

Azer Bestavros

Biographical Sketch

Azer Bestavros is Warren Distinguished Professor of Computer Science and Founding Director of the Hariri Institute for Computing at Boston University (BU), which was set up in 2011 as an incubator for high-risk, high-reward multidisciplinary collaborations. Notable efforts that he incubated at the Institute, which matured into multi-million-dollar projects, include the \$25M+ Mass Open Cloud, \$10M NSF Cloud Security Frontier project, \$5M Red Hat Collaboratory for open-source innovation, and the \$1M+ SCOPE cloud platform for smart-city applications. Under his leadership, the Institute served as an anchor for a number of university programs, including the Data Science Initiative (DSI), the Digital Health Initiative, the Digital Learning Initiative (DLI), the AI Research Initiative (AIR), the Cyber Security, Law, and Society Alliance, the Software & Application Innovation Lab (SAIL), and BU Spark! for student-driven innovation.



Prior to his inaugural role at the Hariri Institute, Professor Bestavros chaired the BU Computer Science Department from 2000 to 2007, having joined it in 1991 after completing his PhD in Computer Science at Harvard University. He holds affiliated appointments in the Department of Electrical & Computer Engineering, the Division of Systems Engineering, and a number of research centers at BU. He held visiting professorships at Harvard University, Institut Eurécom in France, KTH Royal Institute of Technology in Sweden, and the American University in Cairo.

A distinguished educator and scholar, Professor Bestavros teaches and pursues research in networking, distributed computing, cybersecurity, and high-assurance systems. His seminal contributions include pioneering studies of web push caching through content distribution networks, self-similar Internet traffic characterization, game-theoretic cloud resource management, and safety certification of networked systems and software. His current, active research projects include the development of toolkits for secure multi-party computation, the design, implementation, and deployment of scalable software platforms for privacy-preserving big-data analytics, and the use of edge clouds for control of cyber-physical systems. As of 2019, funded by over \$44M from government and industry sponsors, his research has yielded 18 PhD theses, 8 issued patents, 2 startups, and hundreds of refereed papers with over 19,900 citations and an H-index of 60 according to Google Scholar.

Professor Bestavros received a number of awards for distinguished teaching, research, and service, including the 2010 ACM Sigmetrics Inaugural Test of Time Award for 1996 research work, the impact of which *“is still felt 15 years after its initial publication”* and the 2010 United Methodist Scholar Teacher Award in recognition of *“outstanding dedication and contributions to the learning arts and to the institution.”* In 2017, he was named a William Fairfield Warren Distinguished Professor, the highest distinction bestowed upon senior faculty members at Boston University for *“representing our community with distinction, enriching the academic experience for our students, and raising our stature as a major research university.”*

A native of Alexandria, Egypt, Professor Bestavros resides in Wayland, Massachusetts, with his wife Kathryn Welter and his three children Mark, John, and Kristen.

Azer Bestavros

Curriculum Vitae

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Website: <http://azer.bestavros.net>
LinkedIn | Twitter | FB @bestavros

EDUCATION

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| Ph.D. Harvard University, Division of Applied Sciences, in Computer Science. | June 1992 |
| S.M. Harvard University, Division of Applied Sciences, in Computer Science. | June 1988 |
| M.Sc. Alexandria University, Egypt, in Computer Science and Automatic Control. | June 1987 |
| B.Sc. Alexandria University, Egypt, <i>summa cum laude</i> in Computer Engineering. | June 1984 |

ACADEMIC EXPERIENCE

Boston University

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| FOUNDING DIRECTOR | <i>The Hariri Institute for Computing</i> | <i>12/10 – present</i> |
| WARREN DISTINGUISHED PROFESSOR | <i>Department of Computer Science</i> | <i>06/17 – present</i> |
| PROFESSOR | <i>Department of Computer Science</i> | <i>09/07 – 05/2017</i> |
| PROFESSOR AND CHAIRMAN | <i>Department of Computer Science</i> | <i>09/03 – 08/2007</i> |
| ASSOCIATE PROFESSOR AND CHAIRMAN | <i>Department of Computer Science</i> | <i>09/00 – 08/2003</i> |
| ASSOCIATE PROFESSOR | <i>Department of Computer Science</i> | <i>09/98 – 08/2000</i> |
| ASSISTANT PROFESSOR | <i>Department of Computer Science</i> | <i>09/91 – 08/1998</i> |

Research Areas: Networking; Distributed Systems; Privacy and Cyber Security.

Projects: Privacy-preserving analytics; Network science and algorithmics; Economics-inspired cloud resource management; Security of system and network control planes; Internet/Web measurement and characterization; Web caching and Content Distribution Networks; Scalable streaming media delivery; End-to-end QoS management; Resource management in mobile ad-hoc networks; Virtualization and programming support for embedded sensor networks; Formal verification of Internet/Web protocols; Compositional analysis of Cyber-Physical Systems; Statistical scheduling for distributed systems; Concurrency management in real-time databases.

Teaching: Introduction to CS; Computer architecture; Parallel computing; Computing systems fundamentals; Distributed systems; Real-time embedded systems; Internet protocols; Secure Multi-Party Computation; Technology, Society, and Public Policy.

Harvard University

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| RESEARCH FELLOW | <i>Department of Computer Science</i> | <i>09/87 – 09/1991</i> |
| TEACHING FELLOW | <i>Department of Computer Science</i> | <i>09/88 – 09/1991</i> |
| RESEARCH ASSISTANT | <i>Robotics Laboratory</i> | <i>06/88 – 09/1988</i> |

Research Areas: High Performance Computing; Formal Verification; Real-time Systems.

Projects: Implementation of motion control API for 6-DOF robot; Compiler optimizations for massively parallel Monte-Carlo simulations.

Teaching: Programming languages and compilers; VLSI; Parallel computing models, languages, and environments.

Alexandria University

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| RESEARCH ASSISTANT | <i>Department of Computer Science</i> | <i>09/84 – 06/1987</i> |
| TEACHING ASSISTANT | <i>Department of Computer Science</i> | <i>09/84 – 06/1987</i> |
| INSTRUCTOR | <i>Center for Scientific Computing</i> | <i>09/85 – 06/1986</i> |

Research Areas: Fault-tolerance; Distributed systems; Autonomic Computing.

Teaching: Information & control theory; Computer architecture; Probability & Statistics.

AFFILIATED APPOINTMENTS

- Founding Faculty**, Center for Reliable Information Systems & Cyber Security, BU *09/06 – present*
RISCS promotes research and education on trustworthy systems and on information assurance.
- Faculty Member**, Center of Computational Sciences, BU *09/92 – present*
CCS promotes collaborative research and education in computational sciences.
- Faculty Member**, Initiative on Cities, BU *01/15 – present*
IOC promotes research focusing on urban services and sustainable infrastructures.
- Faculty Member**, Center for Information and Systems Engineering, BU *09/02 – present*
CISE promotes interdisciplinary research involving systems engineering methodologies.
- Faculty Member**, Institute for Health System Innovation & Policy, BU *09/17 – present*
IHSIP addresses the critical challenges of health and healthcare, both in the US and globally.
- Faculty Affiliate**, Department of Electrical and Computer Engineering, BU *09/14 – present*
The ECE Department is one of three academic units in the College of Engineering at BU.
- Faculty Affiliate**, Division of Systems Engineering, School of Engineering, BU *09/08 – present*
The SE division promotes research on information, decision, and control sciences.
- Faculty Affiliate**, Center for Finance, Law & Policy, BU *09/13 – 03/2017*
CFLP promotes research on regulatory issues of global financial systems and networks.

VISITING AND SABBATICAL APPOINTMENTS

- Distinguished Visiting Scholar**, American University in Cairo, Egypt *Fall 2018*
Develop agenda for undergraduate entrepreneurship and experiential learning.
- Visiting Professor**, KTH Royal Institute of Technology, Stockholm, Sweden *Fall 2018*
Research on Privacy-preserving Analytics.
- Visiting Professor**, Microsoft Innovation Laboratories, CMIC, Cairo, Egypt *Fall 2008*
Research on collaborative ad-hoc networked information and retrieval systems.
- Visiting Professor**, Institut Eurécom, Sophia-Antipolis, France *Fall 2008*
Research on networking protocols for scalable P2P and ad-hoc content distribution.
- Visiting Professor**, Telefonica Research Laboratories, Barcelona, Spain *Fall 2008*
Research on distributed systems, P2P, and content distribution networks.
- Visiting Professor**, BBN Technologies, Cambridge, Massachusetts *Fall 2007*
Research on information security, advanced networking, and distributed systems.
- Visiting Professor**, Harvard University, Cambridge, Massachusetts *Fall 1999*
Research on scalable content service and distribution.

PROFESSIONAL EXPERIENCE

- Consultant**, Patent and Intellectual Property Litigations, Various Law Firms *04/00 – present*
Retained as expert witness in patent infringement and validity litigations and trials.
- Advisory Board Member**, The Massachusetts Big Data Initiative, Boston, MA *01/14 – present*
Advise the MassTech Collaborative on initiatives to make MA a hub for big data innovation.
- Advisory Board Member**, The Cloud Computing Caucus, Washington, DC *03/14 – 09/2016*
Inform and educate lawmakers and the public about cloud computing and other IT issues.
- Consultant**, Raytheon BBN Technologies, Cambridge, MA *02/08 – 08/2014*
Verification of safety and security of distributed systems.
- Consultant**, Sycamore Networks, Chelmsford, MA *07/08 – 06/2010*
Edge caching services for mobile and wireless networks.
- Advisory Board Member**, BU Office of Technology Development, Boston, MA *04/00 – 12/2005*
Assisting OTD in technology evaluation of prospective investment opportunities.
- Technical Advisory Board Member**, Pivia Inc., Cupertino, CA *10/00 – 12/2003*
Reviewing Pivia's technical and strategic directions in dynamic Web caching.
- Technical Advisory Board Member**, Quarry Technologies, Inc., Cambridge, MA *04/00 – 12/2003*
Reviewing Quarry's lineup of high-end enterprise networking solutions.

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| Technical Advisory Board Member , PeopleStreet.com Inc., Cambridge, MA <i>Reviewing PeopleStreet technical and strategic directions in active contact management.</i> | 08/00 – 02/2002 |
| Consultant , Adero Inc., Charlestown, MA <i>Reviewing Adero's load measurement architecture.</i> | 03/00 – 09/2000 |
| Senior Scientific Adviser , Allaire Corporation, Cambridge, MA <i>Reviewing architectures for profiling and personalization in scalable application servers.</i> | 03/00 – 04/2001 |
| Consultant , Network Appliance (formerly WebManage Inc.), Sunnyvale, CA <i>Reviewing NTAP NetCache content distribution architecture.</i> | 10/99 – 12/2000 |
| Co-Founder/Principal Officer , Commonwealth Network Technologies, Boston, MA <i>Middleware support for scalability, load-balancing, and QoS on clustered servers.</i> | 01/98 – 10/1999 |
| Technology Consultant , Bowne Internet Solutions, Boston, MA <i>Reviewing proposed designs and architectures for on-line banking and e-commerce applications.</i> | 06/98 – 02/2000 |
| Chief Technology Officer , Open Sesame, Inc. Boston, MA <i>Personalization Solutions for I-1 E-commerce.</i> | 01/98 – 05/1998 |
| Software Technology Consultant , Charles River Analytics, Cambridge, MA <i>Reviewing the design of scalable personalization and push-caching services for the Web.</i> | 01/97 – 01/1998 |
| Member of Technical Staff (MTS) , AT&T Bell Laboratories, N.J. <i>Designed, analyzed and simulated new RAID architectures using Rabin's IDA algorithm.</i> | 06/89 – 09/1989 |
| Consultant , World Health Organization, Eastern Mediterranean Regional Office <i>Laid out and supervised the design of database systems for the WHO libraries.</i> | 01/87 – 09/1987 |
| Consultant , Chemonics International, Washington D.C. (Cairo office) <i>Evaluated computer monitoring systems and training courses for USAID projects in Egypt.</i> | 06/85 – 01/1987 |
| System Administrator , Awad & Partners Architectural Firm, Alexandria, Egypt <i>Designed and implemented site control, cost-time estimation/scheduling, and CAD software.</i> | 06/84 – 06/1987 |
| Investigator , The Institute for Oceanographical Research, Alexandria, Egypt <i>Assessed remote sensing and data acquisition embedded systems for coastal erosion research.</i> | 06/85 – 06/1986 |
| Instructional Consultant , Maritime Transport Academy, Alexandria, Egypt <i>Developed and taught a 2-course series on computing for maritime engineers.</i> | 09/84 – 06/1985 |
| System Programmer , Arabic Software Inc., Alexandria, Egypt <i>Designed and implemented bilingual accounting and inventory software packages.</i> | 06/83 – 09/1983 |

PROFESSIONAL SOCIETIES AND AFFILIATIONS

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| ◦ Member of the ACM and many of its Special Interest Groups | 01/86 – present |
| ◦ Member of the IEEE Computer Society and many of its Technical Committees | 01/87 – present |
| ◦ Member of the Harvard Graduate Society | 01/88 – present |
| ◦ Founding Member of the BU Sensor Networking Consortium | 01/05 – 12/2012 |
| ◦ Member of the BU Clean Energy Initiative | 01/09 – 12/2012 |
| ◦ Member of the IEEE Communication Society | 01/92 – 12/2002 |
| ◦ Member of the International Society on Computer Applications (ISCA) | 01/92 – 12/1999 |
| ◦ Member of the Association of Egyptian American Scholars | 09/91 – 08/1998 |
| ◦ Member of the Association of Egyptian Engineers | 06/84 – 08/1991 |

HONORS AND AWARDS

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| ◦ William Fairfield Distinguished Professorship, Boston University | 04/17 – present |
| ◦ Recipient of over \$44M in peer-reviewed research awards from government and industry | 09/92 – present |
| ◦ Senior Common Room Member, Leverett House, Harvard University | 09/93 – 12/2018 |
| ◦ Elected Chair of the IEEE Computer Society Technical Committee on the Internet | 01/07 – 12/2012 |
| ◦ ACM MEDES Award for Innovation in Digital EcoSystems | 09/2014 |
| ◦ Recipient of BU Ignition Award for Tech Innovation (with Reynolds and Kfoury) | 02/2013 |

