Manoussos-Gavriil (Manos) Athanassoulis

Associate Professor

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RESEARCH CONTRIBUTIONS & INTERESTS

I **design and build robust data-intensive systems** that exploit the underlying **storage and processing hardware**, and **self-tune** to match workload and application requirements including optimizing for performance, tuning in presence of **workload uncertainty**, respecting **deletion** and **privacy-through-deletion** requirements, and capturing data **properties** including data and query **distribution** and **sortedness**. I also build **memory-efficient** algorithms and data systems designs that support low memory-to-data ratios. I focus on the internals of systems having contributed to **robust LSM-based designs** along with building **sortedness-aware tree indexing** and **update-aware bitmap indexing**. Finally, as moving data through the memory hierarchy remains a key bottleneck of data-intensive applications, I build new **hardware/software co-design** approaches that allow for **effortless data locality** via **in-memory data transformation** using custom hardware.

EDUCATION

Ph.D. in Computer Science, February 2014 **École Polytechnique Fédérale de Lausanne**
Thesis: "Solid-State Storage and Work Sharing for Efficient Scaleup Data Analytics"
Advisor: Prof. Anastasia Ailamaki (natassa@epfl.ch)

M.Sc. in Computer Systems Technology, March 2008 **University of Athens, Greece**
Thesis: "Thread scheduling technique for avoiding page thrashing"
Supervisor: Prof. Stathes Hadjiefthymiades (shadj@di.uoa.gr)

B.Sc. in Informatics & Telecommunications, September 2005 **University of Athens, Greece**
Thesis: "A Multi-Criteria Message Forwarding Architecture for Wireless Sensor Networks"
Supervisor: Prof. Stathes Hadjiefthymiades (shadj@di.uoa.gr)

PROFESSIONAL EXPERIENCE

05/2025 – now	**Associate Professor** at **Boston University**	Boston, MA, USA
07/2019 – now	**Affiliate Faculty** at **Hariri Institute of Computing, Boston University**	Boston, MA, USA
09/2026 – now	**Visiting Professor** at **Salesforce**	San Francisco, CA, USA
01/2019 – 04/2025	**Assistant Professor** at **Boston University**	Boston, MA, USA
05/2022 – 08/2022	**Visiting Faculty** at **Meta**	Menlo Park, CA, USA
06/2018 – 12/2018	**Adjunct Assistant Professor** at **Boston University**	Boston, MA, USA
09/2017 – 12/2018	**Research Associate** at **Harvard University**	Cambridge, MA, USA
01/2017 – 05/2017	**Visiting Lecturer** at **Tufts University**	Medford, MA, USA
09/2014 – 08/2017	**Postdoctoral Fellow** at **Harvard University**	Cambridge, MA, USA
10/2008 – 06/2014	**Ph.D. Researcher** at **École Polytechnique Fédérale de Lausanne**	Lausanne, Switzerland
07/2011 – 10/2011	**Research Intern** at **IBM Watson Research Labs**	Hawthorne, NY, USA
10/2004 – 08/2008	**Researcher** at **University of Athens**	Athens, Greece

HONORS & AWARDS

2026 "Distinguished Associate Editor" at ACM SIGMOD 2026

2026 "Distinguished Area Chair" at IEEE ICDE 2026

2025 "IEEE Computer Society Distinguished Contributor", Class of 2025
2025 "Best Paper Honorable Mention" at AIDB@VLDB 2025
2025 "Distinguished PC Member" at ACM SIGMOD 2025
2025 "Distinguished Reviewer" at EDBT 2025
2024 "Distinguished PC Member" at ACM SIGMOD 2024
2023 "Best Demo" at VLDB 2023
2023 "Distinguished PC Member" at ACM SIGMOD 2023
2023 Red Hat Collaboratory Research Incubation Award (x3)
2022 NSF CAREER Award
2021 Red Hat Collaboratory Research Incubation Award (x2)
2020 Facebook Faculty Research Award
2019 NSF CRII Award
2018 "Best of VLDB 2017" selection with invitation to publish at VLDB Journal
2018 "Distinguished PC Member" at ACM SIGMOD 2018
2017 "Best of SIGMOD 2017" selection with invitation to publish at TODS Journal
2017 "Most Reproducible Paper Award" at ACM SIGMOD
2015-2016 Harvard University Certificate of Distinction in Teaching (Fall 2015, Spring 2016, Fall 2016)
2015-2016 SNSF Early Postdoc Mobility Fellowship
2014 Harvard University Certificate of Teaching Excellence (Fall 2014)
2013 EPFL Outstanding Teaching Assistantship Award
2011-2012 IBM Ph.D. Fellowship
2010 "Best of VLDB 2010" selection with invitation to publish at VLDB Journal
2007 Prize for having the best student record, M.Sc., University of Athens
2006-2007 Graduate Fellowship from Onassis Foundation
2006 "Ericsson Award of Excellence in Telecommunications" for B.Sc. Thesis
2005 Valedictorian B.Sc., University of Athens
2001-2005 Academic Excellence Award from State Fellowship Foundation of Greece (IKY)

RESEARCH GRANTS & FUNDING

2026-2027 "Data Retention and Deletion Observability for Data Systems", PI, NSF Industry-University Cooperative Research Center for Systems Innovation at Scale (i-Scale), Part of Grant No. CNS-1939098, $75K
2024-2028 "Effortless Data Locality Through Near-memory On-the-fly Data Transformation", Co-PI (33%), PI: Renato Mancuso, NSF Medium, Grant No. CCF-2403012, $1.13M
2023 "Learned Cost-Models for Robust Tuning", PI (50%), Co-PI: Evimaria Terzi, Red Hat Collaboratory Research Incubation Award, $75K
2023 "Relational Memory Controller", PI (90%), Co-PI: Renato Mancuso, Red Hat Collaboratory Research Incubation Award, $150K
2023 "Toward On-The-Fly Reorganization of High-Order Data Objects", Co-PI (10%), PI: Renato Mancuso, Red Hat Collaboratory Research Incubation Award, $150K
2022-2027 "Robust LSM-Based Data Stores", PI, NSF CAREER Award, Grant No. IIS-2144547, $600K
2022 "Robust LSM Tuning", PI, Meta Research Gift, $50K

2021 "Robust Data Systems Tuning", PI (50%), Co-PI: Evimaria Terzi, Red Hat Collaboratory Research Incubation Award, $75K

2021 "Near-Data Data Transformation", PI (50%), Co-PI: Renato Mancuso, Red Hat Collaboratory Research Incubation Award, $150K

2021 "Near-Data Data Transformation for Edge Computing", PI (50%), Co-PI: Renato Mancuso, Cisco Research, $50K

2021 "Programmable Logic In-the-Middle: The Case for Relational Memory", Co-PI (50%), PI: Renato Mancuso, BU Red Hat Collaboratory, $34K (renewal)

2020 "Achieving Deletion Guarantees in LSM Data Stores", PI, Facebook Faculty Research Award, $100K

2020 "Programmable Logic In-the-Middle: The Case for Relational Memory", Co-PI (50%), PI: Renato Mancuso, BU Red Hat Collaboratory, $68K

