PANOS K. CHRYSANTHIS

Department of Computer Science
University of Pittsburgh
Pittsburgh, PA 15260

E-Mail : panos@cs.pitt.edu
Web : http://panos.cs.pitt.edu
Office : 412.624.8924, Fax : 412.624.8854

RESEARCH INTERESTS

Management of Data (Big Data, Databases, Web Databases, Data Streams & Sensor networks),
Cloud, Distributed & Mobile Computing, Workflow Management, Operating & Real-time Systems

EDUCATION

Ph.D. in Computer and Information Science, University of Massachusetts, Amherst, August 1991

M.S. in Computer and Information Science, University of Massachusetts, Amherst, May 1986

B.S. in Physics (Computer Science concentration), University of Athens, Greece, December 1982

APPOINTMENTS

Professor, Dept. of Computer Science (Joint-Secondary appointment in Electrical Engineering and the Telcomm Program), University of Pittsburgh (Jan. 2004 to present).

Adjunct Professor, Dept. of Computer Science, Carnegie-Mellon University (Aug. 2000 to present).

Faculty member, Computational Biology PhD Program, University of Pittsburgh and Carnegie-Mellon University (Sept. 2004 to present).

Adjunct Professor, Dept. of Computer Science, University of Cyprus, Cyprus (Jan. 2008 to Dec. 2016, Jan. 2018 to present).

Visiting Professor, Laboratory of Information, Networking and Communication Sciences (LINCS), Paris, France (Feb. 2019 to Mar. 2019)

Visiting Professor, Dept. of Computer Science, University of Cyprus, Cyprus (Aug. 2006 to June 2007, May 2016, June 2018 June 2019).

Visiting Professor, Dept. of Computer Science, Carnegie Mellon University, Pittsburgh (Aug. 1999 to Aug. 2000; Dec. 2014 to Aug. 2015)

Faculty Member, RODS Laboratory, Center for Biomedical Informatics, University of Pittsburgh (May 2002 to Aug. 2006).

Associate Professor, Dept. of Computer Science (Joint-Secondary appointment in Electrical Engineering), University of Pittsburgh (Sept. 1997 to Dec. 2003).

Assistant Professor, Dept. of Computer Science, University of Pittsburgh (Sept. 1991 to Aug. 1997).

Assistant Professor (Joint-Secondary appointment), Dept. of Electrical Engineering, University of Pittsburgh (Sept. 1996 to Aug. 1997).

Visiting Professor, Dipart. di Informatica e Sistemistica, Universita di Roma "La Sapienza," Italy (July 1994).

Visiting Research Faculty, Dept. of Computer Science, University of Massachusetts (June 1992 and July 1993).

HONORS and AWARDS

Outstanding Achievement in Education, School of Information and Computer Science, University of Massachusetts, Amherst (April. 2019)

Honorary Visiting Professorship, University of Diaspora, University of Cyprus (May 2016, June 2018, June 2019)

Provost Award for Excellence in Mentoring, University of Pittsburgh (April 2015)

ACM Distinguished Scientist (October 2010).

ACM Senior Member (December 2007).

IEEE Computer Society Senior Member (June 2006).

Pitt Innovator Award, University of Pittsburgh (Sept. 2006).

National Science Foundation CAREER Award (July 1995).

Computer Science Teaching Award, University of Pittsburgh, for effectiveness in teaching of a foundation graduate course during 2013-14.

Computer Science Teaching Award, University of Pittsburgh, for effectiveness in teaching of an advanced graduate course during 2008-09.

Computer Science Teaching Award, University of Pittsburgh, for effectiveness in teaching of a graduate (elective) course during 1994-95.

Computer Science Teaching Awards, University of Pittsburgh, for effectiveness in teaching of an undergraduate (service) course during 1994-95, during 1995-96, 1996-97, and 1998-99.

Research Fellow of Information Systems, The Athens Laboratory of Business Administration, Greece (Jan. 1995)

Nominee for the ACM Doctoral Dissertation Award (July 1992): Selected by the University of Massachusetts at Amherst as the best doctoral dissertation in Computer Science in 1991.

Graduate Studies Scholarship: Department of Computer and Information Science, University of Massachusetts, Amherst, USA (Sept '83 to Aug '91).

State Scholarship Institute of Greece: Honorary Scholarships for academic performance during 1979-80 and 1980-81.

BOOK

1. K. Ramamritham and P. K. Chrysanthis. *Advances in Concurrency Control and Transaction Processing*, IEEE Computer Society Press, 1997.

BOOK CONTRIBUTIONS

1. P. K. Chrysanthis and K. Ramamritham. "Extended Transaction Models and the ACTA Framework." *Encyclopedia of Database Systems*, pp. 1091-1092, 2009.

2. D. Zeinalipour-Yazti and P. K. Chrysanthis. "Mobile Sensor Network Data Management." *Encyclopedia of Database Systems*, pp. 1755-1759, 2009.

3. K. Ramamritham and P. K. Chrysanthis. "Semantics-based Concurrency Control." *Encyclopedia of Database Systems*, p. 2591, 2009.

4. P. K. Chrysanthis and E. Pitoura. "Data Broadcasting, Caching and Replication in Mobile Computing." *Encyclopedia of Database Systems*, pp. 557-561, 2009.

5. S. Papastavrou, G. Samaras, P. Evripidou and P. K. Chrysanthis. "Dynamically Generated Web Content: Research and Technology Practices", *Web Data Management Practices: Emerging Techniques and Technologies*, Athena Vakali and George Pallis (Eds), Sept. 2006.

6. P. K. Chrysanthis, K. Pruhs and V. Liberatore. "Middleware for Scalable Data Dissemination". (Ch. 11) *Middleware for Communications*, Qusay H. Mahmoud ed., John Wiley & Sons, June 2004.

7. V. Zadoronzhny and P. K. Chrysanthis. "Locations-based Query Processing." In *H. Karma and A. Hammad (Editors), Telegeoinformatics: Location Based Computing and Services*, Taylor & Francis, London, Mar. 2004.

8. P. K. Chrysanthis and K. Ramamritham. "Correctness Criteria and Concurrency Control." (Ch. 9) *Management of Heterogeneous and Autonomous Database Systems*, A.K. Elmagarmid, M. Rusinkiewicz and A. Sheth, eds., pp. 253–276, Morgan Kaufmann, 1999.

9. P. K. Chrysanthis, G. Samaras and Y. J. Al-Houmaily. "Recovery and Performance of Atomic Commit Protocols in Distributed Database Systems." (Ch. 13) *Recovery in Database Management Systems*, V. Kumar and M. Hsu, eds., pp. 370–416, Prentice Hall, 1998.

10. P. K. Chrysanthis. "Serializability-based Correctness Criteria." (Ch. 2) *Performance of Concurrency Control Mechanisms in Centralized Database Management Systems*, V. Kumar, ed., Prentice Hall, 1995, pp. 7–29.

11. P. K. Chrysanthis and K. Ramamritham. "ACTA: a framework for specifying and reasoning about transaction structure and behavior." *Readings in Database Systems, 2nd edition*, M. Stonebraker, ed., Morgan Kaufmann, 1994, pp. 335–344. (First published in *Proceedings of the 1990 ACM SIGMOD International Conference on the Management of Data*, pp. 194–203.)

12. K. Ramamritham and P. K. Chrysanthis. "In Search for the Acceptability Criteria: Database Consistency Requirements and Transaction Correctness Properties," *Distributed Object Management*, T. Özsu, U. Dayal, and P. Valduriez, eds., Morgan Kaufmann Publishers, 1993, pp. 212–230. (First version published in *the Proceedings of the International Workshop on Distributed Object Management*, pp. 211–229, Canada, August 1992.)

13. P. K. Chrysanthis and K. Ramamritham. "ACTA: The SAGA Continues." (Ch. 10) *Database Transaction Models for Advanced Applications*, A. K. Elmagarmid, ed., Morgan Kaufmann Publishers, 1992, pp. 349–398.

JOURNAL PUBLICATIONS

1. C. Costa, X. Ge, and P. K. Chrysanthis. "CAPRIO: Graph-based Integration of Indoor and Outdoor Data for Path Discovery." *Proceeding of Very Large Data Bases* (PVLDB), 12(12):1-4, Aug. 2019.

2. A. Shein, P. K. Chrysanthis, A. Labrinidis. "Processing of Aggregate Continuous Queries in a Distributed Environment. " *Lecture Notes in Business Information Processing: Real- Time Business Intelligence & Analytics* (LNBIP-BIRTE), pp. 1-21, Mar 2019 (to appear).

3. R. Alseghayer, D. Petrov, P. K. Chrysanthis, M. Sharaf, A. Labrinidis. "DCS: A Policy Framework for the Detection of Correlated Data Streams." *Lecture Notes in Business Information Processing: Real-Time Business Intelligence & Analytics* (LNBIP-BIRTE), pp. 1-20, Mar 2019 (to appear).

4. A. Konstantinidis, P. Eracleous, Z. Georgiou, D. Zeinalipour-Yazti, P. K. Chrysanthis. "IoT Data Prefetching in Indoor Navigation SOAs," *ACM Transactions on Internet Technology* (ACM TIOT), 19(1): 10:1-10:2, 2019.