- Best Paper Award, ACM/IFIP/Usenix International Middleware Conference 12/2012
- Qatar Foundation Distinguished Arab Expatriate Scientists Award 10/2012
- Selected as one of 8 academic candidates to the CRA Board of Directors 01/2012
- Selected as one of 10 academic candidates to the CRA Board of Directors 01/2011
- Selected as Distinguished Speaker of the IEEE Computer Society DVP 2010-12 program 03/2010
- Inaugural ACM Sigmetrics Test of Time Award for best paper in last 15 years 06/2010
- Best Paper Award, IEEE/IFIP Mediterranean Workshop on Ad-Hoc Networking 06/2010
- Winner of the United Methodist Scholar/Teacher Award for 2010 01/2010
- CMIC Academic Fellow Award, Microsoft 06/2008
- CS Nominee for The Metcalf Excellence in Teaching Award, Boston University 10/2008
- Best Paper Award, IEEE/ACM Distributed Computing in Sensor Systems Conference 06/2008
- Best Paper Award, Inaugural ACM Wireless Network Security Conference 04/2008
- Elevated to Senior Member of the IEEE Computer Society 06/2008
- Recipient of BU Grant for Undergraduate Teaching and Scholarship (GUTS) Award 01/2008
- Elevated to Senior Member of the Association for Computing Machinery 01/2007
- Selected as Distinguished Speaker of the IEEE Computer Society DVP 2004-06 02/2004
- Author of the most referenced Web-related academic publications on WebBib database 08/1999
- IEEE Distinguished Award for Service to the Real-Time Research Community 08/1999
- ACM Service Award for Chairmanship of the ACM SIGPLAN LCTES'98 06/1998
- Compaq Award for R&D in CS for work on characterizing Web reference locality 11/1997
- Listed in the 1997/98 International Who's Who of Information Technology 01/1997
- CS Nominee for The Gitner Award for Distinguished Teaching, Boston University 10/1995
- CS Nominee for The Neu Family Award for Excellence in Teaching, Boston University 10/1995
- Harvard University GSAS Class Marshal for the 1992 Commencement 06/1992
- ARO/AFOSR/ONR award recipient to participate in the 1992 SE Research Review 05/1992
- Harvard University GSAS/DAS Graduate Fellowship 09/87 – 09/1991
- Recipient of the Dennis Devlin Microsoft Student Award 07/1990
- Harvard University Nominee for the IBM Predoctoral Fellowship 03/89 & 03/1990
- Alexandria University Graduate Fellowship for Academic Excellence 09/84 – 06/1987
- Egyptian National Undergraduate Fellowship for Academic Excellence 09/79 – 06/1984
- Honorary Award from the Syndicate of Egyptian Engineers 10/1984
- Certificate of Recognition from the CS Students Society, Alexandria University 04/1983
- Sadat Award for ranking third over 27,357 students in Egypt's nationwide diploma exam 08/1979

CITATIONS AND MEDIA COVERAGE

As of July 2019, Google Scholar and Microsoft Academic indexing services identified over 19,900 citations by over 7,000 different authors to 341 articles authored or co-authored by “Bestavros”, with 38 of these articles having in excess of 100 citations each and 156 having in excess of 10 citations each, amounting to a H-Index of 60. This body of work was cited as prior art in over 300 patents. Last updated in July 2012, the Computer Science Index of Scientific Literature (CiteSeer) ranked it in the top 10% of its tracked portfolios for the 10,000 most-cited authors in all of computer science (out of over two millions authors). In June 2004, the index of research papers on Web technologies (WebBib) ranked this portfolio third out of 1,086 author portfolios on that topic in its databases. Additional details available at <http://azer.bestavros.net/research>.

Media and press coverage include dozens of mentions, interviews, op-eds, and citations in campus, local and national outlets, including Boston Globe, Washington Post, Bloomberg, Forbes, CIO Magazine, Discover Magazine, Futurity, Wired, HPC Wire, WFXT TV, WHDH TV, WCVB TV, BU Today, Bostonia, and Daily Free Press. Detailed listing available at <http://azer.bestavros.net/press>.

GRANTS AND SPONSORED RESEARCH

As of July 2019, funding received in support of research projects and academic initiatives at BU (shown below) totals in excess of \$44M (\$12M as PI and \$32M at co-PI) from US Federal Government Agencies (\$34M), from Corporations or Industrial Labs (\$7M), and from Public or non-Profit Organizations (\$3M). Gifts and in-kind support received for various BU initiatives exceed \$20M.

- [**\$251,365**] **DARPA/SRI Subcontract.** (PI/PD) One of three Investigators 08/19 – 05/2020
Title: MPC-Enabled Multiagency Juvenile Analytics for the Commonwealth of Massachusetts.
Program: DARPA Brandeis Project.
- [**\$3,229,708**] **IARPA/NE Subcontract.** (Co-PI) One of four Investigators 06/19 – 05/2024
Title: ACHILLES: Assured CryptographHic Integration of muLti-Lingual Encrypted Systems.
Program: HECTOR: Homomorphic Encryption Computing Tech with Overhead Reduction.
- [**\$300,000**] **National Science Foundation.** (Co-PI) One of three Investigators 07/19 – 06/2021
Title: Multi-regulation computation.
Program: CISE/SBE SaTC: Early-Stage Interdisciplinary Collaboration.
- [**\$500,000**] **National Science Foundation.** (Co-PI) One of four Investigators 05/19 – 04/2021
Title: InTrans: Modular Security on an Open Cloud.
Program: CISE/CNS Secure and Trustworthy Cyberspace (SaTC).
- [**\$200,000**] **Honda Motor Co.** (PI/PD) One of three Investigators 01/19 – 12/2019
Title: Privacy-aware Personalization Research Collaboration (Amendment)
Program: Honda Research Institute, Europe
- [**\$507,158**] **National Science Foundation.** (Co-PI) One of two Investigators 09/17 – 08/2020
Title: Management of Advance Reservations in Cloud and Network Services.
Program: CISE/CNS Special Projects on Networking Technology and Systems.
- [**\$499,577**] **National Science Foundation.** (Co-PI) One of three Investigators 07/17 – 06/2020
Title: Modular Platform for Web-based Secure Multi-Party Analytics.
Program: CISE/CNS Secure and Trustworthy Cyberspace (SaTC)
- [**\$5,000,000**] **Red Hat, Inc.** (Co-PI) One of two Investigators 01/17 – 12/2021
Title: The Red Hat Collaboratory at Boston University
Program: Red Hat Products & Technologies
- [**\$680,000**] **Honda Motor Co.** (PI/PD) One of three Investigators 01/17 – 12/2019
Title: Privacy-aware Personalization Research Collaboration
Program: Honda Research Institute, Europe
- [**\$99,963**] **National Science Foundation.** (PI) One of two Investigators 07/17 – 12/2018
Title: Visioning for Effective Community-University-Industry Collaboration Models.
Program: CISE/CNS Smart & Connected Community.
- [**\$10,000,000**] **National Science Foundation.** (Co-PI) One of ten Investigators 07/14 – 06/2019
Title: Frontier: MACS – A Modular Approach to Cloud Security
Program: Secure and Trustworthy Cyberspace (SaTC)
- [**\$800,000**] **National Science Foundation.** (PI/PD) One of four Investigators 09/14 – 08/2017
Title: SCOPE – A Smart-city Cloud-based Open Platform and Ecosystem
Program: Partnerships for Innovation (PFI:BIC)
- [**\$50,000**] **MIT Lincoln Laboratories.** (PI/PD) Sole Investigator 09/15 – 08/2017
Title: Investigation of Moving Target Defense Techniques
Program: Campus Collaboration Program
- [**\$66,000**] **Microsoft Corporation.** (PI/PD) Sole Investigator 04/15 – 12/2015
Title: Curricular Development for the Azure Cloud Platform
Program: Microsoft University Relations
- [**\$20,000**] **Boston Woment Workforce Council.** (PI/PD) Sole Investigator 01/15 – 12/2015
Title: Pay-Equity Analytics using Multi-Party Computation
Program: Initiative on Cities
- [**\$3,000,000**] **Commonwealth of Massachusetts.** (co-PI) One of two Investigators 09/14 – 08/2017
Title: The Massachusetts Open Cloud
Program: MassTech Collaborative (with more than \$12M of matching funds from industry)

- [**\$110,000**] **Draper Laboratories.** (PI) One of two Investigators 07/14 – 06/2015
 Title: FORMSEC Software Inspection System
 Program: Independent Research and Development Program (IRAD)
- [**\$3,000,000**] **National Science Foundation.** (PI/PD) One of eight Investigators 09/10 – 08/2015
 Title: Towards Trustworthy Interactions in the Cloud.
 Program: CISE/CNS Trustworthy Computing Program
- [**\$200,000**] **National Science Foundation.** (Co-PI) One of two Investigators 09/13 – 08/2015
 Title: Holistic Cloud Security: Verifiable Computation and Databases
 Program: Secure and Trustworthy Cyberspace (SaTC)
- [**\$110,000**] **Draper Laboratories.** (PI) One of two Investigators 07/13 – 06/2014
 Title: Invariant-Based Characterization of Binary Program Control Flow Graphs
 Program: Independent Research and Development Program (IRAD)
- [**\$1,000,000**] **National Science Foundation.** (Co-PI) One of six Investigators 01/12 – 12/2014
 Title: A Cyber-Physical Infrastructure for the "Smart City"
 Program: CISE/CPS Cyber-Physical Systems Program
- [**\$38,000**] **Google.** (Co-PI) One of two Investigators 01/12 – 12/2014
 Title: Generalized Centrality Measures with Applications to Information Networks
 Program: Google Faculty Research Award
- [**\$100,000**] **AFRL BBN Subcontract.** (PI/PD) One of two Investigators 04/10 – 03/2011
 Title: Cross-Domain Identity Management and Entitlement.
 Program: Cross-Domain Innovation & Science (award returned due to DFAR restrictions)
- [**\$60,000**] **AFRL BBN Subcontract.** (PI/PD) Sole Investigator 01/10 – 12/2010
 Title: Delegation of Authority Web Services.
 Program: Cross-Domain Innovation & Science (award returned due to DFAR restrictions)
- [**\$199,810**] **National Science Foundation.** (PI/PD) Sole Investigator 09/09 – 08/2011
 Title: Towards a Marketplace for Colocation of Cloud Services
 Program: CISE/CNS EAGER Program
- [**\$165,352**] **National Science Foundation.** (PI/PD) Sole Investigator 09/09 – 08/2010
 Title: US-Middle East: Regional Workshop On Emerging Networking Research
 Program: OISE International Planning and CISE Programs
- [**\$400,000**] **National Science Foundation.** (Co-PI) One of three Investigators 09/08 – 08/2011
 Title: Genericity in Network Software
 Program: CISE/CNS Software for Real Systems Program
- [**\$1,999,573**] **National Science Foundation.** (Co-PI) One of five Investigators 11/07 – 10/2011
 Title: Event-Driven Sensing for Enterprise Reconfigurability and Optimization
 Program: ENG/EFRI Emerging Frontiers in Research and Innovation
- [**\$99,999**] **National Science Foundation.** (PI/PD) One of three Investigators 09/07 – 08/2010
 Title: Leveraging Type Systems for High-Assurance Cyber-Physical Systems
 Program: CISE/CNS EHS/CPS Computing Systems Research
- [**\$199,000**] **National Science Foundation.** (PI/PD) Sole Investigator 06/07 – 05/2008
 Title: NSF Research Infrastructure PI Meeting Supplemental Funding
 Program: CISE/CNS Major Research Infrastructure Program
- [**\$300,000**] **National Science Foundation.** (PI/PD) One of two Investigators 09/05 – 08/2009
 Title: Towards Trusted Adaptation Dynamics in Computing Systems and Networks
 Program: CISE/CNS Cybertrust Program
- [**\$390,000**] **National Science Foundation.** (Co-PI) One of two Investigators 09/05 – 08/2009
 Title: Expressive Resource Specification and Discovery in Configurable Networks
 Program: CISE/CNS Networking Technology and Systems
- [**\$6,000**] **National Science Foundation.** (PI/PD) Sole Investigator 10/05 – 09/2006
 Title: Internet Flows as First Class Values: Support for Dependable Internet Services
 Program: Research Experiences for Undergraduates
- [**\$25,000**] **National Science Foundation.** (PI/PD) Sole Investigator 09/05 – 08/2006
 Title: IEEE ICNP Travel Awards for Graduate Students and Minorities
 Program: CISE/CNS Networking Technology and Systems

- [**\$37,000**] **Fortress Technologies.** (PI/PD) Sole Investigator 06/05 – 08/2006
 Title: Performance Profiling of End-Host Intrusion Detection Systems
 Program: University Collaboration Program
- [**\$25,000**] **Microsoft Research.** (PI/PD) Sole Investigator 09/04 – 08/2005
 Title: BU/CS Industrial Affiliates Program
 Program: Microsoft University Relations
- [**\$25,000**] **Sprint Research Labs.** (Co-PI) One of two Investigators 06/05 – 12/2005
 Title: Cellular Network IP Traffic Measurement and Characterization
 Program: Sprint Advanced Technology Labs, IP Group
- [**\$6,000**] **National Science Foundation.** (PI/PD) Sole Investigator 10/04 – 09/2005
 Title: Internet Flows as First Class Values: Support for Dependable Internet Services
 Program: Research Experiences for Undergraduates
- [**\$65,000**] **Microsoft Research.** (PI/PD) Sole Investigator 09/03 – 08/2004
 Title: BU/CS Industrial Affiliates Program
 Program: Microsoft University Relations
- [**\$1,665,496**] **National Science Foundation.** (PI/PD) One of five Investigators 10/02 – 09/2007
 Title: Internet Flows as First Class Values: Support for Dependable Internet Services
 Program: Advanced Network Infrastructure and Research
- [**\$1,662,307**] **National Science Foundation.** (PI/PD) One of five Investigators 09/02 – 08/2007
 Title: Sensorium: RI for Managing Spatio-Temporal Objects in Video Sensor Networks
 Program: CISE Educational and Integrative Activities
- [**\$60,000**] **Microsoft Research.** (PI/PD) Sole Investigator 09/02 – 08/2003
 Title: BU/CS Industrial Affiliates Program
 Program: Microsoft University Relations
- [**\$60,000**] **Sprint Research Labs.** (Co-PI) One of four Investigators 07/02 – 06/2003
 Title: IP Network Characterization, Analysis, and Evaluation
 Program: Sprint Advanced Technology Labs, IP Group
- [**\$25,000**] **Microsoft Research.** (PI/PD) Sole Investigator 09/01 – 08/2002
 Title: BU/CS Industrial Affiliates Program
 Program: Microsoft University Relations
- [**\$719,968**] **National Science Foundation.** (Co-PI) One of three Investigators 09/01 – 08/2005
 Title: A Control Theoretic Approach to the Design of Internet Traffic Managers
 Program: Advanced Network Infrastructure and Research
- [**\$1,505,938**] **National Science Foundation.** (PI/PD) One of three Investigators 06/00 – 05/2005
 Title: Diagnosis and Control of Network Variability by Massively Accessed Servers
 Program: Advanced Network Infrastructure and Research
- [**\$25,000**] **Microsoft Research.** (PI/PD) Sole Investigator 09/00 – 08/2001
 Title: BU/CS Industrial Affiliates Program
 Program: Microsoft University Relations
- [**\$14,494**] **National Science Foundation.** (PI/PD) One of three Investigators 08/99 – 07/2000
 Title: BU/NSF Workshop on Internet Measurement, Instrumentation and Characterization
 Program: Advanced Network Infrastructure and Research
- [**\$20,000**] **Microsoft Research.** (PI/PD) Sole Investigator 01/97 – 12/1998
 Title: Large-scale WWW Services on the NT Platform
 Program: University Research Program
- [**\$590,087**] **National Science Foundation.** (PI/PD) One of three Investigators 07/97 – 06/2000
 Title: Commonwealth: Architecture and Protocol for Scalable WWW Service
 Program: CISE Experimental Software Systems
- [**\$325,000**] **National Science Foundation.** (Co-PI/Co-PD) One of six Investigators 07/97 – 06/2002
 Title: National Computational Science Alliance: Computer Science Team B
 Program: NSF/PACI
- [**\$855,800**] **National Science Foundation.** One of six Investigators 07/96 – 06/2001
 Title: Parallel and Distributed Systems: Real-time, Multimedia, and High Performance
 Program: CISE Research Infrastructure Program