2019-2022 "Optimal Data Organization for Hybrid Transactional/Analytical Processing Data Systems", PI, NSF CISE CRII Award, Grant No. IIS-1850202, $175K

2015 "The RUM Conjecture and the Big Data Access Wizard", Swiss National Science Foundation (SNSF), Early Postdoc Mobility Fellowship, Grant No. P2ELP2_158936, 70K CHF

PUBLICATIONS

(Note: underlined co-authors are research advisees while preparing the manuscript)

Refereed Conference & Journal Papers

1. J. Wang, C. Li, W. Fan, F. Xiao, **M. Athanassoulis**, "DDC: Decoupling Data and Control for Bitmap Compression", Proceedings of the VLDB Endowment (**PVLDB**), Vol. 20(4), **2026** (*to appear*).
2. C. Strickler, R. Mancuso, **M. Athanassoulis**, H. Yun, "Programmable Data Layouts via On-The-Fly Data Transformation", In Proceedings of the ACM International Conference on Architectural Support for Programming Languages and Operating Systems (**ASPLOS**), Vol. 1, **2027**. link
3. T. Bagashvili, T. Papon, S. Sarkar, **M. Athanassoulis**, "Eliminating the Hidden Cost of Zone Management in ZNS SSDs", Proceedings of the VLDB Endowment (**PVLDB**), Vol. 20(2), pp. 270-283, **2026**. link
4. P. Simatis, P. Bouros, **M. Athanassoulis**, N. Mamoulis, "TIDY: Temporal Indexing for Die-Young Objects", Proceedings of the ACM on Management of Data (**PACMMOD**), Vol. 4(6), pp. 380:1-380:28, **2026**. link
5. J. Wang, F. Gao, F. Xiao, **M. Athanassoulis**, "BitEngine: Query Engines Using Bitmap Indexing", Proceedings of the VLDB Endowment (**PVLDB**), Vol. 19(13), pp. 5011-5024, **2026** (*to appear*).
6. T. Zhang, T. Papon, T. Bagashvili, S. Toor, **M. Athanassoulis**, "ReStore: A Reinforcement Learning Approach for Data Migration in Multi-Tiered Storage", Proceedings of the ACM on Management of Data (**PACMMOD**), Vol. 4(3), pp. 227:1-227:28, **2026**. link
7. S. Kaushik, **M. Athanassoulis**, S. Sarkar, "RangeReduce: Query-Driven LSM Compactions", In Proceedings of the IEEE International Conference on Data Engineering (**ICDE**), pp. 2601-2614, **2026**. link
8. J. Wang, F. Xiao, **M. Athanassoulis**, "RABIT: Efficient Range Queries with Bitmap Indexing", Proceedings of the ACM on Management of Data (**PACMMOD**), Vol. 3(6), pp. 354:1-354:28, **2025**. link
9. A. Huynh, A. Saha, H. Chaudhari, **M. Athanassoulis**, "AXE: A Task Decomposition Approach to Learned LSM Tuning", Proceedings of the VLDB Endowment (**PVLDB**), Vol. 18(13), pp. 5582-5595, **2025**. link
10. Z. Zhu, Y. Wei, J. Mun, **M. Athanassoulis**, "Mnemosyne: Dynamic Workload-Aware BF Tuning via Accurate Statistics in LSM trees", Proceedings of the ACM on Management of Data (**PACMMOD**), Vol. 3(3), pp. 190:1-190:28, **2025**. link
11. A. Raman, K. Karatsenidis, S. Xie, M. Olma, S. Sarkar, **M. Athanassoulis**, "QuIT your B^+-tree for the Quick Insertion Tree", In Proceedings of the International Conference on Extending Database Technology (**EDBT**), pp. 451-463, **2025**. link

12. R. Wei, Z. Zhu, A. Kryczka, J. Zhuang, **M. Athanassoulis**, "Benchmarking, Analyzing, and Optimizing WA of Partial Compaction in RocksDB", In Proceedings of the International Conference on Extending Database Technology (**EDBT**), pp. 425-437, **2025**. link
13. J. Wang and **M. Athanassoulis**, "CUBIT: Concurrent Updatable Bitmap Indexing", Proceedings of the VLDB Endowment (**PVLDB**), Vol. 18(2), pp. 399-412, **2024**. link
14. T. Papon, J. Mun, K. Karatsenidis, S. Roozkhosh, D. Hoornaert, A. Sanaullah, U. Drepper, R. Mancuso, **M. Athanassoulis**, "Effortless Locality on Data Systems using Relational Fabric", IEEE Transactions on Knowledge and Data Engineering (**TKDE**), pp. 1-12, **2024**. link
15. T. Papon, T. Chen, S. Zhang, **M. Athanassoulis**, "CAVE: Concurrency-Aware Graph Processing on SSDs", Proceedings of the ACM on Management of Data (**PACMMOD**), Vol. 2(3), pp. 125:1-125:26, **2024**. link
16. A. Huynh, H. Chaudhari, E. Terzi, **M. Athanassoulis**, "Towards Flexibility and Robustness of LSM Trees", The VLDB Journal (**VLDBJ**), Vol. 33(4), pp. 1105-1128, Special Issue (Machine Learning and Databases), **2024**. link
17. Z. Zhu, X. Hu, **M. Athanassoulis**, "NOCAP: Near-Optimal Correlation-Aware Partitioning Joins", Proceedings of the ACM on Management of Data (**PACMMOD**), Vol. 1(4), pp. 252:1-252:27, **2023**. link
18. **M. Athanassoulis**, S. Idreos, D. Shasha, "Data Structures for Data-Intensive Applications: Tradeoffs and Design Guidelines", Foundations and Trends (**FNT**) in Databases: Vol. 13(1-2), pp. 1-168, **2023**. link
19. S. Sarkar, T. Papon, Z. Zhu, D. Staratzis, **M. Athanassoulis**, "Enabling Timely and Persistent Deletion in LSM-Engines", ACM Transactions on Database Systems (**TODS**), Vol. 48(3), pp. 8:1-8:40, **2023**. link
20. A. Raman, S. Sarkar, M. Olma, **M. Athanassoulis**, "Indexing for Near-Sorted Data", In Proceedings of the IEEE International Conference on Data Engineering (**ICDE**), pp. 1475-1488, **2023**. link
21. T. Papon and **M. Athanassoulis**, "ACEing the Bufferpool Management Paradigm for Modern Storage Devices", In Proceedings of the IEEE International Conference on Data Engineering (**ICDE**), pp. 1326-1339, **2023**. link
22. T. Papon, J. Mun, S. Roozkhosh, D. Hoornaert, A. Sanaullah, U. Drepper, R. Mancuso, **M. Athanassoulis**, "Relational Fabric: Transparent Data Transformation", In Proceedings of the IEEE International Conference on Data Engineering (**ICDE**), pp. 3688-3698, **2023**. link *Invited for publication at the Special Issue of IEEE TKDE for* **ICDE 2023 Best and Innovation Papers**
23. S. Roozkhosh, D. Hoornaert, J. Mun, T. Papon, A. Sanaullah, U. Drepper, R. Mancuso, **M. Athanassoulis**, "Relational Memory: Native In-Memory Accesses on Rows and Columns", In Proceedings of the International Conference on Extending Database Technology (**EDBT**), pp. 66-79, **2023**. link
24. A. Huynh, H. Chaudhari, E. Terzi, **M. Athanassoulis**, "Endure: A Robust Tuning Paradigm for LSM Trees Under Workload Uncertainty", Proceedings of the VLDB Endowment (**PVLDB**), Vol. 15(8), pp. 1605-1618, **2022**. link
25. **M. Athanassoulis**, S. Sarkar, T. Papon, Z. Zhu, D. Staratzis, "Building Deletion-Compliant Data Systems", **IEEE Data Engineering Bulletin**, Vol. 45(1), pp. 21-36, **2022**. link
26. K. Missimer, **M. Athanassoulis**, R. West, "Telomere: Real-Time NAND Flash Storage", ACM Transactions on Embedded Computing Systems (**TECS**), Vol. 21(1), pp. 10:1-10:24, **2022**. link
27. S. Sarkar and **M. Athanassoulis**, "Query Language Support for Timely Data Deletion", In Proceedings of the International Conference on Extending Database Technology (**EDBT**), pp. 2:429-2:434, **2022**. link
28. S. Sarkar, D. Staratzis, Z. Zhu, **M. Athanassoulis**, "Constructing and Analyzing the LSM Compaction Design Space", Proceedings of the VLDB Endowment (**PVLDB**), Vol. 14(11), pp. 2216-2229, **2021**. link
29. S. Sarkar, T. Papon, D. Staratzis, **M. Athanassoulis**, "Lethe: A Tunable Delete-Aware LSM Engine", In Proceedings of the ACM **SIGMOD** International Conference on Management of Data, pp. 893-908, **2020**. link
30. M. Olma, M. Karpathiotakis, I. Alagiannis, **M. Athanassoulis**, A. Ailamaki, "Adaptive Partitioning and Indexing for In-situ Query Processing", The VLDB Journal (**VLDBJ**), Vol. 29(1), pp. 569-591, Special Issue (best papers of VLDB 2017), **2020**. link
31. **M. Athanassoulis**, K. Bøgh, S. Idreos, "Optimal Column Layout for Hybrid Workloads", Proceedings of the VLDB Endowment (**PVLDB**), Vol. 12(13), pp. 2393-2407, **2019**. link

