VITA
Mikhail (Mike) J. Atallah

GENERAL INFORMATION

Contact Information

Mail: Purdue University, Department of Computer Science,
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Personal Data

Married, two children
U.S. Citizen (naturalized in 1984)

Education and Academic Career

2004–	Distinguished Professor of Computer Science, Purdue Univ.
1989–04	Professor of Computer Science, Purdue Univ.
1986–89	Associate Professor of Computer Science, Purdue Univ.
1982–86	Assistant Professor of Computer Science, Purdue Univ.
1982	Ph.D. in Electr. Eng. and Comp. Sci., Johns Hopkins Univ., Advisor: S. Rao Kosaraju (completed in 4 semesters, GPA = 4.0)
1980	M.S. in Electr. Eng. and Comp. Sci., Johns Hopkins Univ. (completed in 2 semesters, GPA = 4.0)
1975	B.E. in Electrical Engineering, American University in Beirut (after which I worked in industry until I went to graduate school in 1979)

Entrepreneurship and Industry Experience

2007–9	Chief Technology Officer, Arxan Technologies Inc. Company was acquired in 2013 by private equity firm TA Associates: `https://www.crunchbase.com/acquisition/ta-associates-acquires-arxan-technologies--52d9`
2007–10	Chief Scientist, Arxan Defense Systems Inc. Company was acquired in 2010 by Microsemi Corporation: `https://www.crunchbase.com/acquisition/microsemi-corporation-acquires-arxan-defense-sy`

2001–13	Scientific Advisor, Arxan Technologies Inc.
2001	Co-Founder, Arxan Technologies Inc.
1988 (summer)	Visiting Scientist, NASA Ames Research Center
	(RIACS Institute, Center for Advanced Architectures)
1975–78	Engineer, Siemens (1975–76), Wang (1977–78)

Academic Administration

2007–10	Associate Head	Computer Science, Purdue Univ.
2001–17	Associate Director	CERIAS, Purdue Univ.
		(Center for Education and Research in Information Assurance and Security)
1994–96	Associate Head	Computer Science, Purdue Univ.

Research Interests

Security
Information hiding (esp. in natural language, databases, manufacturing)
Algorithms and data structures
Parallel computation
Computational geometry

PROFESSIONAL RECOGNITION

Awards, Honors

- Fellow of the ACM   (2006)

- Fellow of the IEEE   (1997)   Life Fellow of the IEEE (2018)

- Presidential Young Investigator Award   (1985)
  From then-President Ronald Reagan; awardee selections were made by
  the National Science Foundation (the PYI awards eventually morphed,
  in a much-expanded form, into the current CAREER awards)

- CCS Test of Time Award   (2015)
  This award was started in 2012 and given annually to particularly influential papers that appeared a decade earlier in CCS, see
  https://www.sigsac.org/ccs/CCS_awards/ccs-tta.html
  CCS is one of the "flagship" conferences in information security

- ACSAC Test of Time Award   (2021)
  Started in 2020 and given annually to particularly influential papers
  that appeared in the first 20 years of the conference, see
  www.acsac.org/2020/program/test_of_time/

- Arden L. Bement, Jr. Award   (2017)
  This is the most prestigious award Purdue University bestows in pure
  and applied science and engineering, and is awarded yearly:
  https://www.purdue.edu/research/awards/distinguished-research-awards/arden-l-bement-

- Purdue Outstanding Commercialization Award   (2013)
  This award is given annually to a faculty member in recognition of outstanding contributions to, and success with, commercializing discoveries from Purdue research

- Purdue Sigma Xi Faculty Research Award   (2016)
  This award is given annually to a faculty member by the Purdue Chapter of the Scientific Research Honor Society, Sigma Xi

- Distinguished Alumnus Award, Faculty of Engineering, American University in Beirut   (2007)

- Purdue College of Science Graduate Student Mentoring Award   (2015)

- Selected (in 1999) as one of the best teachers in the history of Purdue University and included in Purdue's Book of Great Teachers, a permanent wall display of 200 (in 1999) Purdue teachers past and present – see
  https://www.purdue.edu/cie/teachingawards/greatteachers.html

- Selected (in 2004) as Fellow of the Purdue Teaching Academy. Approximately 6% of Purdue faculty have the rank of Fellow in the Teaching Academy. For more details see
  https://www.purdue.edu/teachingacademy/Engage%20with%20Us/2022-TA-Procedures-for-Sel

- Selected as the Outstanding Teacher of the College of Science for 2004. Selected among the Top Ten Outstanding Teachers for the College of Science in 1994, 1995, 2006, 2007.