5. H. Ehsan, M. Sharaf and P. K. Chrysanthis. "Efficient Recommendation of Aggregate Data Visualizations," *IEEE Transactions on Data and Knowledge Engineering* (IEEE TKDE), 30(2): 263–277, Feb. 2018.

6. V. Raghu, J. D Ramsey, A. Morris, D. V Manatakis, P. Spirtes, P. K Chrysanthis, C. Glymour, P. V Benos. "Comparison of Strategies for Scalable Causal Discovery of Latent Variable Models from Mixed Data," *International Journal of Data Science and Analytics* (JDSA), Special Issue of ACM KDD workshop on Causal Discovery, Springer, 6(1):33–45, Feb. 2018

7. D. Kline, Jr., N. Parshook, X. Ge, E. Brunvand, R. Melhem, P. K. Chrysanthis and A. K. Jones. "GreenChip: A Tool for Evaluating Holistic Sustainability of Modern Computing Systems," *Sustainable Computing: Informatics and Systems* (SCIS J.), Elsevier, Oct. 2017. (published on-line)

8. T. N. Pham, N. R. Katsipoulakis, P. K. Chrysanthis, A. Labrinidis. "Uninterruptible Migration of Continuous Queries without Operator State Migration." *ACM Sigmod Record* (ACM SigRec), 46(3): 17–22, Sep. 2017.

9. N. R. Katsipoulakis, A. Labrinidis, P. K. Chrysanthis. "A holistic view of stream partitioning costs." *Proceeding of Very Large Data Bases* (PVLDB), 10(11):1286-1297, Aug. 2017.

10. T. N. Pham, P. K. Chrysanthis, A. Labrinidis. "Avoiding class warfare: Managing Continuous Queries with Differentiated Classes of Service." *The International Journal on Very Large Data Bases* (VLDBJ), 25(2):197-221, April 2016,.

11. R. Rexit, F. Tsui, J. Espino, P. K Chrysanthis, S. Wesaratchakit, Y. Ye. "An Analytics Appliance for Identifying (Near) Optimal Over-the-Counter Medicine Products as Health Indicators for Influenza Surveillance." *Information Systems Journal* (InfoSys), 48:151-163, 2015.

12. M. K. Iskander, D. Wilkinson, T. Trainor, A. J. Lee, and P. K. Chrysanthis, "Balancing Performance, Accuracy, and Precision for Secure Cloud Transactions." *IEEE Transactions on Parallel and Distributed Systems* (IEEE TPDS), 25(2):417-426, Feb. 2014.

13. P. Andreou, D. Zeinalipour-Yazti, G. Samaras, P. K. Chrysanthis. "A network-aware framework for energy-efficient data acquisition in wireless sensor networks." *J. Network and Computer Applications* (JNCA), 46: 227-240, 2014.

14. S. Papastavrou, P. K. Chrysanthis and G. Samaras. "Performance Vs. Freshness in Web Database Applications." *WWW Journal* (WWWJ), Nov. 2013.

15. A. Konstantinidis, D. Zeinalipour-Yazti, P. Andreou, G. Samaras, P. K. Chrysanthis. "Intelligent search in social communities of smartphone users." *Distributed and Parallel Databases* (DAPD), 31(2):115-149, Feb. 2013.

16. L. Al Moakar, P. K. Chrysanthis, C. Chung, S. Guirguis, A. Labrinidis, P. Neophytou, K. Pruhs. "Auction-based Admission Control for Continuous Queries in a Multi-Tenant DSMS." *International Journal of Next-Generation Computing* (IJNGC), 3(3):1-28, Nov. 2012.

17. P. Andreou, D. Zeinalipour-Yazti, P. K. Chrysanthis and G. Samaras. "In-Network Data Acquisition and Replication in Mobile Sensor Networks." *Distributed and Parallel Databases* (DAPD), 29(1-2):87-112, Jan. 2011.

18. P. Andreou, D. Zeinalipour-Yazti, P. K. Chrysanthis and G. Samaras. "Power Efficiency through Tuple Ranking in Wireless Sensor Network Monitoring." *Distributed and Parallel Databases* (DAPD), 29(1-2):113-150, Jan 2011.

19. P. Andreou, D. Zeinalipour-Yazti, A. Bamboris, P. K. Chrysanthis and G. Samaras. "Optimized Query Routing Trees for Wireless Sensor Networks." *Information Systems Journal* (InfoSys), 3(2):267-291, June 2010.

20. S. Obermeier, S. Böttcher, M. Hett, P. K. Chrysanthis and G. Samaras. "Blocking reduction for distributed transaction processing within MANETs." *Distributed and Parallel Databases Journal* (DAPD), 25(3):165-192, June 2009.

21. M. A. Sharaf, P. K. Chrysanthis, A. Labrinidis, and K. Pruhs. "Algorithms and Metrics for Processing Multiple Heterogeneous Continuous Queries." *ACM Transactions on Database Systems* (ACM TODS), 33(1):5.1-5.44, Mar. 2008.

22. A. Bonifati, P. K. Chrysanthis, A. M. Ouksel and K.U. Sattler. "Distributed Databases and Peer-to-Peer Databases: Past and Present." *ACM Sigmod Record* (ACM SigRec), 37(1):5-11, Mar. 2008.

23. V. Zadorozhny, P. K. Chrysanthis, D. Sharma. "Sensor Queries: Algebraic Optimization for Time and Energy." *International Journal of Distributed Sensor Networks* (IJDSN), 4(3): 262-284, 2008.

24. J. Beaver, K. Pruhs, P. K. Chrysanthis and V. Liberatore. "Improving the Hybrid Data Dissemination Model of Web Documents." *WWW Journal* (WWWJ), 11 (3):313-337, 2008.

25. E. Pitoura and P. K. Chrysanthis. "Caching and Replication in Mobile Data Management." *IEEE Data Engineering Bulletin* (IEEE TCDE Bull), 30(3): 13-20, 2007.

26. G. Santhanakrishnan, A. Amer and P. K. Chrysanthis. "Self-Tuning Caching: The Universal Caching Algorithm." *Software: Practice and Experience* (SP&E), 36(11-12): 1179–1188, 2006.

27. S. Papastavrou, G. Samaras, P. Evripidou, P. K. Chrysanthis "A Decade of Dynamic Web Content: A Structured Survey on Past and Present Practices and Future Trend." *IEEE Communications Surveys and Tutorials* (IEEE CS&T), 8(1-4): 52–60, 2006.

28. A. Al-Hammouri, W. Zhang, R. F. Buchheit, P. K. Chrysanthis, V. Liberatore, and K. Pruhs. "Network Awareness and Application Adaptability." *Journal on Information Systems and e-Business Management (ISeB)*, 4(4): 399-419, 2006.

29. V. Zadorozhny, D. Sharma, P. K. Chrysanthis, and A. Labrinidis. "Data Transmission Algebra for Collision-Aware Scheduling in Sensor Networks." *The Systems and Means of Informatics Journal, Special Issue on Formal Methods and Models for Compositional Infrastructures of Distributed Information Systems*, Russian Academy of Science, 15(3): 271-292, 2005

30. D. Fiedler, K. Walcott, T. Richardson, G.M. Kapfhammer, A. Amer, P. K. Chrysanthis. "Towards the Measurement of Tuple Space Performance." *ACM SIGMETRICS Performance Evaluation Review*, 33(3): 51-62, Dec. 2005.

31. M. A. Sharaf, and P. K. Chrysanthis. "On-Demand Data Broadcasting for Mobile Decision Making." *Journal of ACM Mobile Networking and Applications* (MONET), 9(6):703-714, Dec. 2004.

32. M. A. Sharaf, Jon Beaver, A. Labrinidis, and P. K. Chrysanthis. "Balancing Energy Efficiency and Quality of Aggregate Data in Sensor Networks," *The International Journal on Very Large Data Bases* (VLDBJ), 13(4): 384-403, Dec 2004.

33. S. Mazumdar and P. K. Chrysanthis. " Localization of Integrity Constraints in Mobile Databases and Specification in PRO-MOTION." *ACM/Baltzer Mobile Networks*, 9(5):481-490, Oct. 2004.

34. G. Samaras, K. Karenos, P. K. Chrysanthis, E. Pitoura. "Mobile Agent-Based Services for Database View Materialization." *ACM SIGMOBILE Mobile Computing and Communications Review* (MC2R), 8(3):32-43, July 2004.

35. O. Shigiltchoff, P. K. Chrysanthis and E. Pitoura. "Multiversion Data Dissemination: Broadcast Organizations and Caching." *Information Systems Journal* (InfoSys), 29 (6): 509-528, March 2004.

36. E. Pitoura and P. K. Chrysanthis. "Multiversion Wireless Data Broadcasting." *IEEE Transactions on Computers* (ToC), 51(10):1224-1230, Oct. 2002.

37. S. Papastavrou, P. K. Chrysanthis, G. Samaras, and E. Pitoura. "An Evaluation of the Java-based Approaches to Web Database Access." *International Journal of Cooperative information Systems*, 10(4):401–422, 2001.