- [**\$97,574**] **National Science Foundation.** (PI/PD) One of three Investigators 01/96 – 12/1997
Title: Real-time, Multimedia and High Performance Computing in Distributed Systems
Program: CISE/CDA Research Instrumentation Program
- [**\$1,476,322**] **National Science Foundation.** One of eight Investigators 01/96 – 12/1998
Title: Mariner: Metacenter-Affiliated Resource In the New England Region
Program: CISE/ASC Metacenter Regional Alliances
- [**\$523,778**] **Department of Education.** (Co-PI) One of eight Investigators 09/95 – 08/1998
Title: High Performance Communication and Multimedia Computing
Program: GAANN Fellowships for Strategic Areas of Computer Science
- [**\$218,608**] **Army Research Office.** (PI/PD) Sole Investigator 08/94 – 07/1997
Title: Real-Time Computer Monitoring and Control Methodologies
Program: University Basic Research
- [**\$99,807**] **National Science Foundation** (PI/PD) Sole Investigator 09/93 – 12/1996
Title: Cleopatra: A Programming Environment for Embedded Time-critical Systems
Program: Research Initiation Award (currently CAREER) Program
- [**\$25,000**] **GTE Laboratories.** (PI/PD) Sole Investigator 07/93 – 06/1995
Title: Speculative Concurrency Control for Distributed Real-time Database Systems
Program: University Support Program
- [**\$397,697**] **National Science Foundation.** (Co-PI) One of six Investigators 09/92 – 08/1995
Title: Undergraduate Curriculum in Massively Parallel Computing
Program: CISE Educational Infrastructure Program

UNIVERSITY SERVICE ACTIVITIES

Service to Boston University:

- Chair, BU Provost Data Science Initiative 09/14 – present
- Co-Chair, BU Digital Health Initiative 01/17 – present
- Executive Committee Member, BU Computational Science Building Programming 10/11 – present
- Executive Committee Member, BU Center for Information and Systems Engineering 06/05 – present
- Advisory Board Member, BU Digital Learning Initiative 09/17 – present
- Advisory Board Member, BU Mobile and Electronic Health Initiative 09/16 – present
- Advisory Board Member, BU Initiative on Cities 01/15 – present
- Member, BU IS&T Governance Committee for Research Computing 01/10 – present
- Co-Chair, President’s Taskforce to Envision Data Science at BU 08/18 – 04/2019
- Member, BU Transdisciplinary Epidemiology and Genomics Committee 11/17 – 04/2018
- Advisory Board Member, BU Center for Finance, Law, and Policy 06/13 – 06/2017
- Founder and Coordinator, BU Computing Alumni Network 06/01 – 12/2016
- Member, BU Honorary Degree Advisory Committee 09/14 – 06/2016
- Executive Committee Member, BU Online Programs Development and Review 09/14 – 06/2016
- Executive Committee Member, BU Digital Learning Initiative 07/13 – 12/2016
- Co-Chair, BU Council on Educational Technology and Learning Innovation 09/12 – 06/2014
- Member, University Leadership Research Council 01/12 – 06/2013
- Member, BU/CAS United Methodist Scholar/Teacher Award Committee 01/12 – 06/2012
- Member, BU Faculty Council Committee on Scholarly Activities and Libraries 09/10 – 08/2012
- Member, BU/CAS United Methodist Scholar/Teacher Award Committee 01/11 – 06/2011
- Member, BU Information Technology Governance on Education Technology 01/10 – 06/2011
- Member, BU Faculty Council Committee on Planning 09/08 – 08/2010
- Chair, Ad-Hoc Committee for the Development of BU MCS Core Curriculum 11/06 – 12/2008
- Member, BU Whitaker Oversight Committee 01/03 – 12/2004
- Member, Provost Ad-Hoc Committee on BU Science Library Development 09/04 – 06/2005
- Faculty Advisor and Sponsor, BU Video Game Creator Consortium student group 09/03 – 08/2004
- Member, CAS Dean Advisory Council 09/02 – 09/2003
- Member, BU Educational Technologies Committee 01/97 – 01/1999

- Faculty Advisor and Sponsor, BU ACM Student Chapter 06/93 – 05/1999
- Chair, CAS Natural Sciences Curriculum Committee 09/97 – 06/1998
- Coordinator, MCS On-line Classrooms Project 09/97 – 06/1998
- Member, CAS Natural Sciences Curriculum Committee 08/95 – 06/1997

Service to the CS Department at Boston University:

- Coordinator, CS Technical Reports and Archives 09/92 – 06/2017
- Mentor, CS Tenure-track Faculty 09/10 – 06/2016
- Founder and Coordinator, CS Industrial Affiliates Program 09/00 – 08/2011
- CS Representative for CAS development, recruiting, and advising 09/92 – 06/2011
- Founder and Maintainer, CS Faculty Intranet 09/00 – 08/2007
- Chair, Computer Science Building Planing Committee 01/01 – 06/2003
- Maintainer, CS Department's Web pages 01/94 – 08/2000
- Chair, CS Faculty Recruitment Committee 09/98 – 06/1999
- Chair, Doctoral Examination Committee for Systems and Networks 09/92 – 06/2000
- Member, CS Faculty Recruitment Committee Member 12/97 – 06/1998
- Chair, Systems Curriculum Development Committee 09/96 – 02/1997
- Member, CS Curriculum Review Committee 09/95 – 06/1996
- Chair, CS Laboratory and Equipment Committee 09/94 – 09/1996
- Member, CS Laboratory and Equipment Committee 09/92 – 09/1994
- Member, CS Faculty Recruitment Committee 12/94 – 06/1995
- Coordinator, CS Colloquium Series 09/92 – 06/1995
- Member, CS Faculty Recruitment Committee 12/93 – 06/1994

PROFESSIONAL SERVICE ACTIVITIES

Membership in Editorial Boards and Steering Committees:

- Advisory Board, Data Science Leadership Summit, Moore-Sloan Data Environments 05/19 – present
- Advisory Board, Data Science Initiative, National Lab for Scientific Computing, Brazil 03/14 – present
- Editorial Board Member, Communications of the ACM 07/13 – present
- Co-Chair, CACM Research Highlights Editorial Board 07/13 – present
- Committee Member, ACM Heidelberg Laureate Forum 03/14 – 12/2018
- Founding Steering Committee Member, IEEE Internet of Things Journal 06/12 – 12/2016
- Editorial Board Member, IEEE Internet Computing 06/07 – 05/2014
- Founding Steering Committee Member, IEEE TC on Security and Privacy in Complex IS 05/11 – 12/2013
- Chair, IEEE Computer Society Technical Committee on the Internet 01/07 – 12/2012
- Editorial Board Member, International Journal of Embedded Systems 03/04 – 12/2012
- Editorial Board Member, ICST Transactions on Real-World Web 03/09 – 12/2012
- Guest Editor, Journal of Mathematical Structures in Computer Science 01/11 – 06/2012
- Guest Editor, EURASIP Journal on Wireless Communications and Networking 09/09 – 08/2010
- Steering Committee Member, IEEE HotWeb Conference 09/05 – 08/2009
- Editor, Newsletter of the IEEE Technical Committee on Real-Time Systems 01/92 – 12/2008
- Executive Steering Committee Member, IEEE TC on Real-Time Systems 12/02 – 12/2008
- Steering Committee Member, IASTED TC on Measurement and Simulation 09/00 – 08/2007
- Steering Committee Member, International Web Caching Workshop 06/01 – 08/2005
- Steering Committee Member, ACM SIGPLAN Workshop on Tools for Embedded Systems 06/99 – 05/2004
- Advisory Committee Member, IEEE Conference on Industrial Technology & Automation 09/00 – 06/2001
- Steering Committee Member, BU/NSF IMIC Workshop 06/99 – 08/1999

Service to the Research Community:

- Chair, NSF CISE Committee of Visitors 06/19 – present
- Co-Chair, Massachusetts Green HPC Initiative, Educational and Outreach Taskforce 05/10 – present

- Evaluator of promotion cases in major institutions in US, UK, Canada, India, and Israel 09/02 – present
- Site visitor for a number of major award competitions of the National Science Foundation 04/97 – present
- Panelist for dozens of programs of the National Science Foundation 02/96 – present
- Session Chair and/or Panelist in over a dozen conferences and workshops 09/91 – present
- Reviewer for dozens of IEEE/ACM journal publications and conference proceedings 04/88 – present
- Industrial Advisory Board Member, European Union CELAR Project 03/13 – 12/2015
- Chair, NSF CISE Committee of Visitors for CNS Division 06/14 – 11/2014
- Chair, NSF Reverse Site Visit Committee for CCC 01/14 – 06/2014
- External Review Committee for CS Department at American University in Beirut 06/13 – 12/2013
- Member of the 2013 MGHPCC Research Seed Fund Award Committee 09/12 – 03/2013
- External Review Committee for CS Department at Bowdoin College 11/12 – 06/2013
- Member of the 2012 MGHPCC Research Seed Fund Award Committee 09/11 – 03/2012
- Chair, ACM Sigmetrics Test of Time Award Nomination and Selection Committee 04/11 – 06/2011
- External Review Committee for CS Department at University of Texas, Arlington 03/09 – 06/2009
- Host and Maintainer of the Archives of IEEE Technical Committee on Real-Time Systems 01/92 – 12/2008
- External Review Committee for CS Department at Purdue University 03/05 – 12/2005
- Web/Internet Area Editor of the ACM Crossroads student magazine 02/03 – 01/2004
- Area Editor of the Journal for Undergraduate Science Research, Harvard University 09/94 – 08/1997

Organization of Professional Meetings:

- Security & Privacy Track Co-Chair, IEEE/ACM CCGrid Symposium 05/19 – present
- DS Symposium Co-Chair, IEEE Self-Adaptive and Self-Organizing Systems 11/18 – 06/2019
- General Co-Chair, IEEE International Conference on Cloud Engineering 01/13 – 06/2014
- PC co-Chair, International Conference on Web Information Systems Engineering 01/14 – 11/2014
- Chair, NSF US/Mideast Trustworthy Systems and Networks Workshop 09/11 – 12/2013
- Chair, 2012 New England Faculty Summit on Cyber Security 01/12 – 06/2012
- Chair, 2011 New England Faculty Summit on Cyber Security 01/11 – 06/2011
- Co-Chair, Workshop on Holyoke Green HPC Educational & Outreach Opportunities 01/10 – 04/2010
- PC Chair, Conference on Wireless Algorithms, Systems, & Applications 09/08 – 08/2009
- General and PC Chair, US NITRD High-Confidence Software and Systems Workshop 01/07 – 07/2007
- General and Program Chair, BU/NSF RI/MRI/CRI PI Meeting 08/06 – 06/2007
- General Chair, Inaugural IEEE HotWeb Conference 11/05 – 12/2006
- Workshop Chair, 2006 CRA Snowbird Conference 01/06 – 08/2006
- General Chair, 2005 IEEE International Conference on Network Protocols 02/04 – 11/2005
- General Chair, Fourth IEEE Workshop on Wireless Applications & Services 09/03 – 08/2004
- General Chair, Sixth International Web Caching Workshop 06/00 – 06/2001
- PC co-Chair, Sixth International Web Caching Workshop 06/00 – 06/2001
- Workshop Chair, 2000 CRA Snowbird Conference 01/00 – 07/2000
- General Chair, 1999 IEEE Real-Time Technology and Applications Symposium 06/98 – 06/1999
- PC Chair, 1998 ACM SIGPLAN Workshop on Tools for Embedded Systems 09/97 – 06/1998
- PC Chair, 1998 IEEE Real-Time Technology and Applications Symposium 06/97 – 06/1998
- PC Chair, 1997 IEEE International Workshop on Real-Time Databases 06/96 – 07/1997
- PC Chair, WIP Track of the 1997 IEEE Real-Time Systems Symposium 06/97 – 12/1997
- PC Chair, WIP Track of the 1996 IEEE Real-Time Systems Symposium 06/96 – 12/1996
- Publicity Chair, 1996 IEEE Workshop on Real-Time Databases 08/95 – 03/1996
- Publicity Chair, 1995 IEEE Real-Time Systems Symposium 01/95 – 12/1995

Service on Technical Program Committees (Partial List):

- 2019 The International World Wide Web Conference 06/18 – 05/2019
- 2018 IEEE ICDCS International Conference on Distributed Computing Systems 10/17 – 09/2018
- 2017 IEEE MASCOTS Symposium on Modeling, Analysis and Simulation 01/17 – 12/2017
- 2017 IEEE ICDCS Workshop on Serverless computing 10/16 – 09/2017
- 2016 IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing 10/15 – 08/2016

