–Madison, Computer Sciences Department, August 1998.

36. Minos N. Garofalakis, Banu Özden, and Avi Silberschatz. "On Periodic Resource Scheduling for Continuous Media Databases", *Proceedings of the 8th International IEEE Workshop on Research Issues in Data Engineering (RIDE'98)*, Orlando, Florida, February 1998, pp. 111-120.

37. Minos N. Garofalakis, "Model-checking for Sequential Probabilistic Real-time Systems", Technical Report TR-93.02.7, Computer Technology Institute & EEC ESPRIT Basic Research Action (project ALCOM II), Patras, February 1993.

38. Minos N. Garofalakis, "Automatic Verification of Concurrent Systems: A Comparative Study of Fundamental Theoretical Tools and Algorithms", *Diploma Thesis* (in Greek), Dept. of Computer Engineering and Informatics, University of Patras, Greece, May 1992.

Patents Issued

1. Wenfei Fan, Minos Garofalakis, and Ming Xiong. "Grammar and Method for Integrating XML Data from Multiple Sources", *U.S. Patent No. 8,949,710*, Issued February 3, 2015. (Filed July 2005)

2. Graham Cormode and Minos Garofalakis. "Methods and Apparatus to Construct Histogram and Wavelet Synopses for Probabilistic Data", *U.S. Patent No. 8,775,362*, Issued July 8, 2014. (Filed February 2013)

3. Graham Cormode and Minos Garofalakis. "Methods and Apparatus to Construct Histogram and Wavelet Synopses for Probabilistic Data", *U.S. Patent No. 8,386,412*, Issued February 26, 2013. (Filed December 2008)

4. Graham Cormode, Antonios Deligiannakis, Minos Garofalakis, and Andrew McGregor. "Methods and Apparatus for Representing Probabilistic Data using a Probabilistic Histogram", *U.S. Patent No. 8,145,669*, Issued December 11, 2011. (Filed December 2009)

5. Minos Garofalakis and Amit Kumar. "Deterministic Wavelet Thresholding for General Error Metrics", *U.S. Patent No. 8,055,088, Issued November 8, 2011. (Divisional of U.S. Patent No. 7,693,335)*

6. Ashwin Machanavajjhala, Erik Vee, Minos Garofalakis, and Jayavel Shanmugasundaram. "System and/or Method for Processing Events", *U.S. Patent No. 7,890,494*, Issued February 15, 2011. (Filed October 2007)

7. Graham Cormode and Minos Garofalakis. "Fast Approximate Wavelet Tracking on Streams", *U.S. Patent No. 7,885,911*, Issued February 8, 2011. (Filed March 2006)

8. Abhinandan Das, Sumit Ganguly, Minos Garofalakis, and Rajeev Rastogi. "Distributed Set-Expression Cardinality Estimation", *U.S. Patent No. 7,873,689*, Issued January 18, 2011. (Filed December 2004)

9. Minos Garofalakis, Jayavel Shanmugasundaram, Erik Vee, Rajagopal Baskaran, Jagadish Samantarai, Joseph Ting, and Yuan Zhuge. "Automated Document Classifier Tuning Including Training Set Adaptive to User Browsing Behavior", *U.S. Patent No. 7,797,260*, Issued September 14, 2010. (Filed February 2008)

10. Graham Cormode, Minos Garofalakis, S. Muthukrishnan, and Rajeev Rastogi. "Method and Apparatus for Globally Approximating Quantiles in a Distributed Monitoring Environment", *U.S. Patent No. 7,783,647*, Issued August 24, 2010. (Filed November 2005)

11. Graham Cormode and Minos Garofalakis. "Method for Distributed Tracking of Approximate Join Size and Related Summaries", *U.S. Patent No. 7,756,805*, Issued July 13, 2010. (Filed April 2006)

12. Minos Garofalakis and Amit Kumar. "Deterministic Wavelet Thresholding for General Error Metrics", *U.S. Patent No. 7,693,335*, Issued April 6, 2010. (Filed June 2005)

13. Sumit Ganguly, Minos Garofalakis, Rajeev Rastogi, and Krishan Sabnani. "Streaming Algorithms for Robust, Real-time Detection of DDoS Attacks", *U.S. Patent No. 7,669,241*, Issued February 23, 2010. (Filed September 2004)

14. Sumit Ganguly, Minos Garofalakis, Amit Kumar, and Rajeev Rastogi. "Method For Distinct Count Estimation over Joins Of Continuous Update Streams", *U.S. Patent No. 7,668,856*, Issued February 23, 2010. (Filed September 2004)

15. Sumit Ganguly, Minos Garofalakis, and Rajeev Rastogi. "Tracking Set-Expression Cardinalities over Continuous Update Streams", *U.S. Patent No. 7,596,544*, Issued September 29, 2009. (Filed December 2004)

16. Yigal Bejerano, Yuri Breitbart, Minos Garofalakis, and Rajeev Rastogi. "System And Method For Determining The Physical Topology Of A Network Having Multiple Subnets", *U.S. Patent No. 7,535,911*, Issued 5/19/2009. (Filed May 2003)

17. Michael Benedikt, Minos Garofalakis, and Rajeev Rastogi. "Method For Performing Information-Preserving DTD Schema Embeddings", *U.S. Patent No. 7,496,571*, Issued 2/24/2009. (Filed September 2004)

18. Sumit Ganguly, Minos Garofalakis, and Rajeev Rastogi. "Processing Data-Stream Join Aggregates Using Skimmed Sketches", *U.S. Patent No. 7,483,907*, Issued 1/27/2009. (Filed December 2004)

19. Chee-Yong Chan, Wenfei Fan, and Minos Garofalakis. "Method and Apparatus for Secure Processing of XML-Based Documents", *U.S. Patent No. 7,433,870*, Issued 10/7/2008. (Filed December 2004)

20. Alin Dobra, Minos Garofalakis, Johannes Gehrke, and Rajeev Rastogi. "Sketch-Based Multi-Query Processing over Data Streams", *U.S. Patent No. 7,328,220*, Issued 2/5/2008. (Filed December 2004)

21. Shivnath Babu, Minos Garofalakis, and Rajeev Rastogi. "System and Method for Compressing a Data Table Using Models", *U.S. Patent No. 7,143,046*, Issued 11/28/2006. (Filed January 2002)