38. Y. J. Al-Houmaily and P. K. Chrysanthis. "An Atomic Commit Protocol for Gigabit-Networked Distributed Database Systems." *Journal of Systems Architecture, The EuroMicro Journal*, 46(9): 809-833, June 2000.

39. S. Weissman Lauzac and P. K. Chrysanthis. "Utilizing Versions of Views within a Mobile Environment." *Journal of Computing and Information*, Special Issue on the ICCI-98: 9th International Conference on Computing and Information, 1999.

40. S. Banerjee and P. K. Chrysanthis. "Group Two-Phase Locking: A Scalable Data Sharing Protocol." *IEICE Transactions on Information Systems*, Vol. E82-D, No. 1, pp. 236–245, Jan. 1999.

41. G. D. Walborn and P. K. Chrysanthis. "PRO-MOTION: Support for Mobile Database Access." *Personal and Ubiquitous Computing*, Vol. 1, No. 3, pp. 171–181, Sept. 1997.

42. S. T. Frezza, S. P. Levitan and P. K. Chrysanthis. "Linking Requirements and Design Data for Automated Functional Evaluation." *Computers in Industry*, Vol. 30, pp. 13-25, Sept. 1996.

43. A. Massari, S. Weissman and P. K. Chrysanthis. "Supporting Mobile Database Access through Query by Icons." *Distributed and Parallel Databases* (DAPD), Vol. 4, No. 3, pp. 249–270, July 1996.

44. K. Ramamritham and P. K. Chrysanthis. "A Taxonomy of Correctness Criteria in Database Applications." *The International Journal on Very Large Data Bases* (VLDBJ), Vol. 4, No. 1, pp. 181–293, Jan. 1996.

45. P. K. Chrysanthis and K. Ramamritham. "Synthesis of Extended Transaction Models Using ACTA." *ACM Transactions on Database Systems* (ACM TODS), Vol. 19, No. 3, pp. 450–491, Sept. 1994.

46. P. K. Chrysanthis and K. Ramamritham. "Delegation in ACTA as a Means to Control Sharing in Extended Transactions." *IEEE Data Engineering Bulletin*, Special Issue on Workflow and Extended Transaction Systems, M. Hsu, special editor, 16(2): 16-19, June 1993.

47. P. K. Chrysanthis and K. Ramamritham. "A Unifying Framework for Transactions in Competitive and Cooperative Environments." *IEEE Office and Knowledge Engineering Bulletin*, Special Issue on Non-Standard Transaction Models, S. B. Zdonik, special editor, 4(1):3–22, Feb. 1991.

48. C. T. Liu, P. K. Chrysanthis and S.K. Chang. "Schema Evolution through Changes to ER Diagrams." *Journal of Information Science and Engineering* (JISE), Vol. 9, No. 4, pp. 657–683, Dec. 1993.

REFEREED CONFERENCE & WORKSHOP PUBLICATIONS

1. V. Raghu, X. Ge, A. Balajee, D. Shirer, I. Das, P. Benos and P. K. Chrysanthis. "A pipeline for integrated theory and data-driven modeling of genomic and clinical data." *25th ACM International Conference on Knowledge Discovery and Data Mining* (BioKDD-SIGKDD '19), Aug. 2019.

2. C. Costa, X. Ge, P. K. Chrysanthis. "CAPRIO: Context-Aware Path Recommendation exploiting Indoor and Outdoor information." *IEEE International Workshop on ALgorithms for Indoor Architectures and Systems* (ALIAS '19), pp. 1-6, June 2019 (co-located with IEEE MDM 2019).

3. D. Petrov, R. Alseghayer, P. K. Chrysanthis. "Mitigating Congestion Using Environment Protective Dynamic Traffic Orchestration." *IEEE International Workshop on Mobility Data Analytics for Smart Cities* (MDACS '19), pp. 1-6, June 2019 (co-located with IEEE MDM 2019).

4. V. K Raghu, X. Ge, P. K. Chrysanthis, P. V. Benos. "An Interpretable Modeling Pipeline for Observational, Multi-Modal Biomedical Data." *Modeling the World's Systems Conference* (MWS '19), pp. 1-7, May 2019.

5. E. B. Dimitrova, P. K. Chrysanthis, A. J. Lee. "Authorization-aware optimization for multi-provider queries." *The 34th ACM/SIGAPP Symposium on Applied Computing: Special Track on Databases and Big Data Management* (ACM SAC '19), pp. 431-438, Apr. 2019.

6. X. Zhang, X. Ge, P. K. Chrysanthis, M. A. Sharaf. "ViewSeeker: An Interactive View Recommendation Tool." *The 2nd EDBT/ICDT Workshop on Big Data Visual Exploration and Analytics* (BigVis '19), pp. 1-8, Mar. 2019

7. N. R. Katsipoulakis, A. Labrinidis, and P. K. Chrysanthis. "Concept-Driven Load Shedding: Reducing Size and Error of Voluminous and Variable Data Streams." *IEEE Int'l Conference on Big Data* (BigData 2018), pp. 1–10, Dec. 2018.

8. D. Petrov, R. Alseghayer, D. Mosse, P. K. Chrysanthis. "Data-Driven User-Aware HVAC Scheduling." 9th Int'l Green and Sustainable Computing Conference (IGSC '18), pp. 1–8, Oct. 2018.

9. R. Alseghayer, D. Petrov and P. K. Chrysanthis. "Strategies for Detection of Correlated Data Streams." *5th Int'l Workshop on Exploratory Search in Databases and the Web* (ExploreDB'18), pp. 1–8, June 2018, Co-located with ACM SIGMOD 2018.

10. A. U. Shein, P. K. Chrysanthis, A. Labrinidis. "SlickDeque: High Throughput and Low Latency Incremental Sliding-Window Aggregation." *21st Int'l Conference on Extending Database Technology* (EDBT'18), pp. 397–408, Mar 2018.

11. R. Alseghayer, D.l Petrov, P. K. Chrysanthis, M. A. Sharaf, A. Labrinidis. "Detection of Highly Correlated Live Data Streams." *11th Int'l Workshop on Real Time Business Intelligence and Analytics* (BIRTE'17), pp. 3:1-3:8, Aug. 2017.

12. A. U. Shein, P. K. Chrysanthis, A. Labrinidis. "FlatFIT: Accelerated Incremental Sliding-Window Aggregation For Real-Time Analytics." *29th Int'l Conference on Scientific and Statistical Database Management* (SSDBM'17), pp. 5:1-5:12, Jun. 2017.

13. D. Petrov, R. Alseghayer, M. A. Sharaf, P. K. Chrysanthis, A. Labrinidis. "Interactive Exploration of Correlated Time Series." *4th Int'l Workshop on Exploratory Search in Databases and the Web* (ExploreDB'17), pp. 2.1-2.6, May 2017, Co-located with ACM SIGMOD 2017.

14. V. K. Raghu, X. Ge, P. K. Chrysanthis, P. V. Benos. "Integrated Theory-and Data-Driven Feature Selection in Gene Expression Data Analysis." *Health Data Management and Mining, Workshop at 33rd IEEE Int'l Conference on Data Engineering* (HDMM-ICDE'17), pp. 1525-1532, Apr. 2017.

15. X. Ge, Y. Xue, Z. Luo, M. Sharaf, and P. K. Chrysanthis. "REQUEST: A Scalable Framework for Interactive Construction of Exploratory Queries." *IEEE Int'l Conference on Big Data* (BigData 2016), pp. 646-655, Dec. 2016.

16. A. Zheng, A Labrinidis, P. K. Chrysanthis and and Jack Lange. "ARGO: Architecture-Aware Graph Partitioning." *IEEE Int'l Conference on Big Data* (BigData 2016), pp. 284-293, Dec. 2016.

17. D. Kline, N. Parshook, X. Ge, E. Brunvand, R. Melhem, P. K. Chrysanthis and A. Jones. "Holistically Evaluating the Environmental Impacts in Modern Computing Systems." *7th Int'l Green and Sustainable Computing Conference* (IGSC'16), pp. 1-8, Nov. 2016.

18. X. Ge, P. K. Chrysanthis, K. Pelechrinis. "MPG: Not so Random Exploration of a City," *17th IEEE Int'l Conference on Mobile Data Management* (MDM'16), pp. 72-81, June 2016.

19. A. Zheng, A Labrinidis, and P. K. Chrysanthis. "Planar: Parallel Lightweight Architecture-Aware Adaptive Graph Repartitioning." *32nd IEEE Int'l Conference on Data Engineering* (ICDE'16), pp. 121-132, May 2016.

20. H. Ehsan, M. A. Sharaf and P. K. Chrysanthis. "MuVE: Efficient Multi-Objective View Recommendation for Visual Data Exploration." *32nd IEEE Int'l Conference on Data Engineering* (ICDE'16), 731-742, May 2016.

21. A. Zheng, A. Labrinidis, P. H. Pisciuneri, P. K. Chrysanthis and P. Givi. "PARAGON: Parallel Architecture-Aware Graph Partition Refinement Algorithm." *19th Int'l Conference on Extending Database Technology* (EDBT'16), pp. 1-12, Mar 2016.