- 2016 IEEE Workshop on Hot Topics in Web Systems and Technologies 02/16 – 12/2016
- 2016 International Conference on Web Information Systems Engineering 01/15 – 06/2016
- 2015 ACM Workshop on Content Caching and Delivery in Wireless Networks 01/15 – 12/2015
- 2015 International Conference on Web Information Systems Engineering 01/14 – 06/2015
- 2014 IEEE International Conference on Cloud Engineering 03/13 – 02/2014
- 2014 International Conference on Web Information Systems Engineering 01/13 – 06/2014
- 2013 WWW Workshop on Simplifying Complex Networks for Practitioners 12/12 – 06/2013
- 2013 International Conference on Web Information Systems Engineering 01/12 – 06/2013
- 2013 IEEE International Conference on Cloud Engineering 03/12 – 02/2013
- 2013 IEEE INFOCOM Conference on Computer and Communications 06/12 – 02/2013
- 2012 International Conference on Web Information System Engineering 01/12 – 09/2012
- 2012 IEEE INFOCOM Conference on Computer and Communications 06/11 – 02/2012
- 2011 IEEE MCIS Conference on Information Systems 05/11 – 09/2011
- 2011 IEEE INFOCOM Conference on Computer and Communications 05/10 – 02/2011
- 2011 ACM Multimedia Systems conference 03/10 – 09/2010
- 2010 IEEE INFOCOM Conference on Computer and Communications 05/09 – 02/2010
- 2010 ACM Multimedia Systems conference 03/09 – 02/2010
- 2009 IEEE INFOCOM Conference on Computer and Communications 05/08 – 04/2009
- 2009 World Wide Web Conference 09/08 – 03/2009
- 2009 Workshop on Privacy and Security in Pervasive e-Health Environments 01/09 – 05/2009
- 2008 ACM PODC Symposium on Principles of Distributed Computing 09/07 – 09/2008
- 2008 ACM Sigmetrics Conference on Measurement and Modeling of Computer Systems 07/07 – 02/2008
- 2008 IEEE INFOCOM Conference on Computer and Communications 05/07 – 04/2008
- 2008 LA-WEB Latin American Web Congress 05/08 – 12/2008
- 2007 IEEE/W3C Web Congress 01/07 – 07/2007
- 2007 ACM Sigmetrics Conference on Measurement and Modeling of Computer Systems 09/06 – 07/2007
- 2007 World Wide Web Conference 08/06 – 06/2007
- 2007 IEEE Global Internet Symposium 06/06 – 05/2007
- 2007 LA-WEB Latin American Web Congress 05/07 – 10/2007
- 2006 IEEE Real-Time Systems Symposium 01/06 – 12/2006
- 2006 Workshop on Architectures and Algorithms for Internet Delivery 01/06 – 12/2006
- 2006 ACM/Usenix International Conference on Virtual Execution Environments 09/05 – 06/2006
- 2006 IEEE International Conference on Parallel and Distributed Systems 09/05 – 06/2006
- 2006 IASTED International Conference on Modeling and Simulation 09/05 – 03/2006
- 2005 IEEE Real-Time Systems Symposium 01/05 – 12/2005
- 2005 Web Caching and Content Delivery Workshop 11/04 – 06/2005
- 2005 World Wide Web Conference 09/04 – 06/2005
- 2005 Workshop on Architectures and Algorithms for Internet Delivery 01/05 – 06/2005
- 2005 IASTED International Conference on Modeling and Simulation 09/04 – 03/2005
- 2004 International Conference On Principles Of Distributed Systems 06/04 – 06/2005
- 2004 IEEE Real-Time Systems Symposium 01/04 – 12/2004
- 2004 Workshop on Broadband Advanced Sensor Networks 03/04 – 10/2004
- 2004 BIRS Workshop on Combinatorial and Algorithmic Aspects of Networking 01/04 – 07/2004
- 2004 IEEE INFOCOM Conference on Computer and Communications 03/03 – 06/2004
- 2004 IEEE Real-Time and Embedded Technology and Applications Symposium 08/03 – 03/2004
- 2004 IASTED International Conference on Modeling and Simulation 09/03 – 03/2004
- 2004 ACM SIGKDD Workshop on Fractals, Power Laws, and Data Mining Tools 04/03 – 03/2004
- 2003 IEEE Workshop on Internet Applications 08/02 – 08/2003
- 2003 IEEE ICDCS Workshop on Data Distribution in Real-Time Systems 11/02 – 05/2003
- 2003 IASTED International Conference on Modeling and Simulation 09/02 – 03/2003
- 2003 IEEE Symposium on Computer and Communication 09/02 – 04/2003
- 2002 IEEE Global Internet Symposium 09/01 – 06/2002

- 2002 Workshop on Caching, Coherence, and Consistency 03/02 – 06/2002
- 2002 Euromicro Conference On Real-Time Systems 05/01 – 06/2002
- 2002 IEEE Symposium on Computer and Communication 03/01 – 06/2002
- 2002 IASTED International Conference on Modeling and Simulation 09/01 – 03/2002
- 2001 International Conference on Industrial Technology and Automation 01/01 – 12/2001
- 2001 IEEE Real-Time Systems Symposium 01/01 – 12/2001
- 2001 IEEE Global Internet Symposium 02/01 – 09/2001
- 2001 IEEE/IFIP Dependable Systems and Networks 12/00 – 09/2001
- 2001 ACM Sigmetrics Conference on Measurement and Modeling of Computer Systems 06/00 – 06/2001
- 2001 Euromicro Conference On Real-Time Systems 05/00 – 05/2001
- 2001 IEEE Symposium on Computer and Communication 01/00 – 03/2001
- 2000 IEEE Real-Time Systems Symposium 01/00 – 12/2000
- 2000 IEEE IC3N Conference 01/00 – 09/2000
- 2000 Euromicro Conference on Real-Time Systems 03/99 – 06/2000
- 2000 IEEE International Conference on Data Engineering 03/99 – 11/1999
- 1999 Joint 24th IFAC/IFIP Conference on Real-Time Programming 06/98 – 03/1999
- 1999 Workshop on e-Commerce and Web-based Information Systems 07/98 – 03/1999
- 1999 Workshop on Active and Real-time Databases 07/98 – 03/1999
- 1998 IEEE Real-Time Systems Symposium 01/98 – 12/1998
- 1999 Workshop on Parallel and Distributed Real-Time Systems 05/98 – 09/1998
- 1998 ACM CIKM Workshop on Real-time Databases 06/98 – 09/1998
- 1998 ACM Sigmod Conference on Management of Data 02/97 – 02/1998
- 1997 IEEE Real-Time Systems Symposium 01/97 – 12/1997
- 1997 Real-Time Applications Workshop 09/96 – 06/1997
- 1997 Second Real-Time Education Workshop 09/96 – 06/1997
- 1997 Euromicro 9th Workshop on Real-Time Systems 09/96 – 06/1997
- 1997 International Workshop on Active and Real-Time Databases 09/96 – 06/1997
- 1997 IEEE Real-Time Technology and Applications Symposium 06/96 – 06/1997
- 1997 IEEE ICDE Workshop on Research Issues in Data Engineering 05/96 – 01/1997
- 1996 IEEE Real-Time Systems Symposium 01/96 – 12/1996
- 1996 ACM CIKM Workshop on Active and Real-Time Databases 05/96 – 11/1996
- 1996 HICSS Conference on Parallel & Distributed RT Systems 09/95 – 03/1996
- 1996 IEEE Workshop on Real-Time Databases 09/95 – 03/1996
- 1994 IEEE Real-Time System Symposium 01/94 – 12/1994
- 1994 ACM Sigplan RTLCTS Workshop 01/94 – 06/1994

Other Service, Volunteer Work and Extracurricular Activities:

- Board Member, Koinonia Ventures, Coptic Orthodox Diocese of New York & New England 09/18 – present
- Technical Advisor, Pay Equity Project, Boston Women’s Workforce Council 09/14 – present
- Volunteer educational/outreach services to Wayland K-12 Public Schools, Wayland, MA 09/08 – 06/2014
- Editor of the Coptic Network Society Newsletter and Maintainer of its archives 01/92 – 12/2011
- Collegial Tutor and Choir Member, St. Mark Coptic Orthodox Church, Natick, MA 03/90 – 08/2002
- Curator of the Senior Common Room, Leverett House, Harvard University 09/95 – 06/1998
- Computer Science Resident Tutor, Leverett House, Harvard University 08/94 – 06/1998
- Graduate Representative, Harvard University Presidential search committee 09/90 – 03/1991
- Member of the Committee on Graduate Education, Harvard University 06/90 – 06/1991
- Resident Host, Dana-Palmer historic guest house, Harvard University 01/90 – 07/1994
- Moderator of Egypt-Net Digest and maintainer of its software systems 01/88 – 06/1992
- Vice President, Graduate Student Council, Harvard University 02/89 – 06/1991
- Resident Advisor, Graduate Residence Halls, Harvard University 09/88 – 06/1990
- Treasurer, Graduate Dormitory Council, Harvard University 09/87 – 09/1988
- Scientific Officer, Computer Science Students Society, Alexandria University 01/81 – 01/1984

INVITED LECTURES AND COLLOQUIA (Partial List)

- **AWS Public Sector Summit**, Washington, D.C. *June 2019*
 “Towards Fairness, Ethics, Accountability, and Transparency in AI” Host: S. Padhi
- **Keynote of the 2019 ACM/IEEE CCGrid Symposium**, Larnaca, Cyprus *May 2019*
 “Platforms for scalable secure Multi-Party Computing” Host: S. Girdzijauskas
- **Tech Talk, BU Evening at Google**, Seattle, WA *March 2019*
 “Sharing Knowledge without Sharing Data” Host: D. Seidman
- **Microsoft Lunch and Learn Talk Series**, Redmond, WA *March 2019*
 “Sharing Knowledge without Sharing Data” Host: V. Feliberti
- **US Interagency Committee on Standards Policy, BLS**, Washington D.C. *February 2019*
 “Sharing Knowledge without Sharing Data” Host: J. Woodworth
- **Distributed Systems Seminar, Raytheon BBN Technologies**, Cambridge, MA *December 2018*
 “Sharing Knowledge without Sharing Data” Host: B. Simidchieva
- **Child Welfare and Juvenile Justice Leadership Forum Seminar**, Boston, MA *November 2018*
 “On the false dichotomy between privacy & utility of information” Host: M. Threadgill
- **Distinguished Colloquium, SICE, Indiana University**, Bloomington, IN *November 2018*
 “Sharing Knowledge without Sharing Data” Host: S. Milojevic
- **Distinguished Colloquium, American University in Cairo**, Cairo, Egypt *October 2018*
 “Mechanism Design & Implementation for Trustworthy Cloud Markets” Host: S. Aly
- **Distinguished Colloquium, American University in Cairo**, Cairo, Egypt *October 2018*
 “Sharing Knowledge without Sharing Data” Host: S. Aly
- **Distinguished Colloquium, American University in Cairo**, Cairo, Egypt *October 2018*
 “Selfish Neighbor Selection for P2P Applications” Host: S. Aly
- **SICS/KTH Royal Institute of Technology Colloquium**, Stockholm, Sweden *September 2018*
 “Sharing Knowledge without Sharing Data” Host: S. Haridi
- **Journal of Science & Technology Law’s Symposium**, Boston, MA *February 2018*
 “Sharing Knowledge without Sharing Data” Host: A. Sellars
- **Sackler Colloquium of the National Academy of Sciences**, Irvine, CA *December 2017*
 “Sharing Knowledge without Sharing Data” Host: K. Brner
- **American University in Beirut, 30th Anniversary**, Beirut, Lebanon *June 2017*
 “Sharing Knowledge without Sharing Data” Host: W. Jureidini
- **Boston University, School of Law**, Boston, MA *February 2017*
 “Sharing Knowledge without Sharing Data” Host: S. Dogan
- **Information Technology & Innovation Foundation**, Washington, DC *October 2016*
 “A Smart City is a Software-Defined (Programmable) City” Host: D. Castro
- **Harvard Medical School, Data Repositories Management**, Boston, MA *July 2016*
 “Multi-Party Computation in the Real World” Host: S. Vadhan
- **Harvard University, Institute for Quantitative Social Science**, Cambridge, MA *January 2016*
 “Multi-Party Computation in the Real World” Host: L. Sweeney
- **Santander Roundtable on Cybersecurity, Brown University**, Providence, RI *December 2015*
 “Security as a Service for outsourced cloud computing and storage” Plenary Talk
- **Columbia University, Data Science Institute**, New York City, NY *December 2015*
 “A Smart-City needs an Open-Cloud” Host: K. McKeown
- **National Science Foundation Workshop on Smart Cities**, Washington, DC *December 2015*
 “A Smart-City is a Software-Defined City” Plenary Talk
- **Army Research Labs**, Washington DC *September 2015*
 “Cloud Services for Moving Target Defense” Plenary Talk
- **Joint IEEE CAC Conferences**, Cambridge, MA *September 2015*
 “Mechanisms for Efficient & Trustworthy Cloud Markets” Plenary Talk
- **Boston’s Women Compact 100% Talent Inaugural Symposium**, Boston, MA *April 2015*
 “Secure and Private Pay-Equity Analytics” Host: C. Minehan
- **University of California, Irvine**, Irvine, CA *February 2015*
 “The Massachusetts Open Cloud” Host: M. Goodrich
- **Draper Laboratories**, Cambridge, MA *March 2015*
 “The Road Less Traveled: Perspective on Composable Verification” Host: N. Brock

- **CELAR EU Project Plenary Meeting at PlayGen**, London, UK *October 2014*
 “Mechanisms for Efficient Cloud Markets” Host: N. Koziris
- **ACM SIGAPP MEDES Conference**, Qassim, Saudi Arabia *September 2014*
 “The Open Cloud eXchange” Plenary Talk
- **Aramco Distinguished Seminar Series**, Dharan, Saudi Arabia *September 2014*
 “The Massachusetts Open Cloud: Vision and Progress” Host: J. Schley
- **University Vice President Network Annual Meeting**, Boston, MA *June 2014*
 “Online Technology meets Residential Education” Plenary Talk
- **Hanscom Air Force Base**, MA *May 2014*
 “MOC: A Testbed for Cloud Security Research” Host: T. Rudolph
- **MIT Lincoln Labs**, Cambridge, MA *May 2014*
 “The Open Cloud eXchange” Host: N. Schear
- **AAU Spring Partners Meeting** Washington, DC *April 2014*
 “Online Learning in the 21st Century: MOOCs and More” B. Brown
- **Society for College and University Planning Annual Meeting**, Boston, MA *April 2014*
 “Online Technology meets Residential Education” Plenary Talk
- **BBN/GENI Training Workshop Keynote Address**, Cambridge, MA *January 2014*
 “The Open Cloud eXchange” Host: N. Riga
- **Framingham Heart Study Scientific Retreat Keynote**, Boston, MA *November 2013*
 “Healthcare meets Big Data: Challenges and Opportunities” Host: C. O’Donnell
- **International Advisory Board Meeting**, London, UK *October 2013*
 “Digital Learning Technologies: Opportunities and Challenges” Host: R. Brown
- **BU Medical School Community of the Practice**, Boston, MA *September 2013*
 “Educational Technology and Learning Innovation” Host: G. Cohen
- **BU Alumni New Ventures Workshop Keynote**, San Francisco, CA *June 2013*
 “Healthcare meets Big Data” Host: B. Brown
- **BU IS&T Strategic Town Hall Meeting**, Boston, MA *April 2013*
 “Educational Technology and Learning Innovation” Host: T. Schroeder
- **International Advisory Board Meeting**, Dubai, UAE *March 2013*
 “Digital Learning Technologies: Opportunities and Challenges” Host: R. Brown
- **Cloud Computing Initiative Mini Symposium**, Boston, MA *February 2013*
 “The Open Cloud eXchange” Host: O. Krieger
- **Rochester Institute for Technology**, Rochester, NY *December 2012*
 “Mechanisms for Efficient Cloud Markets” Host: L. Reznik & K. Xiong
- **WISE’12 Keynote Address**, Paphos, Cyprus *November 2012*
 “Mechanisms for Efficient Cloud Exchanges” Host: A. Delis
- **Advanced Cyber Security Center Annual Symposium**, Boston, MA *November 2012*
 “Towards a Secure Cloud Exchange Market” Host: W. Guenther
- **Qatar Foundation Annual Research Forum**, Doha, Qatar *October 2012*
 “QNRS Cloud Strategy Review and Recommendations” Host: I. Ilyas
- **Bentley College, Joint CIS/IDCC/IPM Seminar**, Waltham MA *October 2012*
 “Mechanisms for Efficient Cloud Exchanges” Host: R. Galliers
- **Universidade Federal de Minas Gerais, CS Dept**, Belo Horizonte, Brazil *September 2012*
 “Mechanisms for Efficient Cloud Markets” Host: V. Almeida & W. Meira
- **National Lab for Scientific Computing, LNCC**, Petropolis, Brazil *September 2012*
 “Cyber-Enabled Discovery and Innovation” Host: A. Ziviani
- **Koc University, CE Dept**, Istanbul, Turkey *June 2012*
 “Towards a Trustworthy Marketplace for Cloud Resources” Host: O. Ozkasap
- **University of Southern California, CS Dept**, Los Angeles, CA *February 2012*
 “In Clouds We Trust: Mechanisms for Efficient Cloud Markets” Host: S. Teng
- **Worcester Polytechnic Institute, CS Dept**, Worcester, MA *January 2012*
 “Mechanism Design for Trustworthy Clouds” Host: C. Wills
- **BU/CAS Discoveries Lecture Series**, Boston, MA *October 2011*
 “The Role of Social Media in Political Uprisings” Host: G. Wilson
- **NIST Cloud Assumption Buster Workshop**, Gaithersburg, MD *October 2011*
 “An Economics Approach to Secure and Trustworthy Clouds” Host: B. Newhouse
- **DIMACS Workshop on Advances in Cloud Computing**, Piscataway, NJ *December 2011*
 “Towards a Trustworthy Marketplace for Cloud Resources” Host: A. Akella