22. Yuri Breitbart, Minos Garofalakis, Amit Kumar, and Rajeev Rastogi. "System And Method For Optimizing Open Shortest Path First Aggregates And Autonomous Network Domain Incorporating The Same", *U.S. Patent No. 7,082,473*, Issued 7/25/2006. (Filed February 2001)

23. Minos Garofalakis, Aristides Gionis, Rajeev Rastogi, S. Seshadri, and Kyuseok Shim. "Document Descriptor Extraction Method", *U.S. Patent No. 7,080,314*, Issued 7/18/2006. (Filed June 2000)

24. Kaushik Chakrabarti, Minos Garofalakis, Rajeev Rastogi, and Kyuseok Shim. "Approximate Query Processing Using Wavelets", *U.S. Patent No. 6,760,724*, Issued 7/6/2004. (Filed July 2000)

25. Yuri Breitbart, Minos Garofalakis, Cliff Martin, Rajeev Rastogi, S.Seshadri, and Avi Silberschatz. "Determination of Physical Topology of a Communication Network", *U.S. Patent No. 6,697,338*, Issued 2/24/2004. (Filed October 1999)

26. Minos Garofalakis, Yannis Ioannidis, and Banu Ozden. "Method and System for Resource Scheduling for Composite Multimedia Objects", *U.S. Patent No. 6,665,732*, Issued 12/16/2003. (Filed August 1998)

27. Minos Garofalakis, Rajeev Rastogi, and Kyuseok Shim. "System and Method for Constraint-Based Sequential Pattern Mining", *U.S. Patent No. 6,473,757*, Issued 10/29/2002. (Filed March 2000)

28. Minos N. Garofalakis, Yannis E. Ioannidis, Banu Özden, and Avi Silberschatz, "Admission Control System and Method for Media-On-Demand Servers", *U.S. Patent No. 6,330,609*, Issued 12/11/2001. (Filed November 1997)

29. Minos N. Garofalakis, Banu Özden, and Avi Silberschatz, "System and Method for Scheduling Resources for Continuous Media Databases", *U.S. Patent No. 5,845,279*, Issued 12/1/98. (Filed June 1997)

Patents Filed

1. Ramana Yerneni, Erik Vee, Minos Garofalakis, Srinivasan Rajagopal, Jayavel Shanmugasundaram, Mark Sordo, Donald Swanson, and Sergei Vassilvitskii. "Allocation of Internet Advertising Inventory", U.S. Patent Application, Yahoo! Ref. Y04879US00. (Filed December 2008)

2. Sergei Vassilvitskii, Jayavel Shanmugasundaram, Srinivasan Rajagopal, Minos Garofalakis, Erik Vee, and Ramana Yerneni. "Display Advertising Inventory Estimation", U.S. Patent Application, Yahoo! Ref. Y04883US00. (Filed October 2008)

3. Ashwin Machanavajjhala, Erik Vee, Minos Garofalakis, and Jayavel Shanmugasundaram. "Method for Generating Score-Optimal R-trees", U.S. Patent Application, Yahoo! Ref. Y04447US00. (Filed July 2008)

4. Joseph Ting, Minos Garofalakis, Erik Vee, Jayavel Shanmugasundaram, Rajagopal Baskaran, Yuan Zhuge, and Jagadish Samantarai. "System and Methods for Generating Diversified Vertical Search Listings", U.S. Patent Application, Yahoo! Ref. Y02664US00. (Filed October 2007)

5. Antonios Deligiannakis, Minos Garofalakis, and Nick Roussopoulos. "Probabilistic Wavelet Synopses for Multiple Measures", U.S. Patent Application, Case Name: DELIGIANNAKIS 1-25-1 (LCNT/126439). (Filed September 2005)

6. Chee-Yong Chan, Wenfei Fan, Pascal Felber, Minos Garofalakis, and Rajeev Rastogi. "Techniques for Information Dissemination Using Tree Pattern Subscriptions and Aggregation Thereof", U.S. Patent Application, Case Name: CHAN 3-1-2-14-51. (Filed June 2003)

7. Chee-Yong Chan, Pascal Felber, Minos Garofalakis, and Rajeev Rastogi. "System And Method For Filtering XML Documents With XPath Expressions", U.S. Patent Application, Case Name: CHAN 2-1-12-45. (Filed July 2002)

Research Grants

1. HORIZON-HLTH-2021-TOOL-06 (Innovative tools for use and re-use of health data): *"DT4H – Data-Tools4Heart: A European Health Data Toolbox for Enhancing Cardiology Data Interoperability, Reusability and Privacy"* (2022-2026).
   Role: *Principal Investigator for ATHENA RC.* (Total funding: 7.75M€, ATHENA RC budget: 700K€)

2. H2020-ICT-2016 (Big Data PPP: Privacy-Preserving Big Data Technologies) Research and Innovation Action (RIA): *"MHMD – My Health My Data"* (2016-2019).
   Role: *Work-Package Leader for WP5: Privacy-Preserving Data Analytics, for ATHENA RC.*

3. FP7-ICT-2013 (Scalable Data Analytics Objective) Collaborative STREP Project: *"FERARI – Flexible Event Processing for Big Data Architectures"* (2014-2017).
   Role: *Principal Investigator for TUC.* (Total funding: 4.3M€, TUC budget: 693K€)

4. FP7-ICT-2013 (Scalable Data Analytics Objective) Collaborative STREP Project: *"QualiMaster – A Configurable Real-Time Data Processing Infrastructure Mastering Autonomous Quality Adaptation"* (2014-2017).
   Role: *Principal Investigator for TUC/TSI.* (Total funding: 3.7M€, TUC/TSI budget: 915K€)

5. FP7 FET Flagship Project: *"HBP – The Human Brain Project (Ramp-up Phase)"* (2013-2016).
   Role: *Principal Investigator for TUC (in charge of brain data analytics).* (TUC budget: 250K€)

6. FP7-ICT-2011 Collaborative STREP Project: *"LEADS – Large-Scale Elastic Architecture for Data-as-a-Service"* (2012-2015).
   Role: *Principal Investigator for TUC/TSI.* (Total funding: 2.9M€, TUC/TSI budget: 649K€)

7. FP7-ICT-2009-FET Open Collaborative STREP Project: *"LIFT – Using Local Inference in Massively Distributed Systems"* (2010-2013).
   Role: *Principal Investigator for TUC.* (Total funding: 2.5M€, TUC budget: 482K€)

8. FP7-PEOPLE-2009-RG (Marie-Curie International Reintegration Grant) PIRG05-GA-2009-249217: *"HeisenData: Towards a Next-Generation Uncertain-Data Management System"* (2010-2014).
   Role: *Fellow & Scientist-in-Charge.* (Total funding: 100K€)

9. Basic Research Grant, Research Office (ELKE), Technical University of Crete: *"Continuous Analysis of Distributed Data Streams"* (2010-2012).
   Role: *Principal Investigator.* (Total funding: 15K€)

10. NSF IDM Award 0414852: *"Approximate Distributed Stream Tracking: Enabling the Next Generation of Data-Streaming Applications"* (2005-2009).
    Role: *Co-Principal Investigator* (with S. Muthukrishnan, R. Rastogi). (Total funding: $270,000)

Teaching

- *CS-615: Processing and Analyzing Big Data*, a graduate course at Technical Univ. of Crete. (2009-2016, 2020).