32. N. Dayan, **M. Athanassoulis**, S. Idreos, "Optimal Bloom Filters and Adaptive Merging for LSM-Trees", ACM Transactions on Database Systems (**TODS**), Vol. 43(4), pp. 16:1-16:48, **2018**. link
33. S. Idreos, K. Zoumpatianos, **M. Athanassoulis**, N. Dayan, B. Hentschel, M. Kester, D. Guo, L. Maas, W. Qin, A. Wasay, Y. Sun, "The Periodic Table of Data Structures", **IEEE Data Engineering Bulletin**, Vol. 41(3), pp. 64-75, **2018**. link
34. M. Olma, M. Karpathiotakis, I. Alagiannis, **M. Athanassoulis**, A. Ailamaki, "Slalom: Coasting Through Raw Data via Adaptive Partitioning and Indexing", Proceedings of the VLDB Endowment (**PVLDB**), Vol. 10(10), pp. 1106-1117, **2017**. link *Invited for publication at the Special Issue of VLDB Journal for* **VLDB 2017 Best Papers** (one of top 5 papers)
35. N. Dayan, **M. Athanassoulis**, S. Idreos, "Monkey: Optimal Navigable Key-Value Store", In Proceedings of the ACM **SIGMOD** International Conference on Management of Data, pp. 79-94, **2017**. link *Invited for publication at the Special Issue of TODS Journal for* **SIGMOD 2017 Best Papers** (one of top 4 papers)
36. M. Kester, **M. Athanassoulis**, S. Idreos, "Access Path Selection in Main-Memory Optimized Data Systems: Should I Scan or Should I Probe?", In Proceedings of the ACM **SIGMOD** International Conference on Management of Data, pp. 715-730, **2017**. link
37. **M. Athanassoulis**, Z. Yan, S. Idreos, "UpBit: Scalable In-Memory Updatable Bitmap Indexing", In Proceedings of the ACM **SIGMOD** International Conference on Management of Data, pp. 1319-1332, **2016**. link *Awarded the* **ACM Computationally Reproducible** *label & Won the* **Most Reproducible Paper** *award*
38. **M. Athanassoulis**, S. Chen, P. Gibbons, A. Ailamaki, R. Stoica, "Online Updates on Data Warehouses via Judicious Use of Solid-State Storage", ACM Transactions on Database Systems (**TODS**), Vol. 40(1), pp. 6:1-6:42, **2015**. link
39. **M. Athanassoulis** and A. Ailamaki, "BF-Tree: Approximate Tree Indexing", Proceedings of the VLDB Endowment (**PVLDB**), Vol. 7(14), pp. 1881-1892, **2014**. link
40. I. Psaroudakis, **M. Athanassoulis**, A. Ailamaki, "Sharing Data and Work Across Concurrent Analytical Queries", Proceedings of the VLDB Endowment (**PVLDB**), Vol. 6(9), pp. 637-648, **2013**. link
41. R. Johnson, I. Pandis, R. Stoica, **M. Athanassoulis**, A. Ailamaki, "Scalability of Write-Ahead Logging on Multicore and Multisocket Hardware", The VLDB Journal (**VLDBJ**), Vol. 21(2), pp. 239-263, Special Issue (best papers of VLDB 2010), **2012**. link
42. **M. Athanassoulis**, S. Chen, A. Ailamaki, P. Gibbons, R. Stoica, "MaSM: Efficient Online Updates in Data Warehouses", In Proceedings of the ACM **SIGMOD** International Conference on Management of Data, pp. 865-876, **2011**. link
43. **M. Athanassoulis**, A. Ailamaki, S. Chen, P. Gibbons, R. Stoica, "Flash in a DBMS: Where and How?", **IEEE Data Engineering Bulletin**, Vol. 33(4), pp. 28-34, **2010**. link
44. S. Chen, A. Ailamaki, **M. Athanassoulis**, P. Gibbons, R. Johnson, I. Pandis, R. Stoica, "TPC-E vs. TPC-C: Characterizing the New TPC-E Benchmark via an I/O Comparison Study", ACM **SIGMOD Record**, Vol. 39(3), pp. 5-10, **2010**. link
45. R. Johnson, I. Pandis, R. Stoica, **M. Athanassoulis**, A. Ailamaki, "Aether: A Scalable Approach to Logging", Proceedings of the VLDB Endowment (**PVLDB**), Vol. 3(1-2), pp. 681-692, **2010**. link *Invited for publication at the Special Issue of VLDB Journal for* **VLDB 2010 Best Papers** (one of top 5 papers)