- **Cloud Control Conference**, Boston, MA *July 2011*
 “*CloudCommons: Overview of Research in Cloud Security*” Host: B. Zvaifler
- **Financial Services Roundtable Technology Group**, Washington, DC *June 2011*
 “*In Clouds We Trust*” Host: D. Schutzer
- **Nina Zolt Lecture and Discussion Series at BU**, Boston, MA *April 2011*
 “*Time in CS: Gauge, Currency, and Illusion*” Host: S. Grossberg
- **MTTC 6th Conference on Clean Energy**, Boston, MA *November 2011*
 “*Green Computing: Challenges and Opportunities*” Host: J. Kurose
- **InfraGard Professional Development Lecture Series**, Boston, MA *November 2011*
 “*Trustworthy Interaction in the Cloud*” Host: T. Zlateva
- **University of British Columbia, ECE Dept**, Vancouver, Canada *October 2010*
 “*Network and Cloud Resource Packing Games*” Host: S. Gopalakrishnan
- **University of Massachusetts, Lowell, CS Dept**, Lowell, MA *September 2010*
 “*Network and Cloud Resource Packing Games*” Host: G. Chen
- **New Hampshire Chapter of IEEE-CS**, Nashua Community College, NH *September 2010*
 “*Exciting CS Research and Career Opportunities*” Host: B. Bancroft
- **Institut Eurecom**, Sophia-Antipolis, France *June 2010*
 “*Network and Cloud Resource Packing Games*” Host: P. Michiardi
- **Deutsche Telekom Labs, TU Berlin**, Germany *June 2010*
 “*Network and Cloud Resource Packing Games*” Host: G. Smaragdakis
- **University of Texas, CS Dept**, San Marcos, TX *April 2010*
 “*System and Network Resource Management Games*” Host: M. Guirguis
- **Boston University, Sociology Dept**, Boston, MA *February 2009*
 “*Technology, Society, & Public Policy: Tussles in Cyberspace*” Host: L. Smith-Doerr
- **University of Notre Dame, CSE Dept**, South Bend, IN *December 2009*
 “*System and Network Resource Management Games*” Host: K. Bowyer
- **Georgia Institute of Technology, CS Dept**, Atlanta, GA *November 2009*
 “*System and Network Resource Management Games*” Host: M. Ammar
- **University of California, ECE Dept**, Riverside, CA *May 2009*
 “*Virtualization Support for Video Sensor Networks*” Host: B. Bhanu
- **German University in Cairo**, Egypt *December 2008*
 “*Resource Allocation in Clouds and P2P Overlays*” Host: A. ElNahas
- **Microsoft Innovation Labs**, Cairo, Egypt *December 2008*
 “*Game-Theoretic Approaches to P2P Resource Allocation*” Host: T. Abbadi
- **Telefonica Research Labs**, Barcelona, Spain *November 2008*
 “*Deconstructing the Current Models of CS publications*” Host: P. Rodriguez
- **Institut Eurecom**, Sophia-Antipolis, France *November 2008*
 “*Implications Of Selfish Neighbour Selection*” Host: P. Michiardi
- **Amazon Research**, Seattle, WA *July 2008*
 “*Game-Theoretic Approaches for Cloud Resource Management*” Host: A. Bradley
- **CRA 2008 Snowbird Conference**, Snowbird, UT *July 2008*
 “*On the Instrumentation Needs of CISE Research*” Host: J. Fortes
- **Boston University, CISE**, Boston, MA *December 2007*
 “*Thou Shalt Be A Selfish Overlay Neighbor*” Host: C. Cassandras
- **University of Toronto, CS Dept**, Toronto, Canada *October 2007*
 “*Thou Shalt Be A Selfish Overlay Neighbor*” Host: J. Liebeherr
- **University of Massachusetts, Lowell, CS Dept**, Lowell, MA *October 2007*
 “*Implications Of Selfish Neighbour Selection*” Host: J. Wang
- **Nortel Networks**, Billerica, MA *October 2007*
 “*Selfish Neighbour Selection in Overlay Networks and P2P Systems*” Host: A. Onart
- **Workshop on High Confidence Medical Devices**, Cambridge, MA *July 2007*
 “*Programming support for embedded sensor networks*” Plenary Talk
- **National Colloquium for Info Systems Security Education**, Boston, MA *June 2007*
 “*Internet RoQ Attacks: Network Security is a Systems Challenge*” Plenary Talk
- **University of Notre Dame, CSE Dept**, South Bend, IN *April 2007*
 “*If You Build It They Will Come: The snBench Architecture*” Host: A. Striegel
- **BBN Technologies**, Cambridge, MA *March 2007*
 “*The Sensor Network Programming Workbench Architecture*” Host: R. Schantz

- **Boston University, ECE Dept**, Boston, MA *February 2007*
 “snBench: The Sensor Network Programming Workbench” Host: M. Herbordt
- **University of Massachusetts, CS Dept**, Dartmouth, MA *December 2006*
 “Scalable and Practical Interoperability Checks in TRAFFIC” Host: B. Mikolajczak
- **Wellesley College, CS Dept**, Wellesley, MA *November 2006*
 “Internet RoQ Attacks: Vulnerabilities and Countermeasures” Host: P. Metaxas
- **BU Sensor Network Consortium**, Boston, MA *November 2006*
 “snBench: The Sensor Network Programming Workbench” Host: Y. Paschalidis
- **Workshop on Aviation Software Systems**, Alexandria, VA *October 2006*
 “Compositional Verification of Distributed Embedded Systems” Plenary Talk
- **VMware Lecture Series, VMware Research Lab**, Cambridge, MA *June 2006*
 “Friendly Virtual Machines” Host: J. Austin
- **CRA 2006 Snowbird Conference**, Snowbird, UT *June 2006*
 “Deconstructing the Current Models of CS publications” Host: A. Bernat
- **ISTS Distinguished Lectures, Dartmouth College**, Dartmouth, NH *May 2006*
 “Internet RoQ Attacks: Vulnerabilities and Countermeasures” Host: D. Kotz
- **Purdue University, CS Dept**, West Lafayette, IN *October 2005*
 “Internet RoQ Attacks: Vulnerabilities and Countermeasures” Host: S. Hambruch
- **Microsoft Research**, Redmond, WA *July 2005*
 “Friendly Virtual Machines” Host: M. Peinado
- **Microsoft Research**, Redmond, WA *July 2005*
 “Internet RoQ Attacks: Vulnerabilities and Countermeasures” Host: V. Padmanabhan
- **BU Sensor Network Consortium**, Boston, MA *May 2005*
 “The snBench Sensor Network Programming Architecture” Host: Y. Paschalidis
- **Old Dominion University, CS Dept**, Norfolk, VA *April 2005*
 “Scalable Delivery of Streaming Media in Ad-Hoc Overlays” Host: H. Wahab
- **University of Virginia, CS Dept**, Charlottesville, VA *April 2005*
 “Internet RoQ Attacks: Vulnerabilities and Countermeasures” Host: J. Stankovic
- **Boston University, CISE**, Boston, MA *February 2005*
 “Internet RoQ Attacks: Vulnerabilities and Countermeasures” Host: Y. Paschalidis
- **BBN Technologies**, Cambridge, MA *January 2005*
 “RoQ Attacks on Internet Resources” Host: J. Redi
- **Harvard University, CS Dept**, Cambridge, MA *November 2004*
 “Exploiting the Transients of Adaptation for Internet RoQ Attacks” Host: M. Welsh
- **University of Puerto Rico, IEEE CS Chapter**, Mayaguez, PR *November 2004*
 “Sensor Networks: The Dream, Reality, and Science in Between” Host: M. Peres
- **University of Puerto Rico, CS Dept**, Mayagez, PR *November 2004*
 “Practical, Efficient Construction of Network Caricatures” Host: N. Santiago
- **University of Puerto Rico, CS Dept**, Mayagez, PR *November 2004*
 “Characterization of Live Streaming Media Workloads” Host: M. Rodriguez
- **University of North Carolina, CS Dept**, Chapel Hill, NC *October 2004*
 “Practical, Efficient Construction of Network Caricatures” Host: K. Jeffay
- **North Carolina State University, CS Dept**, Raleigh, NC *October 2004*
 “Exploiting the Transients of Adaptation for Internet RoQ Attacks” Host: K. Harfoush
- **University of Cambridge**, England, UK *October 2004*
 “Exploiting the Transients of Adaptation for Internet RoQ Attacks” Host: J. Crowcroft
- **Microsoft Research, Cambridge**, England, UK *October 2004*
 “Practical, Efficient Construction of Network Caricatures” Host: A. Donnelly
- **IHP Microelectronics**, Frankfurt Oder, Germany *October 2004*
 “RoQ Attacks on Internet Resources” Host: P. Langendoerfer
- **Alexandria University, CS Dept**, Alexandria, Egypt *October 2004*
 “Practical, Efficient Construction of Network Caricatures” Host: A. Khalil
- **University of Connecticut, CS Dept**, Storrs, CT *September 2004*
 “Exploiting the Transients of Adaptation for Internet RoQ Attacks” Host: J. Cui
- **Rensselaer Polytechnic Institute (RPI)**, NY *April 2004*
 “RoQ Attacks on Internet Resources” Host: B.Yener
- **UC Berkeley, ICIR/ICSI**, Berkeley, CA *October 2003*
 “Practical, Efficient Construction of Network Caricatures” Hosts: R.Karp and S.Floyd

- **Boston University, CCS**, Boston, MA *September 2003*
 “Practical and Efficient Construction of Network Caricatures” Host: C. Rebbi
- **IEEE ICDCS Workshop on Real-Time Data Distribution**, Providence, RI *May 2003*
 “Scalable Real-Time Streaming in Ad-Hoc Overlay Networks” Host: L. DiPippo
- **Boston University, ECE Dept**, Boston, MA *December 2002*
 “Practical and Efficient Construction of Network Caricatures” Host: M. Herborcht
- **International Workshop on Networked Group Communication**, Boston, MA *October 2002*
 “P2P: Fundamental Research or Illegal Activities?” Host: B. Levine
- **Purdue University**, West Lafayette, IN *October 2002*
 “Inference and Labeling of Network-Induced Network Topologies” Host: K. Park
- **ACM Workshop on Caching, Coherence, and Consistency**, Columbia U, NY *June 2002*
 “Caching Architectures for Scalable Streaming Media Delivery” Plenary Talk
- **DIMACS Internet Measurement, Mapping and Modeling**, Rutgers U, NJ *February 2002*
 “Inference and Labeling of Metric Induced Network Topologies” Host: D. Raz
- **US Personalization Summit**, New York, NY *November 2000*
 “Implications of Zipf’s Law on Web Profiling Technologies” Plenary Talk
- **European Personalization Summit**, London, UK *September 2000*
 “Impact of Zipf’s Law on Personalization and ROF” Plenary Talk
- **Association of Internet Professionals/MIT**, Cambridge, MA *May 2000*
 “Advances in Scalable Content Distribution” Host: G. Trojillo
- **Akamai Technologies Inc.**, Cambridge, MA *September 1999*
 “Connection Scheduling Strategies for Scalable Web Servers” Host: C. Leiserson
- **Massachusetts Telecommunications Council**, Cambridge, MA *June 1999*
 “Commonwealth Scalable Web Server Architecture” Host: Tanya Zalateva
- **Microsoft Explorer Conference**, Boston, MA *December 1998*
 “Towards Sites that Think: Personalization Strategies” Host: A. Caglayan
- **Denver University**, Denver, CO *October 1998*
 “Distributed Connection Routing in the Commonwealth Architecture” Host: D. Martin
- **Microsoft Research**, Redmond, WA *May 1998*
 “Distributed Packet Rewriting for Scalable Web Servers” Host: D. Lommet
- **Bay Networks**, Billerica, MA *March 1998*
 “The Commonwealth Server Project at BU” Host: J. Shaio
- **ACM, Greater Boston Chapter**, Cambridge, MA *January 1998*
 “Taming the WWW: From Measurements to Protocol Design” Host: P. Govindara
- **Boston University, ECE Dept**, Boston, MA *November 1997*
 “Statistical Rate Monotonic Scheduling” Host: B. Saleh
- **The Open Group**, Cambridge, MA *August 1997*
 “TCP Boston: Trading Off Bandwidth For Timeliness” Host: R. Clark
- **The Mitre Corporation**, Bedford, MA *April 1997*
 “Taming the WWW: From Measurements to Protocol Design” Host: B. Thuraisingham
- **University of Vermont**, CS Dept., Burlington, VT *March 1997*
 “Web Reference Locality: Characteristics and Applications” Host: S. Baruah
- **Charles River Analytics**, Cambridge, MA *December 1996*
 “Server-initiated Replication and Prefetching for the Web” Host: A. Kaglayan
- **Worcester Polytechnic Institute**, CS Dept., Worcester, MA *November 1996*
 “Towards Scalable WWW Services” Host: C. Wills
- **DCI Internet Expo**, Hynes Convention Center, Boston, MA *September 1996*
 “Middleware Services for the World Wide Web” Host: IEEE-CS, Boston Chapter
- **AT&T Research**, Bell Labs, Murray Hill, NJ *August 1996*
 “Prefetching Techniques for the WWW” Host: Y. Freund
- **AT&T Research**, Bell Labs, Murray Hill, NJ *August 1996*
 “Taming the Web through Measurements and Protocol Design” Host: A. Greenberg
- **University of Rhode Island**, CS and Statistics Dept., RI *July 1996*
 “From Web Measurements to Web Protocol Design” Host: V. Wolfe
- **University of Pennsylvania**, CS Dept., Philadelphia, PA *May 1996*
 “Locality of Reference Properties in WWW Information Systems” Host: I. Lee
- **University of Massachusetts at Amherst**, CS Dept., Amherst, MA *March 1996*
 “Server-initiated Replication and Prefetching in DIS” Host: K. Ramamritham