- *CS-415: Advanced Topics in Database Systems*, a 4th-year elective undergraduate course at Technical Univ. of Crete. (2009-2019).

- *CS-401: Algorithms and Complexity*, a 4th-year mandatory undergraduate course at Technical Univ. of Crete. (2008-2020).

- *CS298-12: UC Berkeley Database Seminar* (Fall'2007). (Web page: `http://db.cs.berkeley.edu/dbseminar.php/`)

- *CS286: Implementation of Database Systems*, a graduate course at UC Berkeley, EECS Department (Spring'2007, with Raghu Ramakrishnan). (Course web page: `http://db.cs.berkeley.edu/cs286sp07/`)

- *CS186: Introduction to Database Systems*, an upper-level undergraduate course at UC Berkeley, EECS Department (Fall'2005, with Joe Hellerstein). (Course web page: `http://www-inst.eecs.berkeley.edu/~cs186/fa05/`)

Student/Postdoc Supervision & Mentoring

- *Post-Doc Supervisor:*

  - Nikos Giatrakos (PhD 2012, University of Piraeus), *2012 – 2022. (Currently, Assistant Professor at Technical University of Crete)*

  - Odysseas Papapetrou (PhD 2011, Leibniz Universität Hannover), *2011 – 2015. (Currently, Assistant Professor at Eindhoven University of Technology)*

  - Ekaterini Ioannou (PhD 2011, Leibniz Universität Hannover), *2011 – 2015. (Currently, Assistant Professor at Tilburg University)*

- *Ph.D. Thesis Advisor:*

  - Wieger R. Punter (TU Eindhoven), Ph.D. thesis topic: *Streaming Data Analytics* (co-advised with Odysseas Papapetrou).

  - Antheas Kapenekakis (Univ. of Aalborg), Ph.D. thesis topic: *Private Synthetic Data Generation at Scale* (co-advised with Katja Hose and Deniele Dell'Aglio).

  - Daisy Zhe Wang (UC Berkeley), Ph.D. thesis title: *"Extracting and Querying Probabilistic Information in BayesStore"*, June 2011 (co-advised with Joe Hellerstein and Mike Franklin).
    First Employment: Assistant Professor, CISE Department, University of Florida.

- *M.Sc. Thesis Advisor:*

  - Athanasios Giannopoulos and Dimitris Mouris (Univ. of Athens), *"Privacy Preserving Medical Data Analytics using Secure Multi Party Computation. An End-To-End Use Case"* M.Sc. Thesis, September 2018.

  - Nikolaos Pavlakis (Technical Univ. of Crete), *"Scaling Out Streaming Time-Series Analytics on Storm"*, M.Sc. Thesis, March 2017. *(Next position: Software Engineer at Amazon Web Services)*

  - Ioannis Demertzis (Technical Univ. of Crete), *"Private, Secure, and Efficient Range Search"*, M.Sc. Thesis, July 2015. *(Next position: PhD candidate at Univ. of Maryland, College Park; Now: Assistant Professor at UC Santa-Cruz)*

- Ioakeim Perros (Technical Univ. of Crete), *"Stochastic PageRank Maintenance over Shared-Nothing Architectures"*, M.Sc. Thesis, July 2014. *(Next position: PhD candidate at Georgia Tech; Now: Lead Staff ML Scientist at HEALTH[at]SCALE)*

- Evangelos Vazaios (Technical Univ. of Crete), *"BePadoop: Large-Scale Exact Belief Propagation in Hadoop"*, M.Sc. Thesis, October 2013. *(Now: Researcher at Huawei Edinburgh Research Center)*

- Kostas Athanasoglou (Technical Univ. of Crete), *"Sketch-based Geometric Monitoring of Distributed Data Streams"*, M.Sc. Thesis, September 2012.

- Lilia Gutnik (UC Berkeley), *"Interface Challenges for Probabilistic Databases"*, M.Sc. Thesis (Plan II), June 2007.

- *(Undergraduate) Diploma Thesis Advisor:* Kalliopi Kalantzaki ("A High-Performance, Hadoop-based Parallel Crawler", TUC, March 2010), Agis Chartsias ("Link Prediction in Large-Scale Social Networks using Hadoop", TUC, July 2010), Apostolos Nydriotis ("Dynamic Web-Service Mashups", TUC, December 2010), Georgios Christopoulos ("Fast, Efficient Data Stream Clustering Using Hadoop-Online", TUC, July 2011), Lampros Papageorgiou ("Lineage Processing in Uncertain Operator Pipelines", TUC, July 2011), Stylianos Papagrigoriou ("Efficient Segmentation and Classification of Hype Spectral Cubes", TUC, July 2012), Ioakeim Perros ("Soft Co-Clustering in Map-Reduce using Distributed Sparse Matrix Regression", TUC, October 2012), Vasiliki Prokopi ("Managing Information Extraction in a Mashup Environment", TUC, December 2012), Lefteris Soulas ("Online Machine Learning for Currency Exchange Rate Prediction", TUC, February 2013), Georgios Komninos ("Implementation of a Client-Server Mashup System using the Android Platform", TUC, April 2013), Georgios Fragiadoulakis ("Implementation of Pagerank-based Search Engine on Hadoop", TUC, October 2013), Ioannis Demertzis ("Private Data Analytics in Cloud Computing Environments", TUC, October 2013), Andreas Grammenos ("A Distributed framework for online pattern discovery in multiple streaming time-series", TUC, March 2015), Eirini Asteri ("Distributed Sliding-Window Matrix Sketching", TUC, August 2016), Periklis Chrysogelos ("Streaming, High Performance Support Vector Methods", TUC, August 2016), Zafeiria Moumoulidou ("Dynamic Decision Trees in a Distributed Environment", TUC, July 2018), Vassilis V. Digalakis ("Data Analytics with Differential Privacy", TUC, August 2018), Christos Ziakas ("Implementation of Decision Trees for Data Streams on the Spark Streaming Platform", TUC, September 2018), Nikolaos Kafritsas ("A Caching Platform for Large Scale Data-Intensive Applications", TUC, August 2019), Rafail-Athanasios Demertzis ("Efficient Multi-dimensional Range Searchable Encryption for Large Databases", TUC, September 2019), Christos Zaharioudakis ("Large-Scale Differentially-Private Data Synthesis", TUC, February 2020), Alexandros Tragkas ("Blockchain Support for a Personal Data Marketplace", TUC, June 2021), George Margaritis ("Differentially-Private Data Synthesis using Variational Autoencoders", TUC, July 2021) Ioannis Misokalos ("MEREBO: A web mart aggregator for multi-source entity resolution and basket optimization", TUC, January 2023) Kanakis Kelaidis ("Federated LoRA Tuning for LLMs", TUC, October 2025).