Tutorials

46. S. Sarkar, N. Dayan, **M. Athanassoulis**, "The LSM Design Space and its Read Optimizations", In Proceedings of the IEEE International Conference on Data Engineering (**ICDE**), pp. 3578-3584, **2023**. link
47. S. Sarkar and **M. Athanassoulis**, "Dissecting, Designing, and Optimizing LSM-based Data Stores", In Proceedings of the ACM **SIGMOD** International Conference on Management of Data, pp. 2489-2497, **2022**. link
48. **M. Athanassoulis** and S. Idreos, "Design Tradeoffs of Data Access Methods", In Proceedings of the ACM **SIGMOD** International Conference on Management of Data, pp. 2195-2200, **2016**. link

Conference Vision Papers

49. **M. Athanassoulis**, M. S. Kester, L. M. Maas, R. Stoica, S. Idreos, A. Ailamaki, M. Callaghan, "Designing Access Methods: The RUM Conjecture", In Proceedings of the International Conference on Extending Database Technology (**EDBT**), pp. 461-466, **2016**. link
50. A. Wasay, **M. Athanassoulis**, S. Idreos, "Queriosity: Automated Data Exploration", In Proceedings of the International Congress on **Big Data**, pp. 716-719, **2015**. link

Demo Papers

51. A. Raman, P. Chindris, A. Saha, T. Bagashvili, **M. Athanassoulis**, "Demonstrating Indexing for Near-Sorted Data", Proceedings of the VLDB Endowment (**PVLDB**), Vol. 19(12), pp. 4694-4697, **2026**. link
52. S. Eusuf, T. Zhang, T. Bagashvili, **M. Athanassoulis**, T. Papon, "ReStore-in-Action: Adaptive Multi-Tier Storage Management via Intelligent Data Migration Policy", Proceedings of the VLDB Endowment (**PVLDB**), Vol. 19(12), pp. 4702-4705, **2026**. link
53. T. Bagashvili, T. Papon, **M. Athanassoulis**, "ACE-in-Action: A Smart DBMS Bufferpool for SSDs", In Proceedings of the Companion of the ACM **SIGMOD** International Conference on Management of Data, pp. 23-26, **2025**. link
54. J. Mun, K. Karatsenidis, T. Papon, S. Roozkhosh, D. Hoornaert, A. Sanaullah, U. Drepper, R. Mancuso, **M. Athanassoulis**, "On-the-fly Data Transformation in Action", Proceedings of the VLDB Endowment (**PVLDB**), Vol. 16(12), pp. 3950-3953, **2023**. link **Best Demonstration** *for VLDB 2023*
55. Z. Zhu, S. Sarkar, **M. Athanassoulis**, "Acheron: Persisting Tombstones in LSM Engines", In Proceedings of the Companion of the ACM **SIGMOD** International Conference on Management of Data, pp. 131-134, **2023**. link
56. S. Sarkar, K. Chen, Z. Zhu, **M. Athanassoulis**, "Compactionary: A Dictionary for LSM Compactions", In Proceedings of the ACM **SIGMOD** International Conference on Management of Data, pp. 2429-2432, **2022**. link
57. I. Psaroudakis, **M. Athanassoulis**, M. Olma, A. Ailamaki, "Reactive and Proactive Sharing Across Concurrent Analytical Queries", In Proceedings of the ACM **SIGMOD** International Conference on Management of Data, pp. 889-892, **2014**. link

Refereed Workshop Papers

58. A. Saha, A. Raman, R. Marcus, **M. Athanassoulis**, "Exploring Wavelet Trees as Space-Efficient Physical-to-Sorted Mapping for Learned Indexes", In Proceedings of the International Workshop on Applied AI for Database Systems and Applications (**AIDB**), **2025**. link *Best Paper Honorable Mention*
59. C. Strickler, J. Mun, C. Sullivan, D. Hoornaert, R. Mancuso, **M. Athanassoulis**, H. Yun, "Micro-architectural Exploration of the Relational Memory Engine (RME) on RISC-V SoC using FireSim", In Proceedings of the International Workshop on Accelerating Analytics and Data Management Systems Using Modern Processor and Storage Architectures (**ADMS**), **2025**. link
60. A. Raman, A. Huynh, J. Lu, **M. Athanassoulis**, "Benchmarking Learned and LSM Indexes for Data Sortedness", In Proceedings of the International Workshop on Testing Database Systems (**DBTest**), pp. 16-22, **2024**. link
61. Z. Zhu, A. Saha, **M. Athanassoulis**, S. Sarkar, "KVBench: A Key-Value Benchmarking Suite", In Proceedings of the International Workshop on Testing Database Systems (**DBTest**), pp. 9-15, **2024**. link
62. T. Papon (advised by **M. Athanassoulis**), "Enhancing Data Systems Performance by Exploiting SSD Concurrency & Asymmetry", In Proceedings of the IEEE International Conference on Data Engineering (**ICDE**), **Ph.D. Symposium**, pp. 1-5, **2024**. link
63. Z. Zhu (advised by **M. Athanassoulis**), "SHaMBa: Reducing Bloom Filter Overhead in LSM Trees", In Proceedings of the **VLDB Ph.D. Workshop**, pp. 17-20, **2023**. link
64. R. Mancuso, S. Roozkhosh, D. Hoornaert, J. Mun, T. Papon, **M. Athanassoulis**, "Software-Shaped Platforms", In Proceedings of Cyber-Physical Systems and Internet of Things Week Workshops (Real-time And intelliGent Edge computing workshop) (**CPS-IoT Workshops**), pp. 185-191, **2023**. link
65. J. Mun, Z. Zhu, A. Raman, **M. Athanassoulis**, "LSM-Trees Under (Memory) Pressure", In Proceedings of the International Workshop on Accelerating Analytics and Data Management Systems Using Modern Processor and Storage Architectures (**ADMS**), pp. 23-35, **2022**. link