- **Northeastern University**, CCS Dept., Boston, MA *February 1996*
 “*Information Dissemination for Large-scale Information Systems*” Host: I. Matta
- **University of Maryland at College Park**, CS Dept., College Park, MD *December 1995*
 “*Exploiting WWW Locality of Reference*” Hosts: U. Shankar and S. Tripathi
- **University of Texas at Arlington**, CSE Dept., Arlington, TX *October 1995*
 “*Speculative Data Dissemination and Service for the WWW*” Host: R. ElMasri
- **University of Michigan at Ann Arbor**, EECS Dept., Ann Arbor, MI *August 1995*
 “*Speculative Concurrency for Real-Time Systems*” Hosts: K. Shin and N. Soparkar
- **AT&T Bell Labs**, Dept. , Murray Hill, NJ *July 1995*
 “*Timeliness via Speculation for Real-Time Databases*” Host: A. Biliris
- **New Jersey Institute of Technology**, CS Dept., NJ *July 1995*
 “*Speculative Execution Methodologies for Real-Time Systems*” Host: A. Stoyenko
- **Tufts University**, CSE Dept., Cambridge, MA *April 1995*
 “*Physically-correct Specifications of Embedded Systems*” Host: R. Jacob
- **Harvard University**, CS Dept., Cambridge, MA *May 1994*
 “*Timeliness via Speculation*” Host: V. Milenkovic
- **GTE Laboratories**, Waltham, MA *January 1994*
 “*Performance Evaluation of RT Concurrency Control Protocols*” Host: L. Bradley
- **Harvard University**, CS Dept., Cambridge, MA *July 1993*
 “*Speculative Concurrency Control for Responsive Databases*” Host: T. Cheatham
- **GTE Laboratories**, Waltham, MA *July 1993*
 “*Speculative Concurrency Control*” Host: L. Bradley
- **University of Connecticut**, CS Dept., Storrs, CT *November 1992*
 “*CLEOPATRA: A TRA-based Language and Environment*” Host: R. Ammar
- **University of Rhode Island**, CS Dept., Providence, RI *February 1992*
 “*TRA-based Development of Embedded Real-Time Systems*” Host: V. Wolfe
- **Boston University**, CS Dept., Boston, MA *June 1991*
 “*Time-constrained Reactive Automata*” Host: A. Kfoury
- **University of California at Irvine**, CS Dept., Irvine, CA *March 1991*
 “*Time-constrained Reactive Automata*” Host: N. Leveson
- **North American Philips Corporation**, Briarcliff Manor, NY *November 1990*
 “*Real-time Intelligent Control Systems*” Host: D. Lyons
- **TIMS/ORSA National Joint Meeting**, Las Vegas, NV *May 1990*
 “*An Algorithm for Self-diagnosis in Distributed Systems*”
- **AT&T Bell Labs**, Dept. 4531, Holmdel, NJ *December 1989*
 “*IDA: A Novel RAID Design*” Hosts: R. Morris & W. Wong
- **AT&T Bell Labs**, Dept. 1122, Murray Hill, NJ *August 1989*
 “*IOTA-based Specification and Verification*” Hosts: L. Miller & M. Wish
- **AT&T Bell Labs**, Dept. 1125, Murray Hill, NJ *July 1989*
 “*The IOTA Model of Computation*” Hosts: M. Merrit & P. Zave
- **Boston University**, CS Dept., Boston, MA *February 1989*
 “*Self-diagnosis in Distributed Systems*” Host: A. Heddaya

PATENTS AND DISCLOSURES

- [o] Mark Reynolds, Azer Bestavros, and Assaf Kfoury. Software Inspection System. United States Patent Number US 9,495,542, issued November 15, 2016 (Priority Date: February 28, 2013). Technology is basis of a BU startup incubated at the Hariri Institute for Computing, 2013.
- [o] Mark Reynolds, Azer Bestavros, and Assaf Kfoury. Software Inspection System and Certification: Innovative Cloud-Based Malware Detection. Invention Disclosure and Provisional Patent Application Filed by BU, 2012.
- [o] Vijay Basani, Krishna Mangiapudi, Lynne Murach, Leroy Karge, Vitaly Revsin, Azer Bestavros, Mark Crovella, and Domenic LaRosa. System for creating and distributing prioritized list of computer nodes selected as participants in a distributed job. United States Patent Number US 7,346,682, issued March 18, 2008 (Priority Date: April 20, 2004). Technology is licensed to Network Appliance Inc., 2008.

- [o] Vijay Basani, Krishna Mangiapudi, Lynne Murach, Leroy Karge, Vitaly Revsin, Azer Bestavros, Mark Crovella, and Domenic LaRosa. Method and apparatus for election of group leaders in a distributed network. United States Patent Number US 7,451,221, issued November 11, 2008 (Priority Date: March 3, 2005). Technology is licensed to Network Appliance Inc., 2008.
- [o] Vijay Basani, Krishna Mangiapudi, Lynne Murach, Leroy Karge, Vitaly Revsin, Azer Bestavros, Mark Crovella, and Domenic LaRosa. Method and apparatus for election of group leaders in a distributed network. United States Patent Number US 6,993,587, issued on January 31, 2006 (Priority Date: April 7, 2000). Technology is licensed to Network Appliance Inc., 2006.
- [o] Azer Bestavros and Ibrahim Matta. Providing Soft Bandwidth Guarantees Using Elastic TCP-Based Tunnels. Patent Application Number US 20050259689, filed by Boston University on April 1, 2005. Technology is licensed to SUTI Inc., 2005.
- [o] Vijay Basani, Krishna Mangiapudi, Lynne Murach, Leroy Karge, Vitaly Revsin, Azer Bestavros, Mark Crovella, and Domenic LaRosa. Method and apparatus for scalable distribution of information in a distributed network. United States Patent Number US 6,748,447, issued on June 8, 2004 (Priority Date: April 7, 2000). Technology is licensed to Network Appliance Inc., 2004.
- [o] Vijay Basani, Krishna Mangiapudi, Lynne Murach, Leroy Karge, Vitaly Revsin, Azer Bestavros, Mark Crovella, and Domenic LaRosa. Method and apparatus for reliable and scalable distribution of data files in distributed networks. United States Patent Number US 6,718,361, issued on April 6, 2004 (Priority Date: April 7, 2000). Technology is licensed to Network Appliance Inc., 2004.
- [o] Azer Bestavros and Mark Crovella. Distributed Routing. United States Patent Number US 6,370,584, issued on April 9, 2002 (Priority Date: September 1, 1998). Technology is licensed to Commonwealth Network Technologies, Inc. (now part of Network Appliance Inc.), 2002.
- [o] Azer Bestavros. DNS-based client profiling and characterization on the Internet. Invention Disclosure and Provisional Patent Application Filed by BU, 2000.
- [o] Azer Bestavros. Split Caching and its Application to Caching Multimedia Content on the Web. Invention Disclosure and Provisional Patent Application Filed by BU, 2000.
- [o] Azer Bestavros and Alia Atlas. Statistical Rate Monotonic Scheduling. Invention Disclosure and Provisional Patent Application Filed by BU. Technology is licensed to Tripacific Software, Inc., 1999.

PHD THESIS SUPERVISION

Supervised PhD students have secured positions in highly-ranked academic institutions and industrial labs. Placement of PhD student advisees in academia include tenure-track faculty appointments at Wellesley College, North Carolina State University, Case-Western Reserve University, Stony Brook University, Texas State University, Bentley University, Endicott College, Technical University of Berlin, and Universidad Pontificia Bolivariana. Placement of co-advised PhD students in academia include tenure-track faculty appointments at Purdue University, University of Wisconsin, and University of Denver. Placement of PhD student advisees in industry include appointments as research scientists at IBM Research, Microsoft Research, Amazon, Raytheon, MIT Lincoln Labs, Telecordia Labs, Thomson Reuters, Juniper Networks, and Deutsche Telekom Labs.

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|--|--------------------------------|
| Mina William PhD 2024 (exp), CS Dept, Boston University <i>Topic: Secure Multiparty Computation</i> | (Advisor) 09/19 – present |
| Showan Asyabi PhD 2023 (exp), CS Dept, Boston University <i>Topic: Virtual Machine Resource Management</i> | (Advisor) 09/18 – present |
| Nicolas Haddad PhD 2022 (exp), CS Dept, Boston University <i>Topic: Distributed Trust Platforms</i> | (Co-Advisor) 09/17 – present |
| Kinan Bab PhD 2021 (exp), CS Dept, Boston University <i>Topic: Secure Multiparty Computation</i> | (Co-Advisor) 09/16 – present |
| Rawane Issa PhD 2021 (exp), CS Dept, Boston University <i>Topic: Secure Multiparty Computation</i> | (Co-Advisor) 09/16 – present |
| Wil Koch , PhD 2019 (exp), CS Dept, Boston University <i>Topic: AI-driven Drone Control</i> | (Main Advisor) 09/14 – present |

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|--|----------------|-----------------|
| Christine Bassem , PhD 2015, CS Dept, Boston University <i>Topic: Route Coordination in Brokered Computing Environments</i> | (Main Advisor) | 09/08 – 05/2015 |
| Richard Skowrya , PhD 2014, CS Dept, Boston University <i>Title: Composable Verification With Application to SDN-Enabled Systems</i> | (Main Advisor) | 06/09 – 05/2014 |
| Vatche Ishakian , PhD 2013, CS Dept, Boston University <i>Title: Strategic And Operational Services For Workload Management In The Cloud</i> | (Main Advisor) | 09/08 – 12/2012 |
| Raymond Sweha , PhD 2013, CS Dept, Boston University <i>Title: Optimizing On-Demand Resource Deployment For Peer-Assisted Content Delivery</i> | (Main Advisor) | 01/06 – 12/2012 |
| Jorge Londono , PhD 2010, CS Dept, Boston University <i>Title: Embedding Games: Distributed Resource Management with Selfish Users</i> | (Main Advisor) | 09/05 – 05/2010 |
| Georgios Smaragdakis , PhD 2008, CS Dept, Boston University <i>Title: Overlay Network Creation and Maintenance with Selfish Users</i> | (Main Advisor) | 09/02 – 08/2008 |
| Hany Morcos , PhD 2008, CS Dept, Boston University <i>Title: Service Provisioning in Mobile Networks Through Coordinated Resource Management</i> | (Main Advisor) | 01/03 – 08/2008 |
| Michael Ocean , PhD 2008, CS Dept, Boston University <i>Title: snBench – Architecture and Virtualization Support for Embedded Sensor Networks</i> | (Main Advisor) | 09/04 – 08/2008 |
| Mina Guirguis , PhD 2006, CS Dept, Boston University <i>Title: Reduction-of-Quality Attacks on Adaptation Mechanisms</i> | (Main Advisor) | 01/01 – 08/2006 |
| Adam Bradley , PhD 2004, CS Dept, Boston University <i>Title: A Type-Disciplined Approach to Developing Resources and Applications for the WWW</i> | (Main Advisor) | 09/97 – 09/2003 |
| Shudong Jin , PhD 2003, CS Dept, Boston University <i>Title: Scalability of Internet Streaming Delivery Mechanisms</i> | (Main Advisor) | 09/98 – 05/2003 |
| Khaled Harfoush , PhD 2002, CS Dept, Boston University <i>Title: Metric-Induced Network Topologies</i> | (Main Advisor) | 09/98 – 05/2002 |
| Alia Atlas , PhD 1999, CS Dept, Boston University <i>Title: Statistical Rate Monotonic Scheduling</i> | (Main Advisor) | 09/95 – 09/1998 |
| Gitae Kim , PhD 1998, CS Dept, Boston University <i>Title: AFTER: A Framework for Adaptive Forward Timely Erasure Recovery</i> | (Main Advisor) | 09/95 – 06/1998 |
| Sue Nagy , PhD 1997, CS Dept, Boston University <i>Title: Admission Control and Overload Management for Real-Time Databases</i> | (Main Advisor) | 09/94 – 05/1997 |
| Carlos Cunha , PhD 1997, CS Dept, Boston University <i>Title: Trace Analysis and its Applications to Performance Enhancements of DIS</i> | (Main Advisor) | 09/94 – 05/1997 |
| Euthimios Panagos , PhD 1996, CS Dept, Boston University <i>Title: Client-Based Logging: A New Paradigm for Distributed Transaction Management</i> | (Main Advisor) | 09/93 – 01/1996 |
| Spyridon Braoudakis , PhD 1994, CS Dept, Boston University <i>Title: Concurrency Control Protocols for Real-Time Databases</i> | (Main Advisor) | 09/91 – 11/1994 |

PHD THESIS COMMITTEE MEMBERSHIP

| | | |
|--|-------------------|-----------------|
| Yuting Zhang , PhD 2006, CS Dept, Boston University <i>Title: Window-Constrained Resource Management for Soft Real-Time Applications</i> | (Co-Advisor) | 06/03 – 08/2006 |
| Michel Machado , PhD 2014, CS Dept, Boston University <i>Title: Linux XIA – An Interoperable Meta Network Architecture</i> | (Committee Chair) | 09/13 – 05/2014 |
| Gonca Gursun , PhD 2013, CS Dept, Boston University <i>Title: Inferring Hidden Features in the Internet</i> | (Committee Chair) | 09/12 – 06/2013 |
| Mark Reynolds , PhD 2012, CS Dept, Boston University <i>Title: Security Analysis of Bytecode Interpreters Using Alloy</i> | (Committee Chair) | 09/10 – 06/2012 |
| Georgios Zervas , PhD 2011, CS Dept, Boston University <i>Title: Data-driven Analysis of Electronic Commerce Systems</i> | (Committee Chair) | 09/05 – 06/2011 |
| Michalis Potamias , PhD 2011, CS Dept, Boston University <i>Title: Analyzing Probabilistic Graphs</i> | (Committee Chair) | 01/11 – 06/2011 |
| Debajyoti Bera , PhD 2009, CS Dept, Boston University <i>Title: Quantum Circuits: Power and Limitations</i> | (Committee Chair) | 06/09 – 08/2009 |