- *Ph.D. Thesis Committees:* (1) Albert Bifet ("Adaptive Learning and Mining for Data Streams and Frequent Patterns", Universitat Politecnica de Catalunya, March 2009, *Advisors:* Ricard Gavalda, Jose L. Balcazar). (2) Haris Georgiadis ("XML Query Processing: Architecture and Algorithms for Optimization and Execution", Athens University of Economics and Business, February 2010, *Advisor:* Vasilis Vassalos). (3) Kostas Tzoumas ("Techniques for the Efficient Management of Non-Uniform Data and Workloads", Aalborg University, June 2011, *Advisor:* Christian S. Jensen). (4) Iris Miliaraki ("Distributed Filtering and Dissemination of XML Data in Peer-to-Peer Systems", National & Kapodistrian University of Athens, July 2011, *Advisor:* Manolis Koubarakis). (4) Michail G. Kounelakis ("Identification of Significant Biological Markers at Metabolic & Genomic Level for Non-Invasive Discrimination of Brain Tumors", Technical University of Crete, December 2011, *Advisor:* Michalis Zervakis). (5) Sotirios Batsakis ("SOWL: A Framework for Handling Spatio-Temporal Information in OWL", Technical University of Crete, December 2011, *Advisor:* Euripides G.M. Petrakis). (6) Nikolaos Giatrakos ("Monitoring and Mining Distributed Data Streams", University of Piraeus, November

2012, *Advisor:* Yannis Theodoridis). (6) Michele Dallachiesa ("Modeling and Querying Data Series and Data Streams with Uncertainty", University of Trento, April 2014, *Advisor:* Themis Palpanas). (7) *Faculty Opponent for* Farnaz Moradi ("Improving Community Detection Methods for Network Data Analysis", Chalmers University of Technology, September 2014, *Advisors:* Philippas Tsigas, Tomas Olovsson). (8) Katsiyarina Mirylenka ("Mining and Learning in Sequential Data Streams: Interesting Correlations and Classification in Noisy Settings", University of Trento, April 2015, *Advisor:* Themis Palpanas). (9) Nikolaos Panagiotou ("Real-time Analysis in Massive Streams and Social Media", National and Kapodistrian University of Athens, October 2020, *Advisor:* Dimitrios Gunopulos). (10) Elias Alevizos ("Complex Event Forecasting", National and Kapodistrian University of Athens, January 2022, *Advisor:* Panagiotis Rondogiannis). (11) Cui Qin ("Quality-Aware Algorithm Switching Framework for Adaptive Stream Processing Systems", University of Hildesheim, January 2022, *Advisor:* Klaus Schmid). (12) Georgios Siachamis ("Adaptivity for Streaming Dataflow Engines", TU Delft, December 2024, *Advisor:* Asterios Katsifodimos). (13) Daniele Lunghi ("Toward Robust Credit Card Fraud Detection: A Domain-Specific Study of Adversarial Machine Learning", Universite Libre de Bruxelles, October 2025, *Advisor:* Gianluca Bontempi). (14) Rudi Poepsel Lemaitre ("Towards Scalable Compliant Data Processing Using Data Masking and Summarization", Technischen Universität Berlin, May 2026, *Advisor:* Volker Markl).

- *M.Sc. Thesis Committees:* (1) Shariq Rizvi ("Complex Event Processing Beyond Active Databases: Streams and Uncertainties", UC Berkeley, December 2005). (2) Shawn R. Jeffery ("Statistical Techniques for Adaptive RFID Data-Stream Cleaning", UC Berkeley, December 2005). (3) Evengelos E. Papalexakis ("Co-Clustering as Multilinear Decomposition with Sparse Latent Factors", Technical University of Crete, July 2011). (4) Konstantinos G. Kechagias ("Optϵmizer: Towards Democratizing Differential Privacy", National and Kapodistrian University of Athens, October 2023), (3) George Klioumis ("Distributed Monitoring of Streaming Data over Neural Training Pipelines"", Technical University of Crete, October 2025).

- *Summer Internship Mentor (at Intel Research Berkeley):* Daisy Zhe Wang (UC Berkeley, now Assoc. Professor at Univ. of Florida — Summer'2006), Eirinaios Michelakis (UC Berkeley — Summer'2006).

- *Summer Internship Mentor (at Bell Labs):* Kaushik Chakrabarti (UIUC, now at Microsoft Research — Summer'99), Aristides Gionis (Stanford Univ., now Professor at Aalto Univ. — Summer'99), Amol Deshpande (UC Berkeley, now Professor at Univ. of Maryland, College Park — Summer'2000), Shivnath Babu (Stanford Univ., now Assoc. Professor at Duke Univ. — Summer'2000), Alin Dobra (Cornell Univ., now Assoc. Professor at Univ. of Florida — Summer'2001-2002), Alkis Polyzotis (Univ. of Wisconsin–Madison, now at Google — Summer'2001), Nitin Thaper (M.I.T. — Summer'2002), Abhinandan Das (Cornell Univ., now at Google — Summer'2003).