- Purdue ACM Outstanding CS Instructor Award   (4 times)

Talks Given in Distinguished Lecture Series at Universities

2023	Purdue Univ. (Hovde Distinguished Lecture Series)
2008	Univ. of Minnesota (Distinguished Lecture Series)
2006	Northwestern Univ. (Distinguished Lecture Series)
2006	Colorado State Univ. (ISTeC Distinguished Lecture Series)
2003	Iowa State Univ. (Distinguished Lecture Series)
2001	Ohio State Univ. (Distinguished Lecture Series)
2001	Northwestern Univ. (Distinguished Lecture Series)

1995   Univ. of Florida
(Barr Systems Distinguished Lecture Series)

1992   Johns Hopkins Univ.
(IBM Distinguished Lecture Series)

1988   Univ. of Virginia
(Distinguished Lecture Series)

Conference Talks Given as Keynote or Invited Speaker

2013   Workshop on Cloud Computing Security, Doha, Qatar
(Keynote Speaker)

2011   9th Annual Conference on Privacy, Security and Trust (PST '11), Montreal, Canada
(Keynote Speaker)

2011   KAUST Workshop on Hot trends in Computer Science, Saudi Arabia
(Invited Speaker)

2010   4th International Frontiers of Algorithmics Workshop (FAW '10), Wuhan, China
(One of three Invited Speakers)

2008   First International Workshop on Remote Entrusting (RE-TRUST '08), Trento, Italy
(Keynote Speaker)

2008   Workshop on Computer Privacy in Electronic Commerce, Montreal, Canada
(Invited Speaker)

2006   12th Annual International Computing and Combinatorics Conference (COCOON '06), Taipei, Taiwan
(Keynote Speaker)

2005   12th Annual IEEE/ACM International Conference on High Performance Computing (HiPC '05), Goa, India
(Keynote Speaker)

2005   Privacy Place Spring Workshop, Raleigh, NC
(Keynote Speaker)

2005   3rd Australasian Information Security Workshop (AISW '05), Newcastle, Australia
(Invited Speaker)

2005   10th Panhellenic Conference on Informatics (PCI '05), Volos, Greece
(Invited Speaker)

2004   2d International Conference on Advanced Technologies for Homeland Security, Storrs, CT
(Invited Speaker)

2002   National Cybercrime Conference, Chicago
(Invited Panelist)

2002   Indiana Venture Club, Indianapolis
(Keynote Speaker)

2002   Indiana Executive Forum, Indianapolis
(Invited Speaker)

2001	Workshop on Algorithms and Data Structures (WADS '01), Providence (One of three Plenary Speakers)
1996	7th Workshop on Parallel Algorithms, Philadelphia (Invited Speaker)
1996	7th International Symposium on Algorithms and Computation (ISAAC '96), Osaka, Japan (One of two Invited Speakers)
1996	Summer Institute on Computational Geometry, Academia Sinica, Taiwan (One of five Main Lecturers)
1996	IBM Tokyo Research Laboratory Workshop, Tokyo (One of six Invited Speakers)
1994	TIMS XXXII International Meeting, Anchorage (Invited Speaker)
1994	Algorithm Theory Day, Carleton Univ., Ottawa (Invited Speaker)
1994	7th Int. Conference on Parallel and Distributed Computing Systems, Las Vegas (Keynote Speaker)
1993	Workshop on Algorithms and Data Structures (WADS '93), Montreal (Invited Speaker)
1993	DIMACS Workshop on Parallel Algorithms: From Solving Combinatorial Problems to Solving Grand Challenge Problems, Piscataway, NJ (Invited Speaker)
1992	Leonardo Fibonacci Institute for Foundations of Computer Sci., Trento, Italy (One of three Main Lecturers)
1992	4th Symp. on the Frontiers of Massively Parallel Computation (FRONTIERS '02), McLean (Invited Panelist)
1991	2d Workshop on Parallel Algorithms, New Orleans (Invited Speaker)
1989	Workshop on Algorithms and Data Structures (WADS '89), Ottawa (Invited Speaker)
1987	IMA Workshop on Applications of Combinatorics and Graph Theory to VLSI, Minneapolis (Invited Speaker)
1987	Computational Geometry Day at Courant Institute / New York Univ. (Invited Speaker)

Journal Editorial Boards

- *IEEE Software* Guest co-Editor for Special Issue on Software Protection (2010–11)

- *Int. J. of Cyber Criminology* (2006–)

- *IEEE Trans. on Computers* (2003–07)

- *SIAM J. on Computing* (1988–98)

- *J. of Parallel and Distributed Computing* (1993–10)