| | | |
|--|--------------------------|-----------------|
| Kyle Burke , PhD 2009, CS Dept, Boston University <i>Title: Science for Fun: New Impartial Board Games</i> | (Committee Chair) | 01/09 – 06/2009 |
| Feifei Li , PhD 2007, CS Dept, Boston University <i>Title: Query and Data Security in the Data Outsourcing Model</i> | (Committee Chair) | 09/06 – 08/2007 |
| Benjamin Hescott , PhD 2007, CS Dept, Boston University <i>Title: Nonuniform and Nondeterministic Reductions and the Complete Sets They Generate</i> | (Committee Chair) | 09/06 – 08/2007 |
| John Rachlin , PhD 2006, CS Dept, Boston University <i>Title: Multi-Node Graphs and Their Application to Bioinformatics</i> | (Committee Chair) | 06/06 – 12/2006 |
| Selma Yilmaz , PhD 2005, CS Dept, Boston University <i>Title: An Adaptive Policy Management Approach to BGP Convergence</i> | (Committee Chair) | 09/02 – 08/2005 |
| Chiyang Chen , PhD 2005, CS Dept, Boston University <i>Title: Type Inference in Applied Type System</i> | (Committee Chair) | 01/04 – 08/2005 |
| John Isidoro , PhD 2004, CS Dept, Boston University <i>Title: Stochastic Mesh-based Multiview Reconstruction</i> | (Committee Chair) | 09/03 – 03/2004 |
| Alberto Medina , PhD 2003, CS Dept, Boston University <i>Title: Practical Estimation of Internet Traffic Demands</i> | (Committee Chair) | 09/99 – 05/2003 |
| Liang Guo , PhD 2003, CS Dept, Boston University <i>Title: Size-aware Scheduling of TCP Flows</i> | (Committee Chair) | 09/99 – 05/2003 |
| Jun Liu , PhD 2003, CS Dept, Boston University <i>Title: Characterizing Network Elements and Paths Using Packet Loss Behavior</i> | (Committee Chair) | 09/95 – 08/2002 |
| Nabeel Akhtar , PhD 2019, CS Dept, Boston University <i>Title: Management of Application Functions over Virtualized Cloud Infrastructure</i> | (2 nd Reader) | 09/17 – 08/2019 |
| Saber Mirzaei , PhD 2016, CS Dept, Boston University <i>Title: A Theory of Flow Network Typing and Optimization Problems</i> | (2 nd Reader) | 06/15 – 08/2016 |
| Dora Erdos , PhD 2015, CS Dept, Boston University <i>Title: Centrality Measures and Analyzing Dot-product Graphs</i> | (2 nd Reader) | 06/13 – 04/2015 |
| Flavio Esposito , PhD 2013, CS Dept, Boston University <i>Title: A Policy-Based Architecture for Virtual Network Embedding</i> | (2 nd Reader) | 09/11 – 12/2013 |
| Andrej Cvetkovski PhD 2013, CS Dept, Boston University <i>Title: Graph Embeddings for Low-stretch Greedy Routing</i> | (2 nd Reader) | 01/12 – 12/2012 |
| Chong Wang PhD 2013, CS Dept, Boston University <i>Title: Modeling and Optimizing Content-Oriented Networks</i> | (2 nd Reader) | 01/12 – 12/2012 |
| Karim Mattar PhD 2010, CS Dept, Boston University <i>Title: Policy Routing Dynamics – Theory and Applications</i> | (2 nd Reader) | 01/04 – 12/2010 |
| Andrei Lapets PhD 2010, CS Dept, Boston University <i>Title: Machine Involvement in Formal Reasoning</i> | (2 nd Reader) | 09/09 – 08/2010 |
| Gabriel Parmer , PhD 2009, CS Dept, Boston University <i>Title: Component-Based Operating System for Application-Specific Extensibility</i> | (2 nd Reader) | 09/08 – 08/2009 |
| Ugur Murat Erdem , PhD 2008, CS Dept, Boston University <i>Title: Placement and Event Prediction in a Hybrid Camera Network with Minimum Knowledge</i> | (2 nd Reader) | 09/07 – 05/2008 |
| Purnendu Sinha , PhD 2000, ECE Dept, Boston University <i>Title: A Framework for Formal Methods Driven Verification of RT Protocols</i> | (2 nd Reader) | 09/99 – 05/2000 |
| Robert C. Carter , PhD 1997, CS Dept, Boston University <i>Title: Performance measurement and prediction in packet-switched networks</i> | (2 nd Reader) | 09/94 – 06/1997 |
| Anand Krishnamurthy , PhD 1995, ECE Dept, Boston University <i>Title: A Dynamic Resource Reservation and Pricing Policy for Scalable Multimedia Delivery</i> | (2 nd Reader) | 09/92 – 09/1995 |
| John Gibbon , PhD 1994, ECE Dept, Boston University <i>Title: Real-Time Scheduling for Multimedia Services Using Network Delay Estimation</i> | (2 nd Reader) | 09/91 – 05/1994 |
| Amir Samad , PhD 1993, CS Dept, Boston University <i>Title: Polynomial Time Algorithms for Bounds on Expected Capacity of Stochastic Networks</i> | (2 nd Reader) | 09/92 – 05/1993 |
| Himanshu Sinha , PhD 1993, CS Dept, Boston University <i>Title: MERMERA: Non-coherent Distributed Shared Memory for Parallel Computing</i> | (2 nd Reader) | 09/91 – 05/1993 |

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|--|--------------------------|-----------------|
| Hanwen Wu PhD 2018, CS Dept, Boston University <i>Title: Session Types in Practical Programming</i> | (3 rd Reader) | 01/17 – 08/2018 |
| Zhiqiang Ren PhD 2016, CS Dept, Boston University <i>Title: Combining Type Checking with Model Checking for System Verification</i> | (3 rd Reader) | 01/16 – 12/2016 |
| Niky Riga PhD 2013, CS Dept, Boston University <i>Title: JTP: An Energy-aware Transport Protocol for Mobile Ad Hoc Networks</i> | (3 rd Reader) | 01/04 – 08/2013 |
| Nahur Fonesca , PhD 2009, CS Dept, Boston University <i>Title: Stochastic Modeling Applied to Detection Problems In Network Protocols</i> | (3 rd Reader) | 01/08 – 12/2008 |
| Jef Considine , PhD 2005, CS Dept, Boston University <i>Title: Schedule-Oblivious Data Management</i> | (3 rd Reader) | 09/02 – 12/2004 |
| Gu-In Kwon , PhD 2004, CS Dept, Boston University <i>Title: Scalable Architectures for Multicast Content Distribution</i> | (3 rd Reader) | 09/02 – 08/2004 |
| Paul Stirpe , PhD 1994, CS Dept, Boston University <i>Title: Performance Analysis of High-speed Asynchronous Networks</i> | (3 rd Reader) | 09/91 – 05/1994 |
| Huibin Zhao , PhD 1993, CS Dept, Boston University <i>Title: An Object-centered Data Model for Design Databases</i> | (3 rd Reader) | 09/91 – 05/1993 |
| Paul Barford , PhD 2001, CS Dept, Boston University <i>Title: Modeling, Measurement and Performance of World Wide Web Transactions</i> | (Committee) | 09/98 – 06/2001 |
| Loredana Lo Conte , PhD 2000, CS Dept, Boston University <i>Title: Visible Volume: A Robust Measure for Protein Structure Characterization</i> | (Committee) | 09/95 – 01/2000 |
| Marcus Peinado , PhD 1995, CS Dept, Boston University <i>Title: Parallel and Randomized Approximation Algorithms for Maxclique and Maxcut</i> | (Committee) | 09/92 – 05/1995 |
| Marwan Shaban PhD 1994, CS Dept, Boston University <i>Title: Preservation of Structure Sharing in Parse Forests</i> | (Committee) | 09/93 – 09/1994 |

MASTER'S THESIS SUPERVISION (Partial List)

| | | |
|--|----------------|-----------------|
| Nikolaj Volgushev , MS 2016, CS Dept, Boston University <i>Topic: Secure Multi-Party Computation in the Cloud</i> | (Main Advisor) | 01/15 – 12/2016 |
| Kristin Mead , MS 2016, CS Dept, Boston University <i>Topic: Moving Target Defense</i> | (Main Advisor) | 09/14 – 09/16 |
| Nisreen Dahod MS 2015, CS Dept, Boston University <i>Title: Algorithms for Smart-City Mobility Index Evaluation</i> | (Main Advisor) | 09/13 – 08/2015 |
| Nate Soule MA 2012, CS Dept, Boston University <i>Title: Safe Compositional Modeling And Analysis Of Constrained Flow Networks</i> | (Co-Advisor) | 09/10 – 12/2011 |
| Elias Yannakeas MA 2011, CS Dept, Boston University <i>Title: An Auction-Based Distributed Storage Marketplace</i> | (Main Advisor) | 09/09 – 01/2011 |
| Sowmya Manjanatha , MA 2010, CS Dept, Boston University <i>Title: Secure Localization of Wireless Networks</i> | (Main Advisor) | 01/06 – 05/2010 |
| Mark Moses MA 2010, CS Dept, Boston University <i>Title: Incentive-compatible Swarming Protocols for Real-Time Streaming</i> | (Main Advisor) | 09/08 – 05/2010 |
| David Cecere MA 2007, CS Dept, Boston University <i>Title: Distributed Continuous Join Queries on Multiple Data Streams</i> | (Co-Advisor) | 01/06 – 05/2007 |
| Kanishka Gupta MA 2006, CS Dept, Boston University <i>Title: Hierarchical Scheduling in Real-Time Systems</i> | (Main Advisor) | 09/03 – 8/2006 |
| Ching Chang MA 2006, CS Dept, Boston University <i>Title: Reference Locality in Data Stream Applications</i> | (Co-Advisor) | 09/05 – 06/2006 |
| Chris Stevens MA 2005, CS Dept, Boston University <i>Title: Caching in Peer-to-Peer Systems</i> | (Main Advisor) | 01/04 – 06/2005 |
| Wang Tao MA 2004, CS Dept, Boston University <i>Title: Streaming Media Delivery in Overlaid Peer-to-Peer Systems</i> | (Main Advisor) | 06/03 – 06/2004 |
| Weichao Ma MA 2003, CS Dept, Boston University <i>Title: Exploiting Locality of Reference in Routing of P2P Queries</i> | (Main Advisor) | 09/01 – 05/2003 |

- Sumit Mehrotra** MA 2001, CS Dept, Boston University (Main Advisor) 01/99 – 06/2001
Title: DNS-based Internet Client Clustering and Characterization
- Stan Rost** MA 2001, CS Dept, Boston University (Main Advisor) 01/99 – 06/2001
Title: A Digital-Fountain-based Architecture for Massively Accessed Web Servers
- Enrique Duvois** MA 2001, CS Dept, Boston University (Main Advisor) 01/99 – 01/2001
Title: A Java-based framework for replicating dynamic content in a CDN
- Jaehey Yoon** MA 2001, CS Dept, Boston University (Main Advisor) 09/97 – 06/2001
Title: SomeCast: A Paradigm for Real-Time Adaptive Reliable Multicast
- Thomas Gschwendtner** MA 2000, CS Dept, Boston University (Main Advisor) 09/98 – 06/2000
Title: A Linux implementation of novel aggregate congestion control protocols
- Anna Karpovsky** MA 2001, CS Dept, Boston University (Main Advisor) 01/99 – 06/2001
Title: DNS-based Load Characterization for CDN
- Sonya Rikhtverchik** MA 1999, CS Dept, Boston University (Main Advisor) 01/98 – 06/1999
Title: Middleware Support for Real-Time Java Virtual Machines
- Simon Genzer** MA 1999, CS Dept, Boston University (Main Advisor) 01/98 – 06/1999
Title: Characterizing Web Document Clusters using Data Mining
- Jorge Londono** MA 1999, CS Dept, Boston University (Main Advisor) 01/98 – 06/1999
Title: Content-Aware Connection Redirection in the Commonwealth Architecture
- Tim Frangioso** MA 1999, CS Dept, Boston University (Main Advisor) 01/98 – 06/1999
Title: A Profiling System for eCommerce Solutions
- Meghna Patil** MA 1999, CS Dept, Boston University (Main Advisor) 01/98 – 06/1999
Title: Fault-tolerant Distributed Packet Rewriting for the Commonwealth Architecture
- Luis Aversa** MA 1998, CS Dept, Boston University (Main Advisor) 01/97 – 06/1998
Title: Performance Evaluation of DPR Load-Balancing Policies for Clustered Web Servers
- Naomi Katagai** MA 1998, CS Dept, Boston University (Main Advisor) 01/97 – 06/1998
Title: Admission Control Policies for High-Performance Web Servers
- Yukishiro Takahashi** MA 1998, CS Dept, Boston University (Main Advisor) 01/97 – 06/1998
Title: Bandwidth Allocation Policies on ATM Networks
- Alia Atlas** MA 1997, CS Dept, Boston University (Main Advisor) 09/95 – 12/1997
Title: Statistical QoS for variable, periodic RT tasks
- Guangdong Liao** MA 1997, CS Dept, Boston University (Main Advisor) 01/97 – 09/1997
Title: Design and Implementation of a Distributed Web Advising System
- Olivier Hartmann** MA 1997, CS Dept, Boston University (Main Advisor) 09/96 – 06/1997
Title: Design and evaluation of aggregate congestion control protocols for TCP/IP
- Felix Kozodoy** MA 1997, CS Dept, Boston University (Main Advisor) 09/96 – 06/1997
Title: Analysis of Prefetching based on Web user access patterns
- Andrew McGeachie** MA 1997, CS Dept, Boston University (Main Advisor) 01/96 – 12/1997
Title: Context-based Indexing of Web Images
- Chien-ting Lin** MA 1997, CS Dept, Boston University (Main Advisor) 09/96 – 01/1997
Title: Boston University Web-based Library Catalog
- Mariya Kishenyuk** MA 1996, CS Dept, Boston University (Main Advisor) 09/95 – 06/1996
Title: A Simulation Testbed for Broadcast Disks
- Agnes Lee** MA 1996, CS Dept, Boston University (Main Advisor) 09/95 – 06/1996
Title: Caching and Prefetching Algorithms for Broadcast Disks
- Kyung-Suk Lhee** MA 1995, CS Dept, Boston University (Main Advisor) 09/94 – 06/1995
Title: A Threaded Cleopatra Simulator
- Martin Mroz** MA 1995, CS Dept, Boston University (Main Advisor) 09/94 – 06/1995
Title: A Client-based Prefetching Implementation for the WWW
- Yueh-Lin Liu** MA 1995, CS Dept, Boston University (Main Advisor) 09/94 – 09/1995
Title: Simulation of Hardware Dynamic Scheduling for the DLX Architecture
- Ron Ryan** MA 1995, CS Dept, Boston University (Main Advisor) 09/94 – 09/1995
Title: A Graphical User Interface for the DLX Simulator
- Patrick Cai** MA 1995, CS Dept, Boston University (Main Advisor) 01/94 – 06/1995
Title: Object-Oriented Animation on the World Wide Web

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| Benjamin Mandler MA 1994, CS Dept, Boston University <i>Title: A Testbed for Simulating Concurrency Control for RTDB Systems</i> | (Main Advisor) | 09/93 – 09/1994 |
| Yevgeny Korsunsky MA 1994, CS Dept, Boston University <i>Title: Simulation of Cache Coherence for Bus-based Systems</i> | (Main Advisor) | 09/93 – 09/1994 |
| Dimitrios Spartiotis MA 1993, CS Dept, Boston University <i>Title: Probabilistic Job Scheduling for Distributed Real-time Applications</i> | (Main Advisor) | 09/92 – 09/1993 |
| Biao Wang MA 1993, CS Dept, Boston University <i>Title: Multi-version Speculative Concurrency Control for Real-Time Databases</i> | (Main Advisor) | 09/92 – 09/1993 |
| Mohammad Makar MA 1994, CS Dept, Boston University <i>Title: Design and Implementation of AIDA Network File System</i> | (Co-Advisor) | 09/93 – 08/1994 |
| Nicholas Roosevelt MA 1994, CS Dept, Boston University <i>Title: Implementation of Mermera on the CM-5</i> | (2 nd Reader) | 09/93 – 06/1994 |
| Natalya Fridman MA 1992, CS Dept, Boston University <i>Title: A Simulator for a Pipelined and Vector DLX Architecture</i> | (Main Advisor) | 09/91 – 08/1992 |