66. A. Raman, K. Karatsenidis, S. Sarkar, M. Olma, **M. Athanassoulis**, "BoDS: A Benchmark on Data Sortedness", In Proceedings of the TPC Technology Conference on Performance Evaluation and Benchmarking (**TPCTC**), pp. 17-32, **2022**. link
67. T. Papon and **M. Athanassoulis**, "A Parametric I/O Model for Modern Storage Devices", In Proceedings of the International Workshop on Data Management on New Hardware (**DAMON**), pp. 2:1-2:11, **2021**. link
68. Z. Zhu, J. Mun, A. Raman, **M. Athanassoulis**, "Reducing Bloom Filter CPU Overhead in LSM-Trees on Modern Storage Devices", In Proceedings of the International Workshop on Data Management on New Hardware (**DAMON**), pp. 1:1-1:10, **2021**. link
69. S. Idreos, **M. Athanassoulis**, N. Dayan, D. Guo, M. S. Kester, L. Maas, K. Zoumpatianos, "Past and Future Steps for Adaptive Storage Data Systems: From Shallow to Deep Adaptivity", Lecture Notes in Business Information Processing (**BIRTE Selected Revised Papers**), Vol. 337, pp. 85-94, **2016**. link
70. S. Xi, O. Babarinsa, **M. Athanassoulis**, S. Idreos, "Beyond the Wall: Near-Data Processing for Databases", In Proceedings of the International Workshop on Data Management on New Hardware (**DAMON**), pp. 2:1-2:10, **2015**. link
71. I. Alagiannis, **M. Athanassoulis**, A. Ailamaki, "Scaling Up Analytical Queries with Column-Stores", In Proceedings of the International Workshop on Testing Database Systems (**DBTest**), pp. 8:1-8:6, **2013**. link
72. **M. Athanassoulis**, B. Bhattacharjee, M. Canim, K. Ross, "Path Processing Using Solid State Storage", In Proceedings of the International Workshop on Accelerating Data Management Systems Using Modern Processor and Storage Architectures (**ADMS**), pp. 23-32, **2012**. link
73. R. Johnson, **M. Athanassoulis**, R. Stoica, A. Ailamaki, "A New Look at the Roles of Spinning and Blocking", In Proceedings of the International Workshop on Data Management on New Hardware (**DAMON**), pp. 21-26, **2009**. link
74. R. Stoica, **M. Athanassoulis**, R. Johnson, A. Ailamaki, "Evaluating and Repairing Write Performance on Flash Devices", In Proceedings of the International Workshop on Data Management on New Hardware (**DAMON**), pp. 9-14, **2009**. link

Extended Abstracts, Reports & Other Conference Papers

75. S. Roozkhosh, D. Hoornaert, R. Mancuso, **M. Athanassoulis**, "Hardware Data Re-organization Engine for Real-Time Systems", In Proceedings of the WiP Session at the IEEE Real-Time Systems Symposium (**RTSS@Work**), pp. 19-21, **2022**. link
76. **M. Athanassoulis**, P. Triantafillou, R. Appuswamy, R. Bordawekar, B. Chandramouli, X. Cheng, I. Manolescu, Y. Papakonstantinou, N. Tatbul, "Artifacts Availability & Reproducibility (VLDB 2021 Round Table)", ACM **SIGMOD Record**, Vol. 51(2), pp. 74-77, **2022**. link
77. **M. Athanassoulis**, "Transparent Data Transformation: Can I have my Rows and eat my Columns too?", ACM **SIGMOD Record**, Vol. 50(2), pp. 33-34, **2021**. link
78. T. Papon and **M. Athanassoulis**, "The Need for a New I/O Model", In Proceedings of the Annual Conference on Innovative Data Systems Research (**CIDR**), **2021** (abstract). link *Honorable mention for best CIDR Gong Show talk*
79. **M. Athanassoulis**, "Secure Data Systems and Performance: Friends or Foe?", In Proceedings of the 8th Biennial Conference on Innovative Data Systems Research (**CIDR**), **2017** (abstract). link
80. **M. Athanassoulis**, B. Bhattacharjee, M. Canim, K. Ross, "Querying Persistent Graphs using Solid State Storage", Annual Non-Volatile Memories Workshop (**NVMW**), **2013** (abstract & poster).
81. **M. Athanassoulis**, "Solid-State Storage & DBMS", In Proceedings of the Biennial Conference on Innovative Data Systems Research (**CIDR**), **2013** (abstract).
82. **M. Athanassoulis**, I. Alagiannis, S. Hadjiefthymiades, "Energy Efficiency in Wireless Sensor Networks: A Utility-Based Architecture", In Proceedings of European Wireless (**EW**), **2007**.
83. **M. Athanassoulis**, I. Alagiannis, S. Hadjiefthymiades, "A Multi-Criteria Message Forwarding Architecture for Wireless Sensor Networks", In Proceedings of the Pan-Hellenic Conference on Informatics (**PCI**), **2005**.

PATENTS

- "Optimal Navigable Key-value Store", US Patent No. 11,392,644 B2. link

MENTORING & STUDENT ADVISING

Postdocs

Dr. Ju Hyoung Mun (09/2019-06/2024), next: Assistant Professor (Teaching Stream) at Brandeis University
Dr. Subhadeep Sarkar (01/2019-06/2023), next: Assistant Professor at Brandeis University

Ph.D. Graduates

Andy Huynh (05/2019-03/2026)
Dissertation: "Automatic Tuning of Log-Structured Merge Trees Under Uncertain Environments"
First Position: Software Engineer at Google
Aneesh Raman (01/2021-12/2025)
Dissertation: "Harnessing the Untapped Benefits of Near-Sortedness for Indexes in Data Systems"
First Position: Sr. Member of Technical Staff at Salesforce
Tarikul Islam Papon (09/2019-05/2025)
Dissertation: "Exploiting SSD Properties to Enhance Data Systems Performance"
First Position: Assistant Professor at University of Massachusetts, Boston
Zichen Zhu (09/2019-05/2025)
Dissertation: "Developing Instance-Optimal Data Systems for Modern Applications"
First Position: Software Engineer at Google

Current Ph.D. Students

Andrew Briasco-Stewart (09/2025-now)
Anwesha Saha (09/2024-now)
Teona Bagashvili (09/2023-now)

Former Graduate Researchers

Konstantinos Karatsenidis (09/2022-07/2025), graduated with M.Sc., next: Software Engineer at Tower Research Capital
Dimitris Staratzis (09/2019-12/2020), graduated with M.Sc., next: Software Engineer at TileDB

Exchange Ph.D., M.Sc. & Undergrad Researchers

Shrish Senthilkumar (06/2025-09/2025), Undergraduate Researcher from Purdue University
Yiyun Zheng (09/2024-01/2025), Undergraduate Researcher from Nanjing University
Yanpeng Wei (02/2024-08/2024), Undergraduate Researcher from Tsinghua University (Yao Class)
Tianru Zhang (10/2023-12/2023), Ph.D. Researcher from Uppsala University
Caterina Caravaggio (03/2020-08/2020), M.Sc. Researcher from Università di Bologna
Kenneth Bøgh (09/2015-06/2016), Ph.D. Researcher from Aarhus University (at Harvard)
Zheng Yan (09/2014-06/2015), Undergraduate Researcher from Zhejiang University (at Harvard)

M.Sc. Thesis Students

Sakshi Sharma (05/2023-08/2024), next: Ph.D. student at Boston University CS
Anwesha Saha (05/2023-08/2024), next: Ph.D. student at Boston University CS
Ran Wei (07/2023-05/2024), next: Infrastructure Engineer at Pinduoduo/Temu

M.Sc. & Ph.D. Semester Research Projects

Jinqi Lu (05/2023-08/2024), next: Ph.D. student at Johns Hopkins University
Shaolin Xie (06/2022-03/2024), next: Ph.D. student at University of Southern California
Shubham Kaushik (07/2023-12/2023), next: Ph.D. student at Brandeis University CS