22. A. U. Shein, P. K. Chrysanthis and A. Labrinidis. "F1: Accelerating the optimization of Aggregate Continuous Queries." *24th ACM Int'l Conference on Information and Knowledge Management* (CIKM'15), pp. 1151-1160, Oct. 2015.

23. C. Mafrica, J. Johnson, S. Bock, T. N. Pham, B. R. Childers, P. K. Chrysanthis and A. Labrinidis. "Stream query processing on emerging memory architectures." *4th IEEE Non-Volatile Memory Systems and Applications Symposium* (NVMSA'15), pp. 1-6, Aug. 2015.

24. A. U. Shein, P. K. Chrysanthis and A. Labrinidis. "Processing of Aggregate Continuous Queries in a Distributed Environment." *9th Int'l Workshop on Business Intelligence for the Real Time Enterprise* (BIRTE'15), pp. 1-16, Aug. 2015 (Co-located with VLDB 2015).

25. A. Konstantinidis, G. Nikolaides, G.Chatzimilioudis, G. Evagorou, D. Zeinalipour-Yazti and P. K. Chrysanthis. "Radiomap Prefetching for Indoor Navigation in Intermittently Connected WiFi Networks." *16th Int'l EEE Int'l Conference on Mobile Data Management* (MDM'15), pp. 34–43, Jun. 2015.

26. X. Ge, P. K. Chrysanthis and A. Labrinidis. "Preferential Diversity." *2nd Int'l Workshop on Exploratory Search in Databases and the Web* (ExploreDB), pp. 9–14, Jun. 2015. (Co-located with ACM SIGMOD 2015).

27. R. Gheorghiu, A. Labrinidis, and P. K. Chrysanthis. "Unifying Qualitative and Quantitative Database Preferences to Enhance Query Personalization." *2nd Int'l Workshop on Exploratory Search in Databases and the Web* (ExploreDB), pp. 6–8, Jun. 2015. (Co-located with SIGMOD 2015).

28. A. Zheng, A Labrinidis, and P. K. Chrysanthis. "Architecture-Aware Graph Repartitioning for Data-Intensive Scientific Computing." *1st Int'l Workshop on High Performance Big Graph Data Management, Analysis, and Mining* (BigGraphDM'14), pp. 78–85, Oct. 2014.

29. N. Farnan, A. J. Lee, P. K. Chrysanthis, and T. Yu. "PAQO: Preference-Aware Query Optimization for Decentralized Database Systems," *30th IEEE Int'l Conference on Data Engineering* (ICDE'14), pp. 424–435, Apr. 2014.

30. J. Lange, A Labrinidis and P. K. Chrysanthis. "Towards Automated Personalized Data Storage" *8th Int'l Workshop on Self-Managing Database Systems* (SMDB'14), ICDE Workshops, pp. 278–283, Apr. 2014.

31. G. Gadola and P. K. Chrysanthis. "Harnessing Off-Grid Renewable Energy," *2nd Int'l Conference on Renewable Energy Research and Applications* (ICRERA'13), pp. 927 - 931, Oct. 2013.

32. P. Neophytou, P. K. Chrysanthis, and A. Labrinidis. "A Continuous Workflow Scheduling Framework," *2nd ACM Int'l Workshop on Scalable Workflow Enactment Engines and Technologies* (SWEET'13), June 2013.

33. T. N. Pham, P. K. Chrysanthis, A. Labrinidis. "Self-managing load shedding for data stream management systems," *7th Int'l Workshop on Self-Managing Database Systems* (SMDB'13), ICDE Workshops, pp. 70–76, Apr. 2013.

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KEYNOTE & Distinguish PRESENTATIONS

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University of Cyprus, "Adaptive Stream Aggregation Processing: To Divide, To Drop, or To Distribute?", Data Management Day to commemorate colleague George Samaras, June 19, 2019.

University of Cyprus, "ViewSeeker: An Interactive View Recommendation Tool", CS Colloquium Series, June 7, 2019.

The French National Research Institute for the Digital Sciences, Paris, France, "Graph Partitioning in Distributed Graph Computations," INRIA Seminar, Mar. 5, 2019.

Laboratory of Information, Networking and Communication Sciences, Paris, France, "Processing of Aggregations over Big Data Streams," LINCS Seminar, Feb. 27, 2019

University of Waterloo, Cheriton School of Computer Science, "Algorithms and Optimizations for Incremental Window-Based Aggregations," SAP Data Systems Seminars, Dec. 10, 2018.

University of Cyprus, "Algorithms and Optimizations for Incremental Window-Based Aggregations," June 20, 2018.

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University of Cyprus, "Recommending Interesting Visualizations for Data Exploration," June 1, 2016.

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New Mexico Institute of Technology, "PRO-MOTION: Database Access While in Motion," Nov. 2, 1998.

New Mexico Institute of Technology, " High Performance Data Servers in Wide Area Gigabit Networks," May 2, 1998.

Polytechnic University of New York City, " High Performance Database Servers in Wide Area Gigabit Networks," Nov. 24, 1997.

University of Pittsburgh, Department of Electrical Engineering, "Modeling Activities and Workflows Using ACTA," Oct. 9, 1995.

Universita di Roma "La Sapienza," Italy, "Systemantic Synthesis of Extended Transactions using ACTA," July 18, 1994.

Universita di Roma "La Sapienza," Italy, " An Overview of the Object Data Management Standardization," July 12, 1994.

ETH Zurich, Zurich, Switzerland, "Modeling Workflows Using ACTA," Oct. 1993.

Oracle Corporation, Redwood City, CA, "Modeling Activities Using ACTA," June 1993.

Texas University A&M, TX, "ACTA, A Framework for Specifying and Reasoning about Extended Transactions," April 1991.

AT&T Bell Labs, Murray Hill, NJ, "ACTA, A Framework for Specifying and Reasoning about Extended Transactions," April 1991.

Bellcore, Morristown, NJ, "ACTA, A Framework for Specifying and Reasoning about Extended Transactions," April 1991.

University of Chicago, Chicago, IL, "ACTA, A Framework for Specifying and Reasoning about Extended Transactions," March 1991.

Boston University, Boston, MA, "ACTA, A Framework for Specifying and Reasoning about Extended Transactions," March 1991.

PANELIST

"Twenty years of Mobile Data Management", in *the 20th IEEE International Conference on Mobile Data Management*, Honk Kong, June 2019.

"Commercializing University Research: Necessity, Luxury or Anathema" in *the 16th Hellenic Data Management Symposium*, Cyprus, July 2018.

"Mobility and Big Data: adding an M to the Vs, or not?" in *the 16th IEEE International Conference on Mobile Data Management*, Pittsburgh, PA, June 2015 (Co-Chair)

"BigData - Challenges and Opportunities" in *the 10th Int'l Conference on Collaborative Computing: Networking, Applications and Worksharing*, Miani, FL, Oct. 2014.

"Collaboration and Social Networks" in *the 7th Int'l Conference on Collaborative Computing: Networking, Applications and Worksharing*, Orlando, FL, Oct. 2011.

"Mobile Peer-to-Peer Computing Challenges" in *the 5th Int'l Conference on Mobile Data Management*, Cyprus, May 2005.

"Lowell Report on Future of Data Management" in *the 3rd Hellenic Data Management Symposium*, Greece, Sept. 2004.

"Transactions and Objects" in *OOPSLA/ECOOP Workshop*, Canada, Oct. 1990.

"Being a Foreign Teaching Assistant" in *Human Relations Workshop for New Foreign Teaching Assistants*, Office of Human Relations, University of Massachusetts, Amherst, Sept. 1987.

TUTORIALS, ADVANCED SEMINARS and SHORT COURSES

"Graph Partitioning in Distributed Graph Computation," University of Diaspora at University of Cyprus, June 2016.

"Scheduling continuous queries in data stream management systems" (co-taught with M. A. Sharaf and A. Labrinidis), VLDB 2008, August 2008.

"Network-Aware Wireless Sensor Data Management." (co-taught with V. Zadoroshny), Advanced Seminar, MDM 2006, May 2006.

"Data Engineering for Mobile and Wireless Access" (Co-taught with E. Pitoura, V. Kumar), half-day tutorial, ICDE 2003, March 2003.

"Mobile and Wireless Database Access for Pervasive Computing" (Co-taught with E. Pitoura), half-day tutorial, ICDE 2000, February 2000.

"Concurrency Control and Transaction Processing" (Co-Taught with K. Ramamritham), 1 day tutorial, Part of the 6th International Conference on Management of Data, December 1994.

"Object Data Management Systems," half-day tutorial, University of Salerno, Italy, July 1994.

"Extended Transaction Models," half-day tutorial, University of Salerno, Italy, July 1994.

"Object-Oriented Database Management Systems," 3 days short course, Institute of Systems Science, National University of Singapore, June 1994. (National Science Foundation's APEC)

RESEARCH FUNDING and AWARDS

Funded Grant Awards: Principle Investigatorships

1. "Transaction Support for Advanced Database Applications," *DEC Equipment Allowance*, Oct. 1991.

2. "Consistency in Multidatabase Systems – Specification and Maintainance," *Research Development Fund, University of Pittsburgh*, June 1992 - June 1994.