- *Information Processing Letters* (1989–95)

- *Parallel Processing Letters* (1991–97)

- *Computational Geometry: Theory & Applications* (1990–2000)

- *Int. J. on Computational Geometry & Applications* (1990–2008)

- *Int. J. of Foundations of Computer Science* (1999–2006)

- *Methods of Logic in Computer Science* (1990–96)

- *Algorithmica* Guest Editor for a Special Issue on Computational Geometry (1990–91)

Journal Advisory Boards

- *Int. J. on Computational Geometry & Applications* (2008–2020)

Conference Committees

1. Member of Program Committee, *19th European Symposium on Research in Computer Security (ESORICS)* (2014, Wroclaw, Poland)

2. Member of Program Committee, *35th IEEE Symposium on Security and Privacy (S&P)* (2014, San Jose, California)

3. Co-Chair of Program Committee, *IEEE 22nd International Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems (MASCOTS)* (2014, Paris, France)

4. Member of Program Committee, *1st Workshop on LOng term Preservation for big Scientific data (LOPS)* (2014, Chicago, Illinois)

5. Member of Program Committee, *22nd ACM Conference on Computer and Communications Security (CCS)* (2013, Berlin, Germany)

6. Member of Program Committee, *17th European Symposium on Research in Computer Security (ESORICS)* (2012, Pisa, Italy)

7. Member of Program Committee, *16th International Conference on Financial Cryptography and Data Security* (2012, Bonaire, Netherlands Antilles)

8. Member of Program Committee, *30th ACM Symposium on Principles of Database Systems (PODS)* (2012, Tucson, Arizona)

9. Member of Program Committee, *16th European Symposium on Research in Computer Security (ESORICS)* (2011, Leuven, Belgium)

10. Member of Program Committee, *22nd Annual Symposium on Combinatorial Pattern Matching (CPM)* (2011, Palermo, Italy)

11. Member of Program Committee, *18th Annual Workshop on Selected Areas in Cryptography (SAC)* (2011, Toronto, Canada)

12. Member of Program Committee, *31st International Conference on Distributed Computing Systems (ICDCS)* (2011, Minneapolis, Minnesota)

13. Member of Program Committee, *10th ACM Workshop on Privacy in the Electronic Society (WPES)* (2011, Chicago, Illinois)

14. Member of Program Committee, *18th Annual IEEE/ACM International Conference on High Performance Computing (HiPC)* (2011, Bangalore, India)

15. Program Committee Co-Chair, *5th International Frontiers of Algorithmics Workshop (FAW)* (2011, Jinhua, China)

16. Member of Program Committee, *Web Intelligence for Information Security (WIISe)* (2011, Lyon, France)

17. Member of Program Committee, *13th International Conference on Information and Communication Security (ICICS)* (2011, Beijing, China)

18. Member of Program Committee, *36th International Conference on Very Large Databases (VLDB)* (2010, Singapore)

19. Member of Program Committee, *29th ACM Symposium on Principles of Database Systems (PODS)* (2010, Indianapolis, Indiana)

20. Member of Program Committee, *30th International Conference on Distributed Computing Systems (ICDCS)* (2010, Genoa, Italy)

21. Co-Chair of Program Committee, *10th Privacy Enhancing Technologies Symposium (PETS)* (2010, Berlin, Germany)

22. Member of Program Committee, *15th ACM Symposium on Access Control Models and Technologies (SACMAT)* (2010, Pittsburgh)

23. Member of Program Committee, *9th ACM Workshop on Privacy in the Electronic Society (WPES)* (2010, Chicago, Illinois)

24. Member of Program Committee, *17th Annual IEEE/ACM International Conference on High Performance Computing (HiPC)* (2010, Goa, India)

25. Member of Program Committee, *17th String Processing and Information Retrieval Symposium (SPIRE)* (2010, Los Cabos, Mexico)

26. Member of Program Committee, *16th Annual International Computing and Combinatorics Conference (COCOON)* (2010, Nha Trang, Vietnam)

27. Member of Program Committee, *12th International Conference on Information and Communications Security (ICICS)* (2010, Barcelona, Spain)

28. Member of Program Committee, *4th Annual International Conference on Combinatorial Optimization and Applications (COCOA)* (2010, Hawaii)

29. Member of Program Committee, *4th International Conference on Mathematical Methods, Models and Architectures for Computer Networks Security (MMMACNS)* (2010, St. Petersburg, Russia)

30. Member of Program Committee, *14th European Symposium on Research in Computer Security (ESORICS)* (2009, Saint Malo, France)