Taishan Chen (06/2022-08/2023), next: Ph.D. student at Boston University CDS
Jingyi Huang (06/2022-03/2023), next: Associate Software Engineer at Casa Systems
Lanfeng Liu (06/2022-09/2022), next: OLAP Software Engineer at ByteDance
Kaijie Chen (06/2021-12/2021), next: Software Data Engineer at PingCAP
Sean Brady (06/2021-09/2021), next: Software Engineer at Juniper Networks
Aneesh Raman (09/2019-12/2020), next: Ph.D. student at Boston University CS
Guanting Chen (06/2019-06/2020), next: Ph.D. student at Northeastern University CS
Lina Qiu (09/2019-01/2020), next: Ph.D. student at Boston University CS

Undergraduate Researchers & UROP

Noah Picarelli-Kombert (05/2025-09/2025)
Suhruth Vuppala (09/2024-now)
Can Gokmen (09/2024-now), UROP Summer 2025
Panos Koutsoukos (09/2024-08/2025), next: Master of Finance at MIT Sloan
Lucas Yoon (09/2024-05/2025), next: Software Engineer at Red Hat
Aditya Chowdhri (09/2024-12/2024), next: Software Engineer at Palantir
Aaron Ang (10/2022-08/2024), UROP Spring 2024, next: M.Sc. student at UC San Diego
Shuo Zhang (06/2022-03/2023), next: M.Sc. student at Columbia University
Ning Wang (06/2022-09/2022), next: Cloud Software Engineer at Intel
Meng-Heng Lee (06/2022-09/2022), next: Intern at Allianz, Taiwan
Jianqi Ma (06/2022-09/2022), next: Technical Staff at Pure Storage
Zheng Hui (07/2020-08/2020), next: M.Sc. student at Columbia University
Shirley Hu (09/2019-12/2019), next: Senior Software Engineer at Evisort

Ph.D. Thesis Defense First Reader (Advisor)

Andy Huynh, 03/2026, First Reader
Aneesh Raman, 12/2025, First Reader
Zichen Zhu, 04/2025, First Reader
Tarikul Islam Papon, 04/2025, First Reader

Ph.D. Thesis Defense Committee Member

Lina Qiu, 04/2025, Second Reader, Advisor: George Kollios
Chi Zhang, 03/2025, External Member, Advisor: Olga Papaemmanouil (Brandeis University)
Andrew Wood, 09/2022, Second Reader, Advisor: Peter Chin
Yannis Chronis, 06/2022, External Member, Advisor: Jignesh Patel (University of Wisc-Madison)
Dmytro Bogatov, 04/2022, Third Reader, Advisor: George Kollios
Harshal Chaudhari, 08/2021, Fourth Reader, Advisor: Evimaria Terzi
Katherine Missimer, 08/2020, Second Reader, Advisor: Rich West
Larissa Spinelli, 06/2019, Exam Chair, Advisor: Mark Crovella

Ph.D. Thesis Proposal Committee Member

Yara Awad, 03/2026, Third Reader, Advisor: Jonathan Appavoo
Andy Huynh, 02/2025, First Reader
Aneesh Raman, 12/2024, First Reader
Lina Qiu, 05/2024, Second Reader, Advisor: George Kollios
Zichen Zhu, 04/2024, First Reader
Tarikul Islam Papon, 11/2023, First Reader
Chi Zhang, 09/2023, External Member, Advisor: Olga Papaemmanouil (Brandeis University)

Andrew Wood, 05/2022, Second Reader, Advisor: Peter Chin
Dmytro Bogatov, 12/2021, Third Reader, Advisor: George Kollios
Harshal Chaudhari, 05/2021, Fourth Reader, Advisor: Evimaria Terzi
Katherine Missimer, 06/2019, Second Reader, Advisor: Rich West

Ph.D. Qualifying Oral Exam Committee Member

Taishan Chen, 11/2026, Advisors: Kyle Deeds and Kinan Dak Albab
Lina Qiu, 11/2023, Advisor: George Kollios
Aneesh Raman, 11/2023, Advisor: Manos Athanassoulis
Zichen Zhu, 10/2023, Advisor: Manos Athanassoulis
Tarikul Islam Papon, 12/2022, Advisor: Manos Athanassoulis
Shahin Roozkhosh, 11/2022, Advisor: Renato Mancuso
Andy Huynh, 11/2021, Advisor: Manos Athanassoulis
Dmytro Bogatov, 11/2021, Advisor: George Kollios

Ph.D. Depth Exam Committee Member

Teona Bagashvili, 02/2025, Advisor: Manos Athanassoulis
Konstantinos Karatsenidis, 02/2025, Advisor: Manos Athanassoulis
Karan Vombatkere, 02/2025, Advisor: Evimaria Terzi
Iasonas Nikolaou, 02/2025, Advisor: Evimaria Terzi
Aneesh Raman, 12/2022, Advisor: Manos Athanassoulis
Tarikul Islam Papon, 12/2021, Advisor: Manos Athanassoulis
Zichen Zhu, 12/2021, Advisor: Manos Athanassoulis
Lina Qiu, 12/2021, Advisor: George Kollios
Tianyi Chen, 12/2021, Advisor: Babis Tsourakakis
Dmytro Bogatov, 02/2021, Advisor: George Kollios
Konstantinos Sotiropoulos, 10/2020, Advisor: Babis Tsourakakis
Andy Huynh, 10/2020, Advisor: Manos Athanassoulis
Nathan Cordner, 10/2020, Advisor: George Kollios

MS Thesis Committee Member

First Reader

Konstantinos Karatsenidis, 07/2025, First Reader, "Split Layouts for Query Processing with Relational Memory"
Sakshi Sharma, 04/2024, First Reader, "Dynamically Tuning LSM Tree based Databases"
Ran Wei, 04/2024, First Reader, "Benchmarking, Analyzing, and Optimizing Partial Compaction in LSM-Trees"
Anwesha Saha, 04/2024, First Reader, "Tuning LSM Trees Using Bayesian Optimization"

Committee Member

Liangyong Lu, 02/2024, External Member, Advisor: Anastasia Ailamaki (EPFL)
Caterina Caravaggio, 06/2020, Co-advisor, Advisor: Claudio Sartori (Università di Bologna)

ADVISOR OF STUDENTS WITH AWARDS

2026 NSF Graduate Research Fellowship, Winner: Andrew Briasco-Stewart (5-year fellow)
2026 BU GRS Outstanding Teaching Fellow 2026, Winner: Teona Bagashvili
2026 BU CS Teaching Fellow Excellence Award 2026, Winner: Teona Bagashvili
2025 BU Dean's Fellow Fall 2025, Winner: Andrew Briasco-Stewart
2025 BU CS Teaching Fellow Excellence Award 2025, Winner: Tarikul Islam Papon
2025 BU CS Teaching Fellow Excellence Award 2025, Winner: Zichen Zhu

2025 BU CS Research Excellence Award 2025, Winner: Aneesh Raman
2024 BU CS Research Excellence Award 2024, Winner: Zichen Zhu
2022 BU GRS Teaching Fellow Excellence Award 2022, Winner: Aneesh Raman
2022 BU CS Research Excellence Award 2022, Winner: Tarikul Islam Papon
2022 BU CS Chair's Fellow Fall 2022, Winner: Konstantinos Karatsenidis
2021 BU Dean's Fellow Spring 2021, Winner: Aneesh Raman
2020 BU Dean's Fellow Spring 2020, Winner: Tarikul Islam Papon
2020 IBM Ph.D. Fellowship 2020-2022, Winner: Andy Huynh (2-year support)
2020 Eleni Gatzoyiannis Scholarship, Winner: Dimitris Staratzis
2020 Gerondelis Scholarship, Winner: Dimitris Staratzis
2019 BU CS MS Scholarship 2019 for high-achieving students, Winner: Aneesh Raman

OUTREACH

Since 2019, I have been part of the BU Research in Science & Engineering (RISE) and other local and national summer programs that attract high-school students interested in computer science research.