- *Other student collaborators:* Antonios Deligiannakis (Univ. of Maryland–College Park, now Assoc. Professor at Technical Univ. of Crete — Summer/Fall'2003), Dimitris Sacharidis (Natl. Technical Univ. of Athens — May'2005), Frederick Reiss (UC Berkeley, now at IBM Almaden — Summer/Fall'2005), Michael Shekelyan (Free Univ. of Bozen-Bolzano, now at Queen Mary Univ. of London — Summer/Fall'2017), Ling Huang (UC Berkeley, now at AHI Fintech), Ryan J. Huebsch (UC Berkeley, now at Google), Shawn R. Jeffery (UC Berkeley, now at GoodGuide.com), Wei Wang (UC Berkeley, now at Facebook).

Invited Keynote Talks

1. *"A Bird's-Eye View of Complex Streaming Data Analytics"*
   - 19th International Conference on Distributed Event-Based Systems (DEBS'2025), Gothenburg, Sweden, June 2025.

2. *"Challenges in Next-Generation Lakehouse Systems"*

- 2025 Huawei Global Data Storage Expert Forum – Intelligence Ahead: Exploring the Future of Data in the AI Era, Suzhou, China, September 2025.

3. *"Have your Data and Share it too: Private Data Analytics at Scale"*
   - 2023 IEEE International Conference on Big Data (IEEE BigData'23), Sorrento, Italy, December 2023.
   - 16th International Conference on Management of Digital Ecosystems (MEDES'2024), Naples, Italy, November 2024.
   - 9th APWeb-AIM joint International Conference on Web and Big Data (APWeb-WAIM'2025), Shenyang, China, August 2025.

4. *"Complex-Event Mining over Centralized and Distributed Data Streams"*
   - 4th International Conference on Process Mining (ICPM'22), Bolzano, Italy, October 2022.

5. *"Distributed Data Streams and the Power of Geometry"*
   - 21st International Conference on Management of Data (COMAD'2016), Pune, India, March 2016.

6. *"Querying Distributed Data Streams"*
   - 18th East-European Conference on Advances in Databases and Information Systems (ADBIS'2014), Ohrid, FYROM, September 2014.
   - 8th International Conference on Distributed Event-Based Systems (DEBS'2014), Mumbai, India, May 2014.
   - 2014 International Workshop on Cloud Data and Platforms (CloudDP'2014 – in conjunction with EuroSys'2014), Amsterdam, Netherlands, April 2014.

7. *"Querying Big, Dynamic, Distributed Data"*
   - 17th ACM International Workshop on Data Warehousing and OLAP (DOLAP'2014), Shanghai, China, November 2014.
   - 5th International Conference on Intelligence, Systems and Applications (IISA'2014), Chania, Greece, July 2014.
   - 21st Italian Symposium on Advanced Database Systems (SEBD'2013), Roccella Jonica, Italy, June 2013.

8. *"HeisenData – Towards Next-Generation Uncertain Database Systems"*
   - 6th International Conference on Scalable Uncertainty Management (SUM'2012), Marburg, Germany, September 2012.

9. *"Data Streaming in a Networked World: Algorithms and Applications"*
   - 4th International Workshop on Networking Meets Databases (NetDB'2008 – in conjunction with IEEE ICDE'2008), Cancun, Mexico, April 2008.

10. *"Constraint-Based Model Mining: Algorithms and Applications"*
    - 2nd International Workshop on Knowledge Discovery in Inductive Databases (KDID'2003 – in conjunction with ECML/PKDD'2003), Cavtat-Dubrovnik, Croatia, September 2003.

11. *"Analyzing Massive Data Streams: Past, Present, and Future"*
    - 8th ACM SIGMOD Workshop on Research Issues in Data Mining and Knowledge Discovery (DMKD'2003), San Diego, California, June 2003.

Recent Invited Talks and Tutorials

1. *"Supporting Real-time Analytics over Big Streaming Data"*

   - CSE Distinguished Lecture, The Hong Kong University of Science and Technology (HKUST), Hong Kong, February 2024.

2. *"Small Synopses for Big Streaming Data: Fast, Accurate, Private(?)"*

   - Invited tutorial at the 1st DEDS School on Ethical and Legal Aspects of Data, Athens, Greece, April 2022.

3. *"Differential Privacy and Synthetic Data"*

   - Invited talk at the EAN-EBRAINS Joint Workshop: The Future of Medical Data Sharing in Clinical Neurosciences, Virtual Event, December 2021.

4. *"Distributed Data Streaming and the Power of Geometry"*

   - Invited talk at the Dagstuhl Seminar on Foundations of Composite Event Recognition, Dagstuhl, Germany February 2020.

5. *"With Big Data Comes Big Responsibility: Towards Private Data Analytics at Scale"*

   - Invited talk at the Global Artificial Intelligence Conference (GAITC) (Forum on "Efficient Machine Learning on Complex Big Data"), Hangzhou, China, June 2021.
   - Invited talk at the Human Brain Project Open Day (Session on "Big Data and Computational Neuroscience"), Athens, Greece, February 2020.

6. *"Streaming Analytics"*

   - Invited tutorial at the 1st ACM Europe Summer School: Data Science and Big Data, Athens, Greece, July 2017. (Web page: `http://summerschool.acm.org/`)

7. *"Streaming Big Data Analytics"*

   - Invited tutorial at the 3rd International Winter School on Big Data (BigDat'2017), Bari, Italy, February 2017. (Web page: `http://grammars.grlmc.com/bigdat2017/`)

8. *"The Promise and Challenges of Big Data"* (in Greek)

   - Invited talk at *"TEDx Chania – Squaring the Circle"*, Chania, Greece, October 2015.

9. *"Streaming Big Data Analytics"*

   - Invited tutorial at the 2015 INIT/AERFAI Summer School on Machine Learning, Benicassim, Spain, June 2015. (Web page: `http://www.init.uji.es/school2015/`)

10. *"Querying Continuous Data Streams"*

    - Invited tutorial at the 2015 International Winter School on Big Data (BigDat'2015), Tarragona, Spain, January 2015. (Web page: `http://grammars.grlmc.com/bigdat2015/`)

11. *"Querying Big, Dynamic, Distributed Data"*

    - Invited talk at Big Data Analytics 2013, Microsoft Research, Cambridge, May 2013. (Web page: `http://research.microsoft.com/en-us/events/bda2013/`)

- Invited talk at the 2013 Information Theory and Applications (ITA) Workshop, San Diego, USA, February 2013. (Web page: `http://ita.ucsd.edu/workshop.php`)
- Invited seminar at Univ. of California, San Diego and Univ. of Texas at Austin, February 2013.