3. "Understanding Autonomy and Consistency in Multidatabase Systems," *National Science Foundation, Research Initiation Award*, Aug. 1992 - Jan. 1996.

4. "Disconnected Mobile Database Operations," *B-Right Trucking Company*, Sept. 1994 - Aug. 1995.

5. "Developing Pragmatic Mobile Data Management Systems," *National Science Foundation, CAREER Award*, July 1995 - Aug. 2000.

6. "Data Access and Recovery in High Speed Wide Area Networked Databases," *National Science Foundation*, with Sujata Banerjee of IS&Telecomm, Sept. 1998 - Aug. 2001.

7. "Intelligent Workflow Management," *DARPA* (Supplement to AFOSR Grant "Agents for Dynamic Plan Management) with M. Pollack (PI) and Chrysanthis (co-PI), Apr. 1999 - Nov. 1999.

8. "Plan Management Capabilities for Autonomous Agents: Extending the Basic Mechanisms," AFOSR-DARPA (Contract # F30602-00-0547), with M. Pollack, Mar. 2000 - June 2001.

9. "Continued Development of a Health-System-Resident Detection Component for National Electronic Disease Surveillance," *National Center for Disease Control* with Rich Tsui of the Center of Bioinformatics (PI), Oct. 2001 - Oct. 2002.

10. "Building an Early Warning Public Health Surveillance System", *Pennsylvania Department of Health* with Michael M. Wagner (PI) and Rich Tsui (Co-PI) of the Center of Bionformatics and Chrysanthis (Co-PI), July 2002 - June 2005.

11. "Collaborative Research: Middleware Support for Multicast Data Dissemination," *NSF, ANI-0123705*, with Kirk Pruhs and Vincenzo Liberatore of Case Western Reserve University, Oct. 2002 - Aug 2005.

12. "A Demonstration of the Integrated, Interactive, Spatial Information System, with Additional Modules of Decision Support," *Mountaintop Technologies*, PI with L. Comfort of GSPIA and A. Labrinidis, Aug. 2005 - Dec. 2005.

13. "Modeling Immunity for Biodefense," *National Institute of Health-NIAD*, Co-PI with P. Morel of School of Medicine (PI), Oct. 2005 - Nov. 2011.

14. "Algorithms and Metrics for New Generation Data Stream Management Systems," *NSF, ANI-0534531*, with A. Labrinidis and K. Pruhs (co-PIs), Mar. 2006 - Feb 2011.

15. "CDI-Type II: Understanding the Universe through Scalable Navigation of a Galaxy of Annotations", *NSF-CCF, OIA-1028162*, Co-PI with A. Labrinidis (PI), L. Marai (Co-PI) and two Co-PIs from Pitt Physics and Astronomy, Sept. 2010 - Aug. 2016.

16. "EAGER: Energy-Efficient Transaction Processing," *NSF, IIS-1050301*, with A. Labrinidis (co-PI), Sept. 2010 - Aug. 2012.

17. "Data Management and Visualization in Petascale Turbulent Combustion Simulation," *NSF, CDS&E-1250171*, Co-PI with Peyman Givi (PI), A. Labrinidis (Co-PI), L. Marai (Co-PI) and S. Yilmaz (Co-PI), Sept. 2012 - Aug. 2017.

18. "Center for Causal Modeling and Discovery of Biomedical Knowledge from Big Data (CCD)," *NIH Big Data to Knowledge (BD2K)*, Co-I with G. Cooper of DBMI (PI), Sept. 2014 - Aug. 2018.

19. "Parallel Data Stream & Graph Processing," *Amazon Cloud Credits*, Co-PI with A. Labrinidis (PI) and A. Lee (Co-PI), March 2016.

20. "Appraisal of Subgrid Scale Closures in Reacting Turbulence via DNS Big Data," *NSF, CDS&E-1609120* , Co-PI with Peyman Givi (PI), A. Labrinidis (Co-PI), and W. Layton (Co-PI), Sept. 2016 - Aug. 2020.

21. "Systems Level Causal Discovery in Heterogeneous TOPMed Data," *NIH-NATIONAL HEART, LUNG, AND BLOOD INSTITUTE, U01*, CI with Takis Benos and Frank Sciurba of Pitt SoM (PIs), Apr. 2017 – Mar 2020.

Funded REU – Research Experience for Undegraduates

1. "Transaction-Oriented Computing," *National Science Foundation, Research Experiences for Undegraduates*, Aug. 1994 - Jan. 1996.

2. "Developing Pragmatic Mobile Data Management Systems," *National Science Foundation, Research Experiences for Undegraduates*, June 1996 - Aug. 2000.

3. "Data Access and Recovery in High Speed Wide Area Networked Databases," *National Science Foundation*, with Sujata Banerjee of IS&Telecomm, Sept. 1998 - Aug. 2001.

4. "Collaborative Research: Middleware Support for Multicast Data Dissemination," *NSF, ANI-0123705*, with Kirk Pruhs and Vincenzo Liberatore of Case Western Reserve University, Oct. 2002 - Aug. 2005.

5. "Web Databases and Services," *University of Pittsburgh, A&S Freshmen Research Experience*," with Alexandros Labrinidis, Spring term 2004.

6. "Algorithms and Metrics for New Generation Data Stream Management Systems," *NSF, IIS-0534531*, with A. Labrinidis and K. Pruhs (co-PIs), Aug 2009 - Feb 2011.

7. "Increasing the energy proportionality of hard disk drives at the array level (RAID)" *NSF, IIS-1050301*, with A. Labrinidis (co-PIs), May 2011 - Aug 2012.

Funded Collaborative Grand Awards & Co-Investigatorships

1. "MATHON: Location Management for Mobile Agents." (Research Collaboration among Universities of Cyprus, Ioannina and Pittsburgh.), *Research Council of Republic of Cyprus*, with G. Samaras of U. Cyprus (PI), Jan. 2001 - Jun. 2002.

2. "Intelligent Assistance for Activity Planning in Space Facilities," *Metrica Inc.-NASA* with Richard Simpson of Public Health, Feb. 2001 - April 2002.

3. "Augmented Manufacturing using a Context Aware Computing Infrastructures", *Pennsylvania Infrastructure Technology Alliance (PITA)*, with Smailagic of CMU (PI) and Siewiorek, Surbu, Chrysanthis (Co-PIs), Nov. 2001 - Dec. 2002.

4. "Technology Enhanced Team Based Design: Collaboration across time and spacing using a pervasive computing infrastructure" *Pennsylvania Infrastructure Technology Alliance (PITA)*, with Smailagic of CMU (PI) and Siewiorek, Hills, Chrysanthis (Co-PIs), Nov. 2001 - Dec. 2002.

5. "Developing a Unified Message Management System", *Research Council of Republic of Cyprus, PENEK*, with P. Evripidou (PI), Nov. 2003 - May 2004.

6. "Secure CITI: A Secure Critical Information Technology Infrastructure for Disaster Management", *NSF-ITR*, with D. Mossé (PI), Sept. 2003 - Aug. 2008.

7. "NSF IDM Workshop Web Repository," *National Science Foundation*, with with A. Labrinidis and P. Agouris of U. of Maine, Apr. 2005 - May 2006.

8. "Data Managments in Mobile Ad Hoc Networks," *Greek Secretary of Research & Technology: Pythagoras*, US Collaborator with I. Manolopoulos of U. Thessaloniki (PI) and A. Labrinidis (US Collaborator), Sept 2005 - July 2007.

9. "DanDy: Data Quality in Dynamic Networks," *Greek Secretary of Research & Technology*, with E. Pitoura of U. of Ioannina (PI), Jan. 2006 - Dec. 2007.

Funded Workshop Grand Awards Principle Investigatorships

1. "1998 NSF Information and Data Management Workshop: Research Agenda for the 21st Century," *National Science Foundation-IDM*, with J. Klavans of Columbia University, Mar. 1998 - Feb. 2000.

2. "Travel Grant for Graduate Students to Attend the Third ACM InternationalWorkshop on Data Engineering for Wireless and Mobile Access (MobiDE'03)," *National Science Foundation-IDM* with A. Labrinidis, April 2003 - May 2004.

3. "NSF Workshop on Data Management for Mobile Sensors (MobiSensors)", *National Science Foundation-IIS* with A. Labrinidis, Sept 2006 - Aug 2007.

4. "NSF Workshop on Sustainable Energy-Efficient Data Management", *NSF, IIS-1050302*, Sept. 2010 - Aug 2011.

5. "Student Travel Grant for the 11th International Workshop on Real-Time Business Intelligence & Analytics (BIRTE 2017)," NSF-IIS-III, PI, May 2017- Apr. 2019.

STUDENT ADVISING & MENTORING

PhD Theses Supervised:

Chien-Tsai Liu (CS), August 1994 (Co-advicored S.K. Chang)
Database Schema Evolution through the Specification and Maintenance of Changes on Entities and Relationships.

Yousef J. Al-Houmaily (EE), April 1997 (Co-advicored S. Levitan)
Commit Processing in Distributed, Heterogeneous and Multidatabase Systems.

Susan Weissman (CS), August 2001
The View Holder Approach: Utilizing Customized Materialized Views to Create Database Services Suitable for Mobile Database Applications.