High School & BU RISE Interns

Philip Chindris (07/2025-08/2025), RISE, next: undergrad at Carnegie Mellon University
Prisha Shah (07/2024-08/2024), RISE, next: undergrad at University of Washington
Ronin Bae (03/2023-08/2023), next: undergrad at Rutgers University
Alexander Song (07/2023-08/2023), RISE, next: undergrad at University of Pennsylvania
Anand Madarapu (07/2023-08/2023), next: undergrad at Boston University
Ben Bethune (07/2023-08/2023), RISE, next: undergrad at Clemson University
Clara Hensinger (07/2023-08/2023), RISE, next: undergrad at Tufts University
Savir Basil (07/2023-08/2023), next: undergrad at University of Pennsylvania
Venkat Subramanian (07/2022-09/2022), next: undergrad at Princeton University
Grace Sun (07/2022-08/2022), RISE, next: undergrad at Princeton University
Siddhartha Mishra (07/2021-03/2022), RISE, next: undergrad at University of California, Los Angeles
Andrew Chung (07/2021-08/2021), RISE, next: undergrad at Stanford University
Rachel (Subin) Kim (06/2020-08/2020), next: undergrad at California Institute of Technology
Kevin Xu (07/2019-08/2019), RISE, next: undergrad at University of Washington
Naomi Johnson (07/2019-08/2019), RISE, next: undergrad at Northeastern University

TEACHING EXPERIENCE

Boston University, Department of Computer Science

GRS CS 660: Graduate Introduction to Database Systems	Fall '23, '24
CAS CS 561: Data Systems Architectures	Spring '21, '22, '25, '26
CAS CS 460: Introduction to Database Systems	Fall '19, '20, '21
CAS CS 591: Data Systems Architectures	Spring '19, '20
GRS CS 697: Graduate Initiation Seminar	Spring '20, '26

Tufts University, Department of Computer Science

Comp115: Database Systems (Lecturer)	Spring '17

Harvard University, School of Engineering and Applied Sciences

CS165: Data Systems (Head TF)	Fall '15, '16
CS265: Big Data Systems (Head TF)	Fall '14, Spring '16

École Polytechnique Fédérale de Lausanne, School of Computer and Communication Sciences

Introduction to Database Systems (Head TF)	Spring '12, '13
Databases (Head TF)	Spring '10, '11

University of Athens, Department of Informatics and Telecommunications

Foundations of Databases (Head TF)	Spring '06, '07
Operating Systems (TA)	Fall '05, '06
Computer Architecture I (TA)	Fall '06

PROFESSIONAL SERVICE

Leadership & Organization

ACM SIGMOD Secretary/Treasurer 2025-2029
Local Arrangements Co-chair, VLDB 2026
Availability and Reproducibility Initiative Co-chair, ACM SIGMOD 2020, 2021, 2022, 2023, 2024, 2025
General Co-chair, North East Database Day (NEDB) 2024, 2025, 2026
General Co-chair, Hellenic Data Management Symposium (HDMS) 2024
Industrial Track Program Co-chair, ICWE 2024
Proceedings Co-chair, VLDB 2023
VLDB Ambassador 2022-2024
Publicity Chair, VLDB 2022
Sponsorship Chair, ACM SoCC 2021
Publicity Co-chair, IEEE ICDE 2021

Area Chair / Associate Editor

VLDB 2027, 2028
ACM SIGMOD 2026
VLDB 2025
IEEE ICDE 2022, 2026

Committee Member – Main Conferences

ACM SIGMOD, 2018, 2019, 2020, 2021, 2022 (industry track), 2023, 2024, 2025
VLDB, 2020, 2021
IEEE ICDE, 2018
EDBT, 2021, 2025
CIDR, 2022, 2023, 2024
ACM DEBS, 2020
SSDBM, 2018
IEEE BigData, 2020, 2021
ACM SIGMOD Reproducibility, 2015, 2016, 2017, 2018
IEEE ICDE Demonstration Track, 2019
VLDB Demonstration Track, 2017, 2019
EDBT Demonstration Track, 2019
ACM SIGMOD Student Research Competition, 2019

Committee Member – Workshops

HardBD & Active Workshop (collocated with ICDE), 2018, 2019, 2020, 2021, 2023
ADMS Workshop (collocated with VLDB), 2022
SEAdata Workshop, (collocated with EDBT) 2020, (collocated with VLDB) 2021
North East Database Day, 2020
HDMS Symposium, 2016, 2017, 2018, 2019
BigVis Workshop (collocated with EDBT), 2018, 2019

XtremeCloud Workshop, 2018
AIMD Workshop (collocated with IEEE ICDE), 2018
IEEE ICDE Ph.D. Workshop, 2017

Editorial Roles

Associate Editor at the VLDB Journal (2026-now)
Associate Editor at ACM SIGMOD Record (2021-now)

Journal Reviewer

The VLDB Journal (VLDBJ), 2020 (x3), 2021 (x3), 2022, 2023 (x3), 2024 (x2), 2025
ACM Transactions on Database Systems (TODS), 2019 (x2)
IEEE Transactions on Knowledge and Data Engineering (TKDE), 2017, 2018, 2020
ACM SIGMOD Record, 2021
ACM Computing Surveys (CSUR), 2021
Cluster Computing, 2025
IEEE Transactions on Computers (TC), 2018, 2023
IEEE Transactions on Parallel and Distributed Systems (TPDS), 2022
ACM/IMS Journal of Data Science, 2022
IEEE Transactions on Big Data (TBD), 2021
Distributed and Parallel Databases (DAPD), 2017, 2018, 2019
IEEE Transactions on Cloud Computing (TCC), 2017
Computers and Security (COSE), 2017
Journal of Internet Services and Applications (JISA), 2016
The Computer Journal, 2013
Information Systems (IS), 2013
ACM Transactions on Storage (TOS), 2012

Research Grant Reviewer

Israel Science Foundation (ISF)

Technical Paper Reviewer (2008-2015)

ACM Transactions on Database Systems (TODS), The VLDB Journal (VLDBJ), ACM SIGMOD, VLDB, IEEE ICDE, CIDR, ASPLOS, EDBT, FAST, HardBD, CloudDP, DAMON

Professional Memberships

2010-now	ACM Senior Member & ACM Special Interest Group on Management of Data (SIGMOD)
2005-now	IEEE Senior Member & IEEE Computer Society
2015-now	IEEE Technical Committee on Data Engineering