31. Co-Chair of Program Committee, *9th Privacy Enhancing Technologies Symposium (PETS)* (2009, Seattle, Washington)

32. Member of Program Committee, *29th International Conference on Distributed Computing Systems (ICDCS)* (2009, Montreal, Quebec)

33. Member of Program Committee, *4th ACM Symposium on Information, Computer and Communication Security (AsiaCCS)* (2009, Sydney, Australia)

34. Member of Program Committee, *16th Annual Workshop on Selected Areas in Cryptography (SAC)* (2009, Calgary, Canada)

35. Member of Program Committee, *14th ACM Symposium on Access Control Models and Technologies (SACMAT)* (2009, Stresa, Italy)

36. Member of Program Committee, *16th Annual IEEE/ACM International Conference on High Performance Computing (HiPC)* (2009, Cochin, India)

37. Member of Program Committee, *3d International Frontiers of Algorithmics Workshop (FAW)* (2009, Hefei, China)

38. Member of Program Committee, *15th Annual International Computing and Combinatorics Conference (COCOON)* (2009, Niagara Falls)

39. Member of Program Committee, *5th International Workshop on Security and Trust Management (STM)* (2009, Saint Malo, France)

40. Member of Program Committee, *2d International Workshop on Remote Entrusting (Re-Trust)* (2009, Riva del Garda, Italy)

41. Member of Program Committee, *11th International Conference on Information and Communications Security (ICICS)* (2009, Beijing, China)

42. Member of Program Committee, *7th Annual Conference on Privacy, Security and Trust (PST)* (2009, Saint John, New Brunswick, Canada)

43. Member of Program Committee, *15th ACM Conference on Computer and Communications Security (CCS)* (2008, Alexandria, Virginia)

44. Member of Program Committee, *8th Privacy Enhancing Technologies Symposium (PETS)* (2008, Leuven, Belgium)

45. Member of Program Committee, *13th ACM Symposium on Access Control Models and Technologies (SACMAT)* (2008, Estes Park, Colorado)

46. Member of Program Committee, *15th Symposium on String Processing and Information Retrieval (SPIRE)* (2008, Melbourne, Australia)

47. Member of Program Committee, *11th Annual Information Security Conference (ISC)* (2008, Taipei, Taiwan)

48. Member of Program Committee, *10th International Conference on Information and Communications Security (ICICS)* (2008, Birmingham, United Kingdom)

49. Member of Program Committee, *6th Annual Conference on Privacy, Security and Trust (PST)* (2008, Delta Fredericton Fredericton, New Brunswick, Canada)

50. Member of Program Committee, *2d International Frontiers of Algorithmics Workshop (FAW)* (2008, Changsha, China)

51. Member of Program Committee, *3d International Workshop on Dependability Aspects on Data Warehousing and Mining Applications (DAWAM)* (2008, Barcelona, Spain)

52. Member of Program Committee, *6th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA)* (2008, Doha, Qatar)

53. Member of Program Committee, *14th ACM Conference on Computer and Communications Security (CCS)* (2007, Alexandria, Virginia)

54. Member of Program Committee, *27th International Conference on Distributed Computing Systems (ICDCS)* (2007, Toronto, Canada)

55. Member of Program Committee, *7th ACM Digital Rights Management Workshop (ACM-DRM)* (2007, Alexandria, Virginia)

56. Member of Program Committee, *7th Privacy Enhancing Technologies Workshop (PET)* (2007, Ottawa, Canada)

57. Member of Program Committee, *10th Information Security Conference (ISC)* (2007, Valparaiso, Chile)

58. Member of Program Committee, *21st Annual International Parallel and Distributed Processing Symposium (IPDPS)* (2007, Long Beach, California)

59. Member of Program Committee, *10th Workshop on Algorithms and Data Structures (WADS)* (2007, Halifax, Canada)

60. Member of Program Committee, *9th International Conference on Information and Communications Security (ICICS)* (2007, ZhengZhou, China)

61. Member of Program Committee, *2d International Workshop on Dependability Aspects on Data WArehousing and Mining Applications (DAWAM)* (2007, Vienna, Austria)

62. Member of Program Committee, *25th ACM Symposium on Principles of Database Systems (PODS)* (2006, Chicago, Illinois)

63. Member of Program Committee, *5th ACM Workshop on Privacy in the Electronic Society (WPES)* (2006, Washington, DC)

64. Member of Program Committee, *6th Privacy Enhancing Technologies Workshop (PET)* (2006, Cambridge, U.K.)

65. Member of Program Committee, *11th ACM Symposium on Access Control Models and Technologies (SACMAT)* (2006, Lake tahoe, California)

66. Vice-Chair of Program Committee, *20th Annual International Parallel and Distributed Processing Symposium (IPDPS)* (2006, Rhodes, Greece)

67. Member of Program Committee, *17th Annual International Symposium on Algorithms and Computation (ISAAC)* (2006, Kolkata, India)

68. Member of Program Committee, *13th Annual IEEE/ACM International Conference on High Performance Computing (HiPC)* (2006, Bangalore, India)

69. Member of Program Committee, *8th International Conference on Information and Communications Security (ICICS)* (2006, Raleigh, NC)

70. Member of Program Committee, *1st ACM Workshop on Multimedia Content Protection and Security (MCPS)* (2006, Santa Barbara, CA)

71. Chair of Algorithms and Bioinformatics Track Program Committee, *4th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA)* (2006, Dubai, U.A.E.)

72. Member of Program Committee, *25th Foundations of Software Technology and Theoretical Computer Science (FSTTCS)* (2005, Hyderabad, India)

73. Member of Program Committee, *10th ACM Symposium on Access Control Models and Technologies (SACMAT)* (2005, Stockholm, Sweden)

74. Member of Program Committee, *14th International World Wide Web Conference (WWW)* (2005, Chiba, Japan)

75. Member of Program Committee, *3rd Australasian Information Security Workshop (AISW)* (2005, Newcastle, Australia)

76. Member of Program Committee, *3rd IEEE Conference on E-Commerce Technology (CEC)* (2005, Munich, Germany)

77. Member of Program Committee, *IEEE International Conference on Information Technology: Coding and Compression Track (ITCC)* (2005, Las Vegas, Nevada)

78. Member of Program Committee, *10th Panhellenic Conference on Informatics (PCI)* (2005, Volos, Greece)

79. Member of Program Committee, *4th ACM Workshop on Digital Rights Management (DRM)* (2004, Washington, DC)

80. Member of Program Committee, *9th ACM Symposium on Access Control Models and Technologies (SACMAT)* (2004, Yorktown Heights, New York)

81. Member of Program Committee, *2d IEEE Conference on E-Commerce Technology (CEC)* (2004, San Diego, California)

82. Member of Program Committee, *11th Annual IEEE/ACM International Conference on High Performance Computing (HiPC)* (2004, Bangalore, India)

83. Vice-Chair for Network Security, *International Conference on Parallel Processing (ICPP)* (2003, Kaohsiung, Taiwan)

84. Member of Program Committee, *10th Annual IEEE/ACM International Conference on High Performance Computing (HiPC)* (2003, Bangalore, India)

85. Member of Program Committee, *3rd IEEE/IPSJ Symposium on Applications and the Internet* (2003, Orlando, Florida)

86. Member of Program Committee, *8th Annual International Computing and Combinatorics Conference (COCOON)* (2002, Singapore)

87. Member of Program Committee, *Watermarking '2002* (2002, Paris, France)

88. Program Chair, *13th IEEE International Parallel Processing Symposium (IPPS)* (1999, San Juan, Puerto Rico)

89. Member of Program Committee, *12th Annual International Conference on Parallel and Distributed Computing and Systems (IPDCS)* (1999, Fort Lauderdale)

90. Vice-Chair of Program Committee, *5th Annual IEEE/ACM International Conference on High Performance Computing (HiPC)* (1998, India)

91. Member of Program Committee, *11th Annual IEEE International Parallel Processing Symposium (IPPS)* (1997, Geneva, Switzerland)

92. Member of Program Committee, *4th Annual International Workshop on Parallel Algorithms for Irregularly Structured Problems* (1997, Paderborn, Germany)

93. Member of Program Committee, *4th Annual IEEE/ACM International Conference on High Performance Computing (HiPC)* (1997, Bangalore, India)

94. Vice-Chair of Program Committee, *10th Annual IEEE International Parallel Processing Symposium (IPPS)* (1996, Hawaii)

95. Member of Program Committee, *8th Annual IEEE Symp. on Parallel and Distributed Processing (SPDP)* (1996, New Orleans)

96. Member of Program Committee, *3rd Annual IEEE/ACM International Conference on High Performance Computing (HiPC)* (1996, Trivandrum, India)

97. Member of Program Committee, *6th Annual ACM-SIAM Symp. on Discrete Algorithms (SODA)* (1995, San Francisco)

98. Member of Program Committee, *9th Annual IEEE International Parallel Processing Symposium (IPPS)* (1995, Santa Barbara)

99. Member of Program Committee, *6th Annual International Symposium on Algorithms and Computation (ISAAC)* (1995, Cairns, Australia)

100. Member of Program Committee, *2d Annual IEEE/