12. *"Querying Distributed Data Streams"*
    - Invited seminar at Technical Univ. of Berlin and Univ. of Trento, April 2014.
    - Invited talk at the Innovative Querying of Streams (INQUEST) Workshop, Oxford, UK, September 2012. (Web page: `http://games.cs.ox.ac.uk/inquest12/`)

13. *"Data-Management Challenges for Big-Data Analytics"*
    - Invited talk at the 2012 MODAP-MOVE Summer School, Leysin, Switzerland, July 2012. (Web page: `http://mss2012.modap.org/`)

14. *"Geometric Query Tracking using Sketches and Models"*
    - Invited talk at the 2012 NII-Shonan Meeting on Large-Scale Distributed Computation, Shonan Village, Japan, January 2012. (Web page: `http://www.nii.ac.jp/shonan/seminar011/`)

15. *"Processing Massive Data Streams"*
    - Invited full-day seminar at the 2008 VLDB Database School, Cairo University, Cairo, Egypt, March 2008. (Web page: `http://www.fci-cu.edu.eg/EGY-VLDB-School/`)

16. *"Streaming in a Networked World: Querying Distributed Data Streams"*
    - Invited seminar at Athens University of Economics and Business, Athens, Greece, February 2010.
    - Invited seminar at Carnegie Mellon University, Pittsburgh, Pennsylvania, May 2008.

17. *"Querying and Tracking Distributed Data Streams"*
    - Invited full-day seminar at the University of Neuchatel, Switzerland, October 2007. (Web page: `http://members.unine.ch/pascal.felber/events/streams07/`)

18. *"Streaming in a Connected World: Querying and Tracking Distributed Data Streams"* (with Graham Cormode)
    - *Tutorial* at EDBT'2008, ACM SIGMOD'2007, VLDB2006.

19. *"Sketching Streams through the Net: Distributed Approximate Query Tracking"*
    - Stanford University InfoSeminar, Stanford, California, February 2006.
    - UC Berkeley EECS Distinguished Lecture Series, Berkeley, California, November 2005.
    - Database seminar at UC Berkeley, Berkeley, California, September 2005.

20. *"Wavelet Synopses with Error Guarantees"*
    - Database seminar at University of Washington, Seattle, Washington, December 2005.
    - Invited research seminar at Intel Research, Berkeley, California, May 2004.

21. *"Sketching Massive Distributed Data Streams"*
    - Fall Neyman Seminar, UC Berkeley Statistics Dept., Berkeley, California, November 2006.
    - Invited database seminar at the University of Waterloo, Waterloo, Canada, April 2005.

22. *"Querying and Mining Data Streams: You Only Get One Look"* (with Johannes Gehrke and Rajeev Rastogi)

- *Tutorial* at ACM SIGMOD'2002, ACM SIGKDD'2002, VLDB'2002, WAIM'2002 *(invited)*.

Professional Service

Editorial and Community Service

- VLDB Endowment Awards: *Committee Member* (2025 – present)

- Huawei Storage OlympusMons Advisory Committee: *Member* (2025 – present)

- IEEE Computer Society Fellow Evaluating Committee: *Member* (2023)

- ACM SIGMOD Jim Gray Doctoral Dissertation Award: *Committee Member* (2013 – 2015)

- Encyclopedia of Database Systems (EDBS), 2nd Edition: *Area Editor (Uncertain Data Management)*

- Foundations and Trends in Databases: *Editorial Board Member* (2006–2019)

- Statistical Analysis and Data Mining (SAM): *Associate Editor* (2010–2017)

- Knowledge and Information Systems: An International Journal (KAIS): *Editorial Board Member* (2010–2017)

- Social Network Analysis and Mining (SNAM): *Associate Editor* (2013–2017)

- Proceedings of the VLDB Endowment: *Associate Editor* (Vol.9, 2016); *Review Board Member* (2008, 2009, 2010, 2012, 2013, 2014, 2015)

- ACM Transactions on Database Systems (TODS): *Associate Editor* (2008–2011)

- IEEE Transactions on Knowledge and Data Engineering (TKDE): *Associate Editor* (2007–2011)
    - *Co-Editor (with R. Cheng, M. Chau, J. Xu Yu), Special Issue on Mining Large Uncertain and Probabilistic Databases*, Vol. 22, No. 9, September 2010.

- IEEE Data Engineering Bulletin: *Associate Editor* (2004–2006)
    - *Editor, Special Issue on In-Network Query Processing*, Vol. 28, No. 1, March 2005.
    - *Co-Editor (with Dan Suciu), Special Issue on Probabilistic Data Management*, Vol. 29, No. 1, March 2006.

Organization Committees

- Conference General Co-Chair: *IEEE ICDE'2021*

- Conference Program Committee Chair/Co-Chair: *VLDB'2007 (Core Database Technology), ACM CIKM'2014 (Knowledge Management), IEEE ICDE'2018 (Demonstrations), IEEE DSAA'2023 (Applications), IEEE ICDE'2024 (Lightning Talks), IEEE ICDE'2025 (Industry and Applications), IEEE ICDE'2026 (Data Engineering Future Technologies)*

- Conference Program Committee Vice-Chair/Area Chair/Group Leader/Associate Editor: *IEEE ICDM'2004, SDM'2009 (Data Stream Mining), ACM SIGMOD'2009, EDBT'2011, IEEE ICDM'2012, IEEE ICDE'2012 (Uncertain and Probabilistic Data), ACM SIGMOD'2012, IEEE ICDM'2019, IEEE ICDM'2023, IEEE ICDM'2024, ACM SIGMOD'2025, IEEE ICDM'2025*

- Conference Senior Program Committee Member: *ACM CIKM'2012 (Database Track & Knowledge Management Track), ACM CIKM'2013 (Database Track & Knowledge Management Track), ASONAM'2014, SDM'2015, ACM SIGKDD'2016 (Applied Data Science Track)*

- Conference Best Paper Award Chair: *IEEE ICDE'2012*

- Conference Test-of-Time Award Chair: *EDBT'2024*

- Conference Tutorials Chair: *EDBT'2014*

- General Chair, *1st Olympia Research Summit (Athens, Greece)*: 2025

- Co-Chair, *ACM Europe Summer School on Data Science (Athens, Greece)*: 2019, 2023, 2024