UNIVERSITY SERVICE

Member of the BU CS Lecturer Hiring Committee, Spring 2026
Member of the BU CS Merit Evaluation Committee, Spring 2025
Member of the BU CS Master's Admissions Committee, Spring 2025
Chair of the BU CS Hiring Committee, 2024-25
Chair of the BU CS Distinguished Lecture Series, Fall 2024
Member of the BU CS Master's Admissions Committee, 2024
Chair of the BU CS Distinguished Lecture Series, Spring 2024
Chair of the BU CS Distinguished Lecture Series, Fall 2023
Member of the BU CS Master's Admissions Committee, 2023
Member of the BU CS Graduate Admissions Committee, 2022
Member of the BU CS Graduate Fellows Committee, 2021
Member of the BU CS Graduate Awards & Fellowships Committee, 2021

Member of the BU CS Graduate Research & Teaching Excellence Award Committee, 2021
Member of the BU CS Graduate Admissions Committee, 2021
Member of the BU CS Graduate Awards & Fellowships Committee, 2020
Member of the BU CS Graduate Research & Teaching Excellence Award Committee, 2020
Member of the BU CS Teaching Excellence Award Committee (ad hoc), 2019
Member of the BU CS Graduate Admissions Committee, 2019

SELECTED TALKS AND LECTURES

2026

"Collecting Fine-Grained Statistics to Improve LSM Queries and Compaction", Salesforce SDB
"Building General-Purpose Bitmap Indexes: A tale of UpBit, CUBIT, RABIT, and beyond", Keynote at the ADMS 2026 Workshop (collocated with VLDB)
"RABIT: Efficient Range Queries with Bitmap Indexing", Talk at the Hellenic Data Management Symposium 2026
"Building Bitmap Indexes for Hybrid Workloads", Keynote at the HTAPSys 2026 Workshop (collocated with ICDE)
"Robust LSM-based Data Stores", Salesforce SDB
"Harnessing the Untapped Benefits of Near-Sortedness for Data Systems", DATAlab seminar at Northeastern University

2025

"Designing Robust & Scalable Data Systems", University of Zurich Colloquium
"Harnessing the Untapped Benefits of Near-Sortedness for Data Systems", Archimedes Unit, Athena Research Center
"Building General-Purpose Bitmap Indexes", TU Nürnberg, TU Darmstadt and HPI Joint Seminar
"Building Robust Data Stores: A Use-case on LSM Trees", Olympia Summit 2025
"Robust LSM-based Data Stores", Oracle, Zurich
"Designing Robust Data Systems", ETHZ Colloquium

2024

"Building Robust Data Systems", WPI Data Science Seminar
"Effortless Locality Through On-the-fly Data Transformation", Fresh Thinking Talk (Invited) at DAMON 2024
"Harnessing the Untapped Benefits of Near-Sortedness for Data Systems", University at Buffalo
"Benchmarking Robustness using Perturbed Workloads", Dagstuhl Seminar on "Robust Query Processing in the Cloud"

2023

"Building Robust Data Systems", Keynote at the AIDB 2023 Workshop (collocated with VLDB)
"Software/Hardware Synergy for Transparent Data Transformation", University of Athens, Greece
Moderator of Panel on "Database Education" at ICDE 2023
"The LSM Design Space and its Read Optimizations", Tutorial at ICDE 2023
"Relational Fabric: Transparent Data Transformation", Research Talk at ICDE 2023
"Relational Fabric: A Tale of Software and Hardware Synergy for Transparent Data Transformation", Invited Talk at Microsoft Research
"A Prelude to Robust LSM Trees", Invited Talk at Red Hat Research Days 2023

2022

"Transparent Data Transformation", Talk at HPTS 2022
"Dissecting, Designing, and Optimizing LSM-based Data Stores", Tutorial at ACM SIGMOD 2022
"A Prelude to Robust LSM Trees", PingCAP (Meetup: Log-structured Merge (LSM) Trees in the Cloud Era)
"Robust & Delete-Aware LSM Trees", University of Pittsburgh
"A Primer to LSM-Trees & their Compactions", Northeastern University
"A Prelude to Robust LSM Trees", Cornell University
"A Prelude to Robust LSM Trees", Rockset
"Robust LSM-Trees", Harvard University

2021

"Building Robust LSM-based Key-Value Stores", Salesforce

Co-host of Panel on "Artifacts, Availability and Reproducibility: Is what we are doing science?" at VLDB 2021
Invited Participant of Dagstuhl Seminar on "Data Structures for Modern Memory and Storage Hierarchies"
"Deletes in Modern Data Stores", Harvard University
"Robust Data Systems", Research Talk at Hariri Institute
"The Need for a New I/O Model", Research Talk at CIDR

2020

"Deletes in Modern Data Stores", BU MET
Invited Panelist on "Query Processing meets Modern Hardware" at VLDB 2020
"Optimal Column Layout for Hybrid Workloads", Research Talk at VLDB 2020
"Delete: The Forgotten Operator", EPFL
"Deletes in Modern Data Stores", Facebook
"Lethe: A Tunable Delete-Aware LSM Engine", Alibaba Cloud

2019

"Towards Robust Data Systems", Worcester Polytechnic Institute
"Towards Robust Data Systems", NetApp
"Robust Data Systems", TU Berlin, Germany
"Data Science Foundations: The Data Systems Perspective", Panel on Invisible Foundations at BU Data Science Day '19

2018

"Building Tunable Optimal Access Methods", University of Athens, Greece
"Data Systems for Hybrid Analytics", University of Pittsburgh
"Data Systems for Hybrid Analytics", Tufts University
"Data Systems for Hybrid Analytics", Boston University
"Tuning, Optimizing, and Selecting the Right Way to Access Data", Northwestern University
"Tuning, Optimizing, and Selecting the Right Way to Access Data", Institute of Science & Technology, Austria
"Data Systems for Hybrid Analytics", University of Warwick, UK
"Tuning, Optimizing, and Selecting the Right Way to Access Data", Paris Descartes University, France
"Tuning, Optimizing, and Selecting the Right Way to Access Data", École Polytechnique, France
"Tuning, Optimizing, and Selecting the Right Way to Access Data", École Normale Supérieure, France

2017

"UpBit: Scalable In-Memory Updatable Bitmap Indexing", NEDB Day 2017

2016

"Designing Access Methods: The RUM Conjecture", Vision Track at EDBT 2016
"Design Tradeoffs of Data Access Methods", Tutorial at ACM SIGMOD 2016

MEDIA INTERVIEWS

2022

Interviewed for the "Ask the Expert" column on Computer Science education for techguide.org
Interviewed for Boston University's "The Brink" for the article "BU's 2022 NSF CAREER Award Winners Are Innovating Data Systems and Single-Molecule Circuits" by Jessica Colarossi
Interviewed in podcast "Counting Sand" on the episode "The End of Moore's Law Part 2" by Angelo Kastroulis

2021

Interviewed in podcast "Counting Sand" on the episode on "The Boundaries of Personal Data" by Angelo Kastroulis

Last update: November 2026.