Jonanthan Beaver (CS), April 2006 (co-advised K. Pruhs)
An Improved Hybrid Data Dissemination Model.

Mohamed A. Sharaf (CS), August 2007 (co-advised A. Labrinidis)
Metrics and algorithms for processing multiple continuous queries

Mohamed Aly (CS), April 2009 (co-advised with Kirk Pruhs)
Load Balancing Hotspots in Sensor Storage Systems.

Stavros Papastavrou (CS, U. Cyprus), June 2009 (co-advised with George Samaras)
> *Materialization Algorithms for Dynamic Web Database Applications.*

Shenoda Giurgius (CS), December 2011 (co-advised with Alexandros Labrinidis)
> *Scalable Processing of Multiple Aggregate Continuous Queries.*

Panayiotis Neophytou, December 2011 (co-advised with Alexandros Labrinidis)
> *Continuous Workflows: From Model to Enactment System*

Lory Al Moakar, August 2013 (co-advised with Alexandros Labrinidis)
> *Class Based Continuous Query Scheduling in Data Stream Management Systems.*

Qinglan Li, August 2013 (co-advised with Alexandros Labrinidis)
> *A user-driven annotation framework for scientific data.*

Roxana Gheorghiu, May 2014 (co-advised with Alexandros Labrinidis)
> *Unifying Qualitative and Quantitative Database Preferences to Enhance
> Query Personalization.*

Thao N. Pham, May 2016 (co-advised with Alexandros Labrinidis)
> *Exploiting the Synergy between Scheduling and Load Shedding to Facilitate Differentiated
> Levels of Service for Continuous Queries.*

Nick Katsipoulakis, April 2019 (co-advising with Alexandros Labrinidis)
> *A Procrustean Approach to Stream Processing.*

Vineet Raghu, August 2019 (co-advising with Takis Benos)
> *A Computational Pipeline for Graphical Modeling of Integrated Biomedical data*

Current PhD Theses Advising:

Raka Alseghayer (area: Reproducibility)

Xiaoyu Ge (area: Big Data)

Marian K. Iskander (area: Data Streams)

Daniel Petrov (area: Smart City and Homes)

Anatoli Shein (area: Data Streams)

Xiaozhong Zhang (area: Big Dara)

PhD Committees Member:

C. Gong (CSD, Dec. 1994), Stephen Freeza (EE, Dec. 1995), Lory Molesky, (UMass CSD, University of Massachusetts, Amherst, Aug. 1996), Robert Kramer (CSD, Apr. 1996), Fahad H Hoymany (CSD, Aug. 1997), P.W. Chen, (CSD, Comps, Mar. 1998), A.R. Al-Jadhai (CS, Apr. 1999), Clara C. Jaramillo (CSD, Aug. 2000), Miguel Labrador Perez (Telcomm, Dec 2000), Yannis Tsamardinos (ISP, June 2001), Shuju Wu (Telcomm, Aug. 2004) Kamol Kaemarungsi (Telcomm, Feb. 2005), Stavros Harizopoulos (CSD, Carnegie-Mellon University, Sept 2005) Anandha Gopalan (CSD, Comps, Nov. 2005), Ralph Sprang (COE, Proposal, Feb. 2006), David McWherter (CSD, Carnegie-Mellon University, proposal, May 2006), Darin Chan (CSD, Flinders University, Australia, Aug. 2006) Greg Kapfhammer (CSD, Apr. 2007), Huiming Qu (CSD, Aug. 2007), Jie Xu (CSD, Proposal, Dec 2007), David Essary (CSD, Apr. 2008), Mohammad Al-Amari (CSD, University of Sydney, Australia, Mar 2009), Christine Chung (CSD, Aug. 2010), Panayiotis Andreou (CSD, University of Cyprus, June 2011), Jonathan Misurda (CSD, Dec. 2011), Marina Drosou (CSD, University of Ioannina, Greece, Dec. 2013), Nicholas Farnan (CSD, Dec. 2015),

Akon Dey (CSD, University of Sydney, Australia, Oct. 2015), William Garrison (CSD, Dec. 2015), Jie Guo (EE, May 2016), Angen Zheng (May 2017), Costantinos Costa (U. Cyprus, Jul. 2018), Djoko-Takougue, Judicael-Briand (proposal, Feb. 2019), Gory Thoma, PhD, May 2019 (Apr. 2019).

MS Thesis Supervised:

Di Bao, Dec. 2013 (co-advising with Alexandros Labrinidis)
SNET - Computer-Assisted Supernovae Tracking

Alex Conor, Dec. 2012 (co-advising with Alexandros Labrinidis)
Ariadne: A Novel High Availability Cloud Data Store with Transactional Guarantees

MS Projects Supervised:

Ekaterina Buryanova Dimitrova, Summer 2019
Authorization-Aware Optimization for Multi-Provider Queries

Daniel Petrov, Summer 2019
Mitigating Congestion Using Environment Protective Dynamic Traffic Orchestration

Krithika Ganesh, Spring 2019
Detecting Patterns in Real Time Log Streams

Jonathan Michael Albert, Spring 2019
Refactoring the Experimental Platform for Urban Informatics

Xioayu Ge, Spring 2019
Preferential Diversity

Anatoli Shein, Fall 2018
FlatFIT, Aggregate Continuous Query, Sliding-Window Processing

Ameya Bhalchandra Daphalapurkar, Spring 2017
Android client for Mobile Person Guide

Shimpi,Manali Chandrashekhar, Spring 2017
Visualizing Route Recommendations in Urban Places

Jose Michael Joseph, May 2016
Efficient Processing of Aggregate Continuous Queries

Samanvoy Reddy Panati, May 2016
Mobile Personal Guide: The Case of Preferential Diverse Routing

Jeff Kaminski, August 2014
Personal Book Library and Journal System on the Web

Wen Gao, April 2014
Open Access ADMT Library

Ruhsary Rexit, April 2014
Using a Distributed Search Engine to Identify Optimal Product Sets for Use in an Outbreak Detection System

Daniel Walker, December 2013
GPU Database Systems

Panayiotis Neophytou, April 2012
Optimizing the Energy Consumption of Continuous Query Processing with Mobile Clients

Sean Snyder, April 2011
QMD: Exploiting Flash for Energy Efficient Disk Arrays

Jesse Szwedko, April 2011
Visualization of Energy Consumption of Continuous Query Processing with Mobile Clients

Ganesh Santhanakrishna, August 2005 (with Ahmed Amer)
Self-tuning Caching Algorithms

Andreea Munteanu, August 2005 (with Alexandros Labrinidis)
Schemes for Fault-Tolerance in Sensor Networks

Swati Gupta, April 2004
Performance evaluation of Broadcast Indexing Schemes

Jonathan Beaver, April 2004
Document Selection and Bandwidth Division in Multicast-based Data Dissemination

Oleg Shigiltchoff, December 2003
Multiversion Data Dissemination: Broadcast Organizations and Caching

Patrick Herron,, December 2003
Multi-channel Data Broadcasting

Zhen Liu, April 2003
Evaluating Caching Schemes for High Volume Updates and Queries

Joshua Gould, April 2003
Multi-channel Proxy Clients for Web Browsers

Vince Penkrot, December 2002
Interfacing Real-time Outbreak and Disease Surveillance with Multicast Data Dissemination Middleware

Thalis Kalfigopoulos, August 2002
Utilizing XML in e-Service Marketplaces

Siddhartha Roychowdhury, August 2002
NAL: A Network Adaptation Layer

Mohamed A. Sharaf, August 2002
STOBS: Summary Tables On-Demand Broadcast Scheduler.

Chad Visino, December 2001
Developing Services and Utilities for Coordinating and Accessing Data from a Mobile Device Running Windows CE.

Ruchi Agrawal, December 2000
Accessing Broadcast Data on Multiple Channels in Mobile Environment more Efficiently.

Anand Despande, April 2000 (Co-Advisor S. Banerjee)
Read-only Optimization for the Group Two-Phase Locking Protocol.

George Kyrou, December 2000
DTPSim: Distributed Transaction Processing Simulator.

Stavros Papastavros, April 2000
An Evaluation of the Java-based Approaches to Web Database Access.

Jeff Pike, December 1999.
Evaluation of Atomic Commit Protocols in Wide-Area Network Environments.

Kasi Somayajula, December 1996.
Mobile Query Materialization.

Ken Tew, September 1996 (Co-Advisor D. Mossé)
Process Scheduling with Temporal and Memory Constraints.

Ramesh Seshadri, April 1996.
Implementation of Scheduling Tool as a Workflow Application using CORBA.

Susan Weissman, April 1995.
Changing Query by Icons to Improve Query Processing for Mobile Users.

Gary D. Walborn, April 1994
Disconnected Mobile Database Operations.

Rakesh K. Aggarwal, April 1994.
Development of a Client with an X-Window Interface to Access a Remote Database.

John Candee, April 1994.
Exploration and Adaptation of a Commercially Available Network Interface for Remote Database Access across Heterogeneous Operating Systems.

Shubhangi Karandikar, August 1993.
Menu Driven Construction of Dynamic Database Queries.

Neeta Borle, June 1993.
Computer Science Department's Publication Database.