PUBLICATIONS

Books and Edited Collections

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- [2.B2] B. Benatallah, A. Bestavros, Y. Manolopoulos, A. Vakali, and Y. Zhang, editors. *Web Information Systems Engineering – Part I*. Springer, Lecture Notes in Computer Science, Vol. 8786 and 8787, 2014. ISBN: 978-3-319-11745-4 and 978-3-319-11749-2.
- [3.B3] Azer Bestavros and Assaf Kfoury, editors. *Practical and Lightweight Formal Methods for the Design, Modeling and Analysis of Software Systems (Special Issue of Mathematical Structures in Computer Science)*. Cambridge University Press, Oxford, UK, 2013. (250 pages) ISBN: N/A.
- [4.B4] Benyuan Liu, Azer Bestavros, Ding-Zhu Du, and Jie Wang, editors. *Wireless Algorithms, Systems, and Applications*. Lecture Notes in Computer Science, Springer, Germany, 2009. (594 pages) ISBN: 978-3-642-03416-9.
- [5.B5] Azer Bestavros and Michael Rabinovich, editors. *Web Caching and Content Delivery*. Elsevier, 2001. (330 pages).
- [6.B6] Azer Bestavros and Frank Mueller, editors. *Languages, Compilers, and Tools for Embedded Systems*. Lecture Notes in Computer Science, Springer, Amsterdam, 1998. (265 pages) ISBN: 978-3-540-65075-1.
- [7.B7] Azer Bestavros and Victor Wolfe, editors. *Real-Time Database and Information Systems Research: Research Advances*. Kluwer Academic Publishers, Norwell, Massachusetts, 1997. (446 pages).
- [8.B8] Azer Bestavros, Kwei-Jay Lin, and Sang Son, editors. *Real-Time Database Systems: Issues and Applications*. Kluwer Academic Publishers, Norwell, Massachusetts, 1996. (368 pages).
- [9.B9] Azer Bestavros, editor. *ACM SIGMOD Record: Special Issue on Real-Time Databases 25(1)*. ACM Press, March 1996.
- [10.B10] Azer Bestavros. *Time-constrained Reactive Automata: A Novel Development Methodology for Embedded Real-Time Systems*. PhD thesis, Harvard University, Division of Applied Sciences (Department of Computer Science), Cambridge, Massachusetts, September 1991.
- [11.B11] Azer Bestavros. Self Diagnosis in Distributed Fault Tolerant Computing Systems. Master's thesis, Alexandria University, School of Engineering, Department of Computer Science, Alexandria, Egypt, April 1987.

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- [12.C1] Azer Bestavros, Assaf Kfoury, and Andrei Lapets. Seamless composition and integration – A perspective on formal methods research. In A. Bestavros and A. Kfoury, editors, *Practical and Lightweight Formal Methods for the Design, Modeling and Analysis of Software Systems (Special Issue of Mathematical Structures in Computer Science)*, chapter Postlude. Cambridge University Press, 2013.
- [13.C2] Azer Bestavros and Michael Ocean. Virtualization And Programming Support For Video Sensor Networks With Application To Wireless And Physical Security. In B. Bhanu, C. Ravishankar, A. Roy-Chowdhury, D. Terzopoulos, and H. Aghajan, editors, *Distributed Video Sensor Networks*, chapter 12, pages 179–192. Springer, 2010.
- [14.C3] Christine Bassem and Azer Bestavros. CSR: Constrained Selfish Routing in Ad-Hoc Networks. In Benyuan Liu, Azer Bestavros, Ding-Zhu Du, and Jie Wang, editors, *Wireless Algorithms, Systems, and Applications*, chapter 19. Lecture Notes in Computer Science, Springer, 2009.
- [15.C4] Azer Bestavros and Michael Ocean. Programming and Virtualization of Distributed Multitasking Sensor Networks. In Insup Lee, Joseph Leung, and Sang Son, editors, *Handbook of Real-Time and Embedded Systems*, chapter 23. CRC Press, 2007.
- [16.C5] Shudong Jin and Azer Bestavros. Generating Internet Streaming Media Objects and Workloads. In Xueyan Tang, Jianliang Xu, and Samuel T. Chanson, editors, *Web Content Delivery*. Springer, 2005.
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- [22.C11] Azer Bestavros. An Adaptive Information Dispersal Algorithm for Time-critical Reliable Communication. In Ivan Frisch, Manu Malek, and Shivendra Panwar, editors, *Network Management and Control, Volume II*, chapter 6, pages 423–438. Plenum Publishing Corporation, New York, New York, 1994.
- [23.C12] Azer Bestavros. Speculative Algorithms For Concurrency Control in Responsive Databases. In Miroslaw Malek, editor, *Responsive Computer Systems: Steps toward fault-tolerant Real-Time systems*, chapter 8, pages 143–166. Kluwer Academic Publishers, Norwell, Massachusetts, 1994.

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- [24.J1] William Koch, Renato Mancuso, Richard West, and Azer Bestavros. Reinforcement learning for uav attitude control. *ACM Transactions on Cyber Physical Systems (TCPS)*, 3(2):22:1–22:21, February 2019.
- [25.J2] Esmail Asyabi, SeyedAlireza Sanaee Kohroudi, Mohsen Sharifi, and Azer Bestavros. TerrierTail: Mitigating Tail Latency of Cloud Virtual Machines. *IEEE Transactions on Parallel and Distributed Systems*, 29(10):2346–2359, Oct 2018.
- [26.J3] Christopher Liao, Yonatan Klausner, David Starobinski, Eran Simhon, and Azer Bestavros. A Case Study of a Shared/Buy-in Computing Ecosystem. *Cluster Computing*, 2018.

- [27.J4] Esmail Asyabi, Mohsen Sharifi, and Azer Bestavros. ppXen: A hypervisor CPU scheduler for mitigating performance variability in virtualized clouds. *Future Generation Computer Systems*, 83C:75–84, 2018.
- [28.J5] Vatche Ishakian, Raymond Sweha, and Azer Bestavros. AngelCast: Cloud-based Peer-Assisted Live Streaming Using Optimized Multi-Tree Construction. *Computer Communications Journal*, 2017.
- [29.J6] Christine Bassem and Azer Bestavros. Multi-Capacity Bin Packing with Dependent Items and its Application to the Packing of Brokered Workloads in Virtualized Environments. *Future Generation Computer Systems*, 2017.
- [30.J7] Azer Bestavros and Orran Krieger. Towards an open cloud marketplace: Vision and first steps. *IEEE Internet Computing: View from the Cloud*, January 2014.
- [31.J8] Nikolaos Laoutaris, Georgios Smaragdakis, Konstantinos Oikonomou, Ioannis Stavrakakis, and Azer Bestavros. Distributed Server Migration for Scalable Internet Service Deployment. *IEEE/ACM Transactions on Networking*, 22(3):917–930, June 2014.
- [32.J9] Pietro Michiardi, Damiano Carra, Francesco Albanese, and Azer Bestavros. Peer-assisted Content Distribution on a Budget. *The Computer Networks Journal (COMNET): The International Journal of Computer and Telecommunications Networking*, 56(7):2038–2048, May 2012.
- [33.J10] Jorge Londono, Azer Bestavros, and Nikolaos Laoutaris. Trade and Cap: A Customer-Managed, Market-Based System for Trading Bandwidth Allowances at a Shared Link. *The Computer Networks Journal (COMNET): The International Journal of Computer and Telecommunications Networking*, 55(2011):3959–3974, September 2011.
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- [37.J14] Khaled Harfoush, Azer Bestavros, and John Byers. Measuring Bottleneck Bandwidth of Targeted Path Segments. *IEEE/ACM Transactions on Networking*, 17(1):80–92, February 2009.
- [38.J15] Georgios Smaragdakis, Nikolaos Laoutaris, Azer Bestavros, Ibrahim Matta, and Ioannis Stavrakakis. Distributed Selfish Caching. *IEEE Transactions on Parallel and Distributed Systems*, 18(10):1361–1375, October 2007.
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- [40.J17] Mina Guirguis, Azer Bestavros, Ibrahim Matta, and Yuting Zhang. Adversarial Exploits of End-Systems Adaptation Dynamics. *Journal of Parallel and Distributed Computing*, 67(3):318–328, 2007.
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- [44.J21] Mina Guirguis, Azer Bestavros, and Ibrahim Matta. Exogenous-Loss Aware Traffic Management in Overlay Networks: Toward Global Fairness. *The Computer Networks Journal (COMNET): The International Journal of Computer and Telecommunications Networking*, 50(13):2331–2348, 2006.
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- [47.J24] Azer Bestavros, Adam Bradley, Assaf Kfoury, and Ibrahim Matta. Safe Compositional Specification of Networking Systems. *ACM SIGCOMM Computer Communication Review (CCR)*, 34(3), July 2004.
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- [59.J36] Azer Bestavros. World Wide Web Traffic Reduction and Load Balancing Through Server-Based Caching. *IEEE Concurrency: Special Issue on Parallel and Distributed Technology*, 5(1):56–67, Jan-Mar 1997. IEEE Press.
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- [62.J39] Azer Bestavros. The validation and implementation of real-time robotics systems using cleopatra object-oriented physically-correct specifications. *ACM SIGPLAN Object-Oriented Programming and Systems (OOPS) Messenger*, 7(1):36–43, January 1996.

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- [65.J42] Azer Bestavros. An Algorithm for Self-Diagnosis in Distributed Systems. *International Journal of Mini and Microcomputers*, 13(2):77–88, 1991. ACTA Press, Anaheim, Calgary, Zurich.

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- [66.P1] Nikolaj Volgushev, Malte Schwarzkopf, Ben Getchell, Andrei Lapets, Mayank Varia, and Azer Bestavros. Conclave: Secure multi-party computation on big data. In *Proceedings of Eurosys'19: The European Conference on Computer Systems*, 2019.
- [67.P2] Andrei Lapets, Frederick Jansen, Kinan Albab, Rawane Issa, Lucy Qin, Mayank Varia, and Azer Bestavros. Accessible privacy-preserving web-based data analysis for assessing and addressing economic inequalities. In *Proceedings of the 1st ACM SIGCAS Conference on Computing and Sustainable Societies, COMPASS '18*, pages 48:1–48:5, New York, NY, USA, 2018. ACM.
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- [71.P6] Azer Bestavros, Frederick Jansen, Andrei Lapets, Malte Schwarzkopf, Mayank Varia, and Nikolaj Volgushev. Design and Deployment of Usable, Scalable MPC. In *Proceedings of TPMPC'17: Theory and Practice of Multi-Party Computation Workshop*, Aarhus, Denmark, April 2017.
- [72.P7] Christine Bassem and Azer Bestavros. GuideMe: Routes coordination of participating agents in mobile crowd sensing platforms. In *Proceedings of 2017 IEEE International Conference on Big Data (Big Data)*, Boston, MA, December 2017.
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- [76.P11] Hoda Maleki, Mohammad Valizadeh, William Koch, Azer Bestavros, and Marten van Dijk. Markov Modeling of Moving Target Defense Games. In *Proceedings of MTD'16: The ACM CCS Workshop on Moving Target Defense*, Vienna, Austria, October 2016.
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- [312.T1] Azer Bestavros. The Open Cloud Exchange. Plenary Talk at the BBN GENI Winter Training Camp, January 2014.
- [313.T2] Azer Bestavros. Society and Technology: Internet Tussles. Guest Lecture in BU/CAS-SOC277: Technology, Society, and Public Policy, February 2013.
- [314.T3] Azer Bestavros. Modeling and Analysis of Web and Social Network Graphs. Guest Lecture in the BU ARTEMIS Program, August 2013.
- [315.T4] Azer Bestavros. Society and Technology: Internet Tussles. Guest Lecture in BU/CAS-SOC277: Technology, Society, and Public Policy, September 2013.

- [316.T5] Azer Bestavros. Big Data as a Driver of Cyber-Enabled Discovery and Innovation. BU Green House Workshop on Big Data, February 2013.
- [317.T6] Azer Bestavros. Modeling and Analysis of Web and Social Network Graphs. Guest Lecture in the BU ARTEMIS Program, August 2012.
- [318.T7] Azer Bestavros. Tussles in Cyberspace. Guest Lecture in BU/CAS-SOC277: Technology, Society, and Public Policy, February 2012.
- [319.T8] Azer Bestavros. Mobility Coordination for Improved Ad-Hoc Routing and Field Coverage. Plenary Talk at the INFORMS Northeastern Regional Conference, May 2011.
- [320.T9] Azer Bestavros. Graphs as Web and Social Network Models. Guest Lecture in the BU ARTEMIS Program, August 2011.
- [321.T10] Azer Bestavros. Tussles in Cyberspace. Guest Lecture in BU/CAS-SOC277: Technology, Society, and Public Policy, February 2010.
- [322.T11] Azer Bestavros. Cyber-Terrorism/Warfare – The Emergent Threat: Strategies for Survival. BU Discoveries Series Panel on Cyber Warfare, November 2009.
- [323.T12] Azer Bestavros. snBench: Virtualization and Programming Support for Video Sensor Networks. Plenary talk at the ONR/ARO/NSF Interdisciplinary Workshop on Distributed Video Sensor Networks, May 2009.
- [324.T13] Azer Bestavros. Programming Support for Embedded Sensor Networks. Plenary talk at the Workshop On High Confidence Medical Devices, Software, and Systems (HCMDSS) and Medical Device Plug-and-Play (MD PnP) Interoperability, July 2007.
- [325.T14] Azer Bestavros. Compositional Development and Verification of Distributed Embedded Systems. Plenary talk at the Workshop on Aviation Software Systems, June 2006.
- [326.T15] Azer Bestavros. Deconstructing the Current Models of CS publications. Plenary Talk at CRA 2006 Snowbird Conference, June 2006.
- [327.T16] Azer Bestavros. Caching Architectures for Scalable Streaming Media Delivery. Plenary Talk at ACM Workshop on Caching, Coherence, and Consistency, Columbia University, NY, June 2002.
- [328.T17] Azer Bestavros. Real-Time Database Technology and the Internet. Panelist at the 1997 International Workshop on Real-Time Databases, Burlington, Vermont, September 1997.
- [329.T18] Azer Bestavros. On the Platform for Privacy Preferences Standard. Panelist at the Inaugural Meeting of the World-Wide Web Consortium (W3C) Working Group on P3 Internet Architecture, MIT, Cambridge, MA, June 1997.
- [330.T19] Azer Bestavros and Stanley Sclaroff. Research Infrastructure for Parallel and Distributed Systems at Boston University: Real-Time, Multimedia, and High-Performance Networking and Computing. Invited presentation at NSF Infrastructure'97: A Workshop for the Principal Investigators of NSF/CISE Infrastructure Awards, Lexington, Kentucky, May 1997.
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