- Workshop Program Committee Chair/Co-Chair: *DMKD'2002 (in conjunction with ACM SIGMOD), EPForDM'2015 (in conjunction with EDBT/ICDT), BDPR'2016 (in conjunction with EDBT/ICDT)*

- Workshop General Chair/Co-Chair: *HDMS'2012, BD3'2013 (in conjunction with VLDB), EPForDM'2015 (in conjunction with EDBT/ICDT), IDSR'2025 (in conjunction with VLDB'2025), IDSR'2026 (in conjunction with IEEE ICDE'2026)*

Conference Program Committees

- ACM SIGMOD International Conference on Management of Data (SIGMOD): *2001, 2003, 2004 (Industrial Track), 2006, 2007, 2008, 2013, 2015, 2018, 2021, 2026*

- International Conference on Very Large Databases (VLDB): *2000 (Demo Track), 2002, 2005, 2006, 2008, 2010, 2012, 2013, 2014, 2015*

- ACM SIGMOD-SIGACT-SIGART Symposium on Principles of Database Systems (PODS): *2005, 2008, 2015, 2019*

- IEEE International Conference on Data Engineering (ICDE): *2002, 2004, 2005, 2006, 2007, 2008, 2010, 2011, 2015*

- International Conference on Extending Database Technology (EDBT): *2006, 2012, 2013 (Research Track & Industrial Track), 2014 (Demo Track), 2015, 2016, 2017*

- ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD): *2002, 2003, 2004, 2006, 2007, 2013, 2014*

- International Conference on Machine Learning (ICML): *2003, 2005*

- Conference on Uncertainty in Artificial Intelligence (UAI): *2013, 2014, 2015, 2016, 2017, 2018*

- ACM Conference on Information and Knowledge Management (CIKM): *1999, 2004, 2006, 2007, 2008, 2010, 2011, 2017*

- International Conference on Distributed Computing Systems (ICDCS): *2014 (Big Data, Data Management and Analytics)*

- International World Wide Web Conference (WWW): *2014 (Web Mining)*

- SIAM International Conference on Data Mining (SDM): *2004, 2005, 2006, 2007, 2008, 2010, 2011, 2018, 2020*

- IEEE International Conference on Data Mining (ICDM): *2005, 2006, 2008, 2009 (Awards Committee), 2011, 2013, 2017*

- ACM International Conference on Distributed Event-Based Systems (DEBS): *2013, 2014*

- IEEE International Conference on Big Data (BigData): *2013, 2014, 2023*

- International Conference on Scalable Uncertainty Management (SUM): *2014*

- ACM Symposium on Applied Computing (SAC): *2004 (Data Streams Track & Internet Data Management Track), 2005 (Data Streams Track)*

- European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD): *2004, 2005, 2006, 2007*

- International Conference on Scientific and Statistical Database Management (SSDBM): *2003, 2009, 2014*

- International Conference on Advances in Social Network Analysis and Mining (ASONAM): *2010, 2011, 2012, 2013*

- International Conference on Management of Data (COMAD): *2005b*

- International Conference on Database Systems for Advanced Applications (DASFAA): *2003, 2006*

- Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD): *2003, 2004, 2005, 2006*

- East-European Conference on Advances in Databases and Information Systems (ADBIS): *2012, 2014*

- International Conference on Data Warehousing and Knowledge Discovery (DaWaK): *2001, 2002, 2003, 2004*

- Hellenic Data Management Symposium (HDMS): *2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2016*

- International Human.Society@Internet Conference: *2003*

Workshop Program Committees

- First International Workshop on Bringing the Value of "Big Data" to Users (DATA4U – in conjunction with VLDB): *2014*

- ACM SIGMOD Workshop on Research Issues in Data Mining and Knowledge Discovery (DMKD): *2000, 2001, 2003*

- Intl. Workshop on Data Management for Sensor Networks (DMSN – in conjunction with VLDB): *2004, 2005, 2006, 2007, 2008, 2009*

- Intl. XML Database Symposium (XSym – in conjunction with VLDB): *2006, 2010*

- ACM SIGCOMM/SIGMETRICS Workshop on Mining Network Data (MineNet): *2006, 2007*

- IEEE Intl. Workshop on Networking Meets Databases (NetDB – in conjunction with ICDE): *2006*

- Intl. ACM Workshop on Data Engineering for Wireless and Mobile Access (MobiDE – in conjunction with SIGMOD/PODS): *2008, 2009*

- Intl. Workshop on RFID Data Management (RFDM – in conjunction with ICDE): *2008*

- Workshop on Big Data Customer Analytics (BDCA – in conjunction with ICDE): *2014*

- ACM Intl. Workshop on Web Information and Data Management (WIDM – in conjunction with CIKM): *2008*

- Intl. Workshop on Collaborative Big Data (C-Big – in conjunction with IEEE CollaborateCom): *2012*

- Intl. Workshop on Mining Multiple Information Sources (MMIS – in conjunction with ICDM): *2010*

- Intl. Workshop on Knowledge Discovery in Inductive Databases (KDID – in conjunction with ECML/PKDD): *2004, 2005, 2006*

- Intl. Workshop on Knowledge Discovery from Data Streams (KDDS – in conj. with ECML/PKDD, ICML): *2004, 2006*

- VLDB Ph.D. Workshop: *2011*

- Joint EDBT/ICDT Ph.D. Workshop: *2008, 2009, 2010, 2011, 2012, 2013*

- Intl. Workshop on Exploratory Search in Databases and the Web (ExploreDB – in conjunction with EDBT/ICDT): *2014*

- Intl. Workshop on Pattern Representation and Management (PaRMa – in conjunction with EDBT): *2004, 2006*

- International Workshop on Database Technologies for Handling XML Information on the Web (DataX – in conjunction with EDBT): *2006, 2008, 2009*

- International Workshop on Innovative Internet Community Systems (I2CS): *2006*

Government Panels/Workshops & Research Proposal Reviewing

- NSF Information Technology Research (ITR) Program Panel, Washington, D.C.: *Invited Panelist* (2003)

- NSF Division of Information & Intelligent Systems (IIS) Proposal Panel, Washington, D.C.: *Invited Panelist* (1999, 2001, 2003)

- Natural Sciences and Engineering Research Council of Canada (NSERC): *Proposal Reviewer* (2005)

- NASA Intelligent Systems Program: *Proposal Reviewer* (2004)

- Netherlands Organization for Scientific Research (NWO) — GLANCE Program: *Proposal Reviewer* (2006)

- Danish National Research Foundation: *Proposal Reviewer* (2006)

- Research Grants Council of Hong Kong (RGC): *Proposal Reviewer* (2004)

- University of California MICRO (UC-MICRO) Program: *Proposal Reviewer* (2002, 2003)

- 2000 Information and Data Management (IDM) Workshop, Roanoke, Virginia: *Invited Industrial Participant*

Conference/Workshop/Event Panels

- *"Sector Deep-Dive: Technological Transformation Across Industries"*, Panel at Grant-Thornton Future Unfold'2025: Framing the Future of Technology, December 2025: *Invited Panelist*

- *"Privacy vs. Utility: Can this Conflict over Personal Data Have Two Winners?"*, Panel at the 30th International Conference on Computer Communications and Networks (ICCCN'2021), July 2021: *Invited Panelist*

- *"Scalable Query Processing and Engines over Cloud Databases: Models, Paradigms, Techniques, Future Challenges"*, Panel at the 33rd International Conference on Scientific and Statistical Database Management (SSDBM'2021), July 2021: *Invited Panelist*

- *"The Changing Face of Cyber Security"*, Panel at the Economist Virtual Summit "AI at the Dawn of 2021: Thinking Outside the Box" , January 2021: *Invited Panelist*

- *"The New Jobs that Bring the Future to our Doorstep"*, Panel at the Economist Event "A World in Transition: The New Jobs, The New Skills", Athens, Greece, March 2018: *Invited Panelist*

- *"Big and Useful: What's in the Data for Me?"*, Panel at the 39th International Conference on Very Large Databases (VLDB'2013), Trento, Italy, August 2013. (organized by Rada Chirkova): *Invited Panelist*

- *"The Claremont Report on Database Research"*, Panel at the 7th Hellenic Data Management Symposium (HDMS'2008), Heraklion-Crete, Greece, July 2008 (organized by Yannis Ioannidis): *Invited Panelist*

- *"Sensor Data Management: Are We Done?"*, Panel at the 4th International Workshop on Data Management for Sensor Networks (DMSN'2007 – In conjunction with VLDB'2007), Vienna, Austria, September 2007 (organized by Magdalena Balazinska, Jun Yang): *Invited Panelist*

- *"How Real can Real-Time Business Intelligence be?"*, Panel at the 1st International Workshop on Business Intelligence for the Real Time Enterprise (BIRTE'2006 – In conjunction with VLDB'2006), Seoul, Korea, September 2006 (organized by Malu Castellanos, Umesh Dayal): *Invited Panelist*

- *"Distributed Management of Data and Services: The Challenge of the Webs"*, Panel at the 9th International Conference on Extending Database Technology (EDBT'2004), Heraklion-Crete, Greece, March 2004 (organized by Vasilis Vassalos): *Invited Panelist*

- *"What's next in XML and databases?"*, Panel at the 2004 International Workshop on Database Technologies for Handling XML Information on the Web (DataX'2004 – In conjunction with EDBT'2004), Heraklion-Crete, Greece, March 2004 (organized by Marco Mesiti): *Invited Panelist*

Honors and Awards

- *ACM Fellow (2018)* "for contributions to data processing and analytics, particularly data streaming, approximation and uncertainty"

- *IEEE Fellow (2017)* "for contributions to data streaming analytics"

- *Member, Academia Europaea (2023)*

- Recipient of the *2015 Excellence in Research Award* of the Technical University of Crete.

- **ADBIS'2025 Best Research Paper Award** for *"Pasteur: Scaling Privacy-Aware Data Synthesis"* (with A. Kapenekakis, D. Dell'Aglio, M. Bøgsted, K. Hose).

- **VLDB'2024 Best Research Paper Award** for *"OmniSketch: Efficient Multi-Dimensional High-Velocity Stream Analytics with Arbitrary Predicates"* (with W. Punter, O. Papapetrou).

- **ICDE'2009 Best Research Paper Award** for *"Histograms and Wavelets on Probabilistic Data"* (with G. Cormode). (Paper was also invited to a special issue of IEEE Transactions on Knowledge and Data Engineering (TKDE).)

- ACM SIGMOD'2006 paper on declarative networking was featured in the *"Research Highlights"* of the Communications of the ACM (CACM), 52(11), 2009.

- "Best of" conference paper selection: ICDT'2017, SIGMOD'2016, SIGMOD'2013, VLDB'2006, VLDB'2005, PODS'2004, PODS'2003, VLDB'2002, SIGMOD'2002, VLDB'2000.

- Conference Best Demonstration Awards: EDBT'2024, CIKM'2020.

- Bell Labs President's Gold Award as a member of the *NetInventory – NetView Team* (2004).

- Central Bell Labs Teamwork Award for *"NetInventory – A Software System for Network Topology Auto-Discovery"* (2003).

- *Invited "Distinguished Alumnus" Speaker* in a 2-day event for the 25-year anniversary of the Univ. of Patras Computer Engineering and Informatics Department (CEID), Patras, Greece, December 2006.

- 5/1998. Nominated for the Outstanding Graduate Student Research Award, Computer Sciences Dept., University of Wisconsin–Madison (5 nominees).

- 6/1994 - 9/1994. Recipient of one out of five departmental summer RAships for first year graduate students, University of Wisconsin–Madison.

- 6/1993. Recipient of Fulbright Scholarship for post-graduate studies in the U.S.A., Athens, Greece. *(declined)*

- 6/1992. School of Engineering Valedictorian (Class of '92), University of Patras, Greece.

- 1987 - 1991. Recipient of Annual National Fellowship Foundation (IKY) Awards for academic excellence, Patras, Greece (5 times).

- 12/1985. Recipient of honorary mention (5th place) in the Panhellenic Olympiad in Mathematics, Athens, Greece. Selected as a candidate for representing Greece in the International Olympiad in Mathematics.

Personal Data

- Born in Chania-Crete, Greece (Greek national). Married with two daughters, Alexandra-Eirini and Xanthippi.

- Languages spoken: *Greek* (native), *English* (fluent), *French* (intermediate, Premier Certificat de Langue Francaise), *German* (elementary).