MS Committees:
Loukas Paraskeva (CSD, University Cyprus, May 2007)
Heart Disease Sensor Monitoring System
Brian Wongchaowart (CSD, Aug. 2010)
Oblivious Enforcement of Hidden Information Release Policies Using Online Certification Authorities
Panagiotis Tzirakis (CSD, University of Crete, Greece, October 2015)
Implementing Feature Selection Algorithms for Big Data

BS Thesis/Projects Completed:
Andreeas Pamporis, CSD, University of Cyprus, May 2007 (Co-Adviser with G. Samaras)
ETC: Optimizing the Construction of Query Routing Trees in Sensor Networks for Energy Efficiency and Quality of Data
Anna Sialarou, CSD, University of Cyprus, May 2007 (Co-Adviser with G. Samaras)
E-Voting: Implementing Democracy using the Internet

BS Internships/Capstone Projects Supervised:

Ben Ailes (Fall 2003), C. Cohen (Summer 1993), A. Ferguson III (Summer 1994), R. Seshadri (Summer 1994) R. Colwell (REU 1995-96), H. Gelman (REU, 1995), L. Theophanous (from GMU, Summer 1995), P. Tomsick (1996), A. Wind (Fall 1998), G. Santin (REU 1998-99), M. McHale (Summer 2002), R. Mclaughin (REU 1999), S. Wood (REU 1999-00), F. Giarratani (from U. Toronto, REU, Summers 2000 & 2002), A. M. Krayvo (Summer 2000), J. N Krau (REU, 2000), J. Beaver (REU, 2000-01), R. Taylor (Summer 2001), M. Shore (Fall 2001), M. Schill (Spring 2002), S. Chandra(REU, 2003), N. Morsillo (REU, 2004-05), A. Zana (REU, 2005), A. Bentsionov (REU 2005), W. Goodman (REU, 2005), A. Connors (REU, Fall 2007, Spring 2008), D. Oliphan (REU, Spring & Summer 2010), K. Daniluk (Spring & Summer 2010), Darpun Kohli

(Spring 2017-Spring 2018), Kathryn Marie Blythe (Fall 2018), Abi Paonessa (Fall 2018), Daniel Shirer (Fall 2018), Chihao Sun (Summer & Fall 2019, Spring 2019)

Mentoring Activities:

Kenneth P. Dietrich School of Arts & Sciences Honors College Advisory Board, 2014-2016

IEEE ICDE PhD Symposium, Apr 2014

NSF/ICDE Mentor, April 2012: Entong Shen (NCSU), Yuchen Zhao (UIC)

NIH iBRIC (Internships in Biomedical Research, Informatics, and Computer Science) Mentor, Summer 2017: Jaziel Torres, U. of Puerto Rico.

TEACHING EXPERIENCE

Graduate Courses

Principles of Database Systems (CS2550) Spring '92, '94, '98, '10-15, '17-18 /
    Fall '96, '00, '02, '08

Transaction-Oriented Computing (CS2555), Spring '95

PhD Seminars (CS3110, CS3550, CS3551):
- Mobile Computing, Spring '97, '01, '04
- Internet Middleware, Fall '00
- Network-Centric Data Base Servers, Spring '99
- Advances in Management of Data, Fall '92
- Data in Crisis Management, Fall '05
- Data Stream Management Systems, Fall '08
- Data Management on the Cloud, Fall '10
- In-Memory Data In-Memory Distributed Data Processing, Fall '15

Topics in Computer Science: Series of Short Courses (CS2001)
- Advanced Database Applications, Spring '92
- Reliable Distributed Systems, Spring '93, '94
- E-Commerce Data Management Technology, Fall '00, '01
- Mobile and Pervasive Data Management, Fall '02, '03
- Streams and Sensor Databases, Fall '04
- Data in Crisis Management, Fall '09
- Stream Data Management, Fall '11
- Big Data, Fall '13
- Processing of Aggregated Continuous Queries, Fall '15
- Processing of Aggregated Continuous Queries, Fall '16

Undergraduate Courses

Programming in C and Introduction to UNIX (CS0132), Every Fall 1992–97 / Spring '93

Database Management Systems (CS1555), Spring '92–'99, '02–'06, '08–'09, '11–'13, '16–'18 / Summer '98 / Fall '05, '07–'08, '11–'13, '16–'18

Introduction to Computer Graphics (CS1566), Fall '01, '02

Data Structures in Pascal (UMass, COINS287, TA), Spring '84 – Spring '85

Problem Solving using Pascal (UMass, ECE103, Designed the Labs), Summer '84

Introduction to Computers and Basic language (UMass, COINS105), Fall '83

PROFESSIONAL ACTIVITIES

Editor
Distributed and Parallel Databases (**DAPD**) (Special Issue Coordinator, 2017–)
The Int'l Journal of Next-Generation Computing (**IJNGC**) (Editorial Board, 2011–)
Distributed and Parallel Databases (**DAPD**) (Editorial Board, 2011-2017)
IEEE Transactions on Data and Knowledge Engineering (**TKDE**) (Editorial Board, 2012-2017)
VLDB Journal (**VLDBJ**) (Editorial Board, 2001-2007)
Int'l Journal of Internet Technology and Secured Transactions (**JITST**) (Editorial Board, 2005–)
Encyclopedia of Database Systems, Springer (1st edition, 2007-2010; 2nd edition, 2013-2015)
  Major Area Editor for the "Extended transaction models (III.c)

Guest Editor
ACM Wireless Networks, Special Issue on Pervasive Computing and Communicatios, 10(6),
  Nov. 2004 (with E. Pitoura, Co-Editor)
ACM Mobile Networks, Special Issue on Mobility in Databases and Distributed Systems, 9(5),
  Oct. 2004. (with A. Zaslavsky, Co-Editor)
ACM SIGMOBILE Mobile Computing and Communications Review (MC2R), Special Issue on
  Mobile Data Management, 8(3), July 2004. (with S. Banerjee)
Distributed Systems Engineering Journal, Special Issue on Workflow Management Systems,
  IEE/BCS, Dec. 1996
Lecture Notes on Business Intelligence (LNBIP), Special Issue on Real-Time Business Intelligence
  and Analytics (BIRTE), Fall 2019 (with M. Castellanos and K. Pelechrinis).
Distributed and Parallel Databases (DAPD), Special Issue on Self-Managing and Hardware-
  Optimized Database Systems, Spring 2020 (with M. Hsu, S. Chen, M. Sadoghi, and K Daudjee)

General Chair
Int'l Conference on Extended Data Base Technologies (EDBT'21), Mar. 2021
12th Int'l Workshop on Real-Time Business Intelligence and Analytics (BIRTE '18), Aug. 2018.
16th Hellenic Data Management Symposium (HDMS'18), July 2018.
11th Int'l Workshop on Real-Time Business Intelligence and Analytics (BIRTE '17), Aug. 2017.
14th Int'l Conference on Mobile Data Management (MDM'14), Jul. 2014.
1st Int'l Workshop on Collaborative Big Data (C-Big), Oct. 2012.
11th Int'l Conference on Mobile Data Management (MDM '11), Jun. 2011.
9th Hellenic Data Management Symposium (HDMS '10), July 2010.
6th Int'l Conference on Mobile Data Management (MDM '05), Jan. 2005.
3rd ACM Int'l Workshop on Data Engineering for Wireless and Mobile Access (MobiDE '03),
  (in conjunction with ACM Sigmobile) May 2003.

National Science Foundation Planning Workshop Chair

NSF Workshop on Sustainable Data Management (SEEDM), 2011
NSF Workshop on Data Management for Mobile Sensors (MobiSensors), 2007.
Information and Data Management Research in 21st Century. A workshop of the NSF Database and Expert Systems PIs (IDM'98), 1998.

Program Chair/Co-Chair

34th IEEE Int'l Conference on Data Engineering (ICDE'18), 2018.
10th Int'l Workshop on Enabling Real-Time Business Intelligence (BIRTE'16), 2016.
9th Int'l Workshop on Enabling Real-Time Business Intelligence (BIRTE'15), 2015.
29th IEEE Int'l Conference on Data Engineering (ICDE'13), PC Vice Chair (cloud infrastructure, mobile, distributed, and peer-to-peer data management), 2013.
Int'l Conference on Extended Data Base Technologies (EDBT'11), PC Leader, 2011.
9th Int'l Conference on Ontologies, DataBases, and Applications of Semantics, 2010.
9th Hellenic Symposium on the Management of Data (HDMS'10), 2010.
5th ACM Int'l Workshop on Data Engineering for Wireless and Mobile Access (MobiDE'06), 2006.
20th IEEE Int'l Conference on Data Engineering (ICDE'04), PC Vice Chair (Distributed, Parallel and Mobile Databases), 2004.
4th Int'l Conference on Mobile Data Management (MDM'03), 2003.
4th Int'l DEXA Workshop on Mobility in Databases and Distributed Systems (MDDS'01), 2001.
2nd ACM Int'l Workshop on Data Engineering for Wireless and Mobile Access (MobiDE'01), 2001.
3rd Int'l DEXA Workshop on Mobility in Databases and Distributed Systems (MDDS'00), 2000.
ACM Int'l Workshop on Data Engineering for Wireless and Mobile Access (MobiDE'99), 1999.
2nd Int'l DEXA Workshop on Mobility in Databases and Distributed Systems (MDDS'99), 1999.

Program Committee Member

Conferences & Symposiums

IEEE Int'l Conference on Data Engineering (1998-2001, 2005-2006, 2010-2011, 2015, 2017, 2019)
Int'l Conference on Very Large Data Bases (2000, 2004, 2005, 2006, 2009, 2017)
ACM Sigmod Int'l Conference on the Management of Data (1999, 2002, 2008, 2010, 2011)
IEEE Int'l Conference on Mobile Data Management (2001, 2004, 2006, 2008-2010, 2012, 2017-2019)
IEEE Int'l Workshop on ALgorithms for Indoor Architectures and Systems (2019)
Modeling the World's Systems Conference (2019)
ACM/IEEE International Conference on Internet of Things Design and Implementation (2017)
Int'l Conference on Extended Data Base Technologies (2004, 2010, 2016)
ACM Int'l Conference on Information and Knowledge Management (2000, 2003, 2013, 2019)
IEEE Int'l Conference on Distributed Computing Systems (2005, 2016)
The 25th Australasian Database Conference (2014)
IEEE Int'l Conference on Pervasive Services (2005, 2006)
Int'l Conference on Advances in Social Networks Analysis and Mining (2009)
ACM Symposium on Applied Computing: Ubiquitous Computing Applications (2004)
Hellenic Symposium on the Management of Data (2002, 2003, 2004, 2006, 2009, 2014, 2016)
The 3rd Int'l Conference on Mobile and Ubiquitous Systems: Networks and Services (2006)
The 2nd Int'l Human.Society@Internet Conference (2003)
Int'l Conference on Database and Expert Systems Applications (2000, 2001, 2002, 2003)
9th IFIP 2.6 Working Conference on Database Semantics: E-Commerce (2001)
The Hellenic Conference on Informatics (1999, 2001, 2003)

Int'l Conference on the Management of Data (2000)

ADBIS-DASFAA Symposium on Advances in Databases and Information Systems (2000)

2nd Int'l Conference on Data Warehousing and Knowledge Discovery (2000)

The 33rd Hawaii Int'l Conference on System Sciences: International Electronic Commerce, (2000)

The 5th IEEE Mediterranean Conference on Control and Systems (1997)

Int'l Conference on Parallel and Distributed Computing Systems (1996, 1998)

The 5th Int'l Conference on Computer Communications and Networks (1996)

The 7th Int'l Conference on Software Engineering and Knowledge Engineering (1995)

Workshops

Int'l Workshop on Mobile Ubiquitous Systems, Infrastructures, Communications, and Applications (2016)

Int'l Workshop on Data Management for Sensor Networks (2004, 2005, 2010)

ACM Int'l Workshop on Data Engineering for Wireless and Mobile Access (2010)

VLDB Workshop on Technologies for E-Services (2000, 2001)

1st Int'l Workshop on Pervasive Computing (2000)

International Workshop on Data Semantics in Web Information Systems (2001)

The 3rd Intl Workshop On Human Mobility Computing And Privacy (2015)

Int'l Workshop on E-Commerce and Web-based Information Systems (2001)

IEEE Int'l Workshop on Research Issues on Data Engineering (1996, 1999)

NSF Workshop on Integrated Spatial Databases: Digital Images and GIS (1999)

The 1st Int'l DEXA Workshop on Mobility in Databases and Distributed Systems (1998)

PhD Forums / Symposiums

IEEE Int'l Conference on Data Engineering / PhD Symposium (2014, 2017)

IEEE Int'l Conference on Mobile Data Management / PhD Forum (2015)

Steering Committee Member

IEEE Workshop on Self-Managing Databases (2012-)

IEEE Int'l Conference on Mobile Data Management (2006-)

ACM Int'l workshop on Data Engineering for Wireless and Mobile Access (2006-2013)

Int'l Workshop on Data Management for Sensor Networks (2004-2006)

NSF Workshop on Context-Aware Data Management (2002)

Int'l DEXA Workshop on Mobility in Databases and Distributed Systems (2002-2005)

Information and Data Management Research in 21st Century. A workshop of the NSF IIS-IDM PIs (1999, 2001)

Conference Organization

13th Workshop on Real-Time Business Intelligence and Analytics – Scholarship Chair (2019),

IEEE Int'l Conference on Data Engineering – Panel Co-Chair (2014)

Int'l Conference on Very Large Data Bases – Panel Co-Chair (2012)

IEEE Int'l Conference on Data Engineering – Demo Chair (2003)

18th IEEE Int'l Conference on Data Engineering – Publicity Chair (2002)

7th Int'l Conference on Software Engineering and Knowledge Engineering – Publicity Chair (1995)

Association Memberships & Officer

AAAS (American Association for Advancement of Science) (Since 2018)

NCWIT (National Center for Women & Information Technology)
 –University Liaison at Pitt (1997–)

ACM (Association for Computing Machinery) (1983–)

IEEE (Institute of Electrical and Electronics Engineers) (1980–)
  –Vice President Special Interest Group on Self-Management Database Systems (2012–)
Sigma Xi, The Scientific Research Society, U.S.A. (1986-2000)
Hellenic Society of Computer and Information Scientists (since 1986)
Hellenic Scientist Association of Boston (1984–1991)
USENIX Association – University Liaison at Pitt(1996-2012)

Referee and Reviewer

Proposals and Books

National Science Foundation (IIS/IDM, ITR, STI) 1993-present
Natural Sciences and Engineering Research Council of Canada, 2018
Swiss National Science Foundation, 2016
General Secretariat for Research and Technology of Greece
Fundamentals of Database Systems, Elmasri & Navathe, 2nd Edition
Morgan Kaufmann (Advanced Database Topics)
Kluwer Academic Publishers (Mobile Computing)

Journals

ACM Transactions on Database Systems
IEEE Transactions on Knowledge and Data Engineering
IEEE Transactions on Parallel and Distributed Systems
IEEE Transactions on Computers
IEEE Transactions on Mobile Computing
ACM-BALTZER Mobile Networks and Applications
ACM-BALTZER Wireless Networks
Distributed and Parallel Databases Journal
Parallel Computing Journal
VLDB Journal
The Journal of Cooperative Informarion Systems
The Journal of Real-Time Systems
The Journal of Software Engineering and Knowledge Engineering
The Journal of Systems and Software

Conferences & Workshops

Innovation & Entrepreneurship Forum: Research Commercialization & Innovative Start-ups (2017)
VLDB 2008
ADBIS 2005
ACM PODS Symposium (1997)
ACM SIGMOD Conference (1987, 1992, 1995)
Int'l Conference on Data Engineering (1989, 1992, 1998)
Int'l Conference on Parallel and Distributed Computing Systems (1992,1995,1996)
Int'l Conference on Parallel and Distributed Information Systems (1992)
IEEE INFOCOM (1991, 2000)
Int'l Conference on Distributed Computing Systems (1987, 1989)
Workshop on Experiences with Distributed and Multiprocessor Systems (1989)
Real Time System Symposium (1986, 2005)

ADMINISTRATIVE ACTIVITIES

Computer Science Department Level

    Director of Graduate Studies (2007-2008, 2013-2014, 2018)

    Chair of Graduate Programs and Exams Committee (2016–2018)

    Chair of Web Site & Public Relations (2008-2015)

    Chair of Admissions, Awards and Financial Aid (2000-2005, 2007-2008, 2013-2014)

    Chair of CSD Database System (1997-2006)

    Member of Graduate Admissions & Financial Aid Committee (1992-1996, 2005-2006, 2016-2017, 2018)

    Member of Graduate Evaluation, Assignment & Training Committee (2014-2015)

    Member of Outreach Committee (2000-2006, 2018)

    Member of Graduate Programs and Exams Committee (1991-1999, 2000-2004)

    Member of New Building Moving Committee (2001-2002)

    Member of Faculty Search Committee (1997-1999)

    Member of Undergraduate Program Committee (1996-1997)

    Member of Chair Review Committee (1995-1996)

School & University Level

    Member of Senate Budget Policies Committee (2016–)

    Member of SCI Research Computing Education Committee (2018–)

    Member of School of Computing and Information (SCI) Academic Council (2017–2018)

    Member of SCI Promotion Committee (2018)

    Member of Pitt NCWIT Extension Services for improving recruiting & retention practices

    Member of Faculty Advisory Board of University Honors College (2014-2016)

    Member of Art & Science Tenure Council (2000-2017)

    Member of School of Information Science Tenure Council (2003)

    Member of NASA/MTAC Review Board, University of Pittsburgh (1992-1993)

    Member of University Electronic Course Reserves Advisory Group (ULS) (1994-1996)

    Member of Electrical Engineering PhD Prelim Exam Committee (Fall 1993, 1994)

    Member of Curriculum Committee, Pitt-CMU Computational Biology PhD Program (2005-2018)

    Member of the Organizing Committee, Pitt Workshop: Connecting Linguistics to the Community and Industry: Creating an Engagement Platform (Spring 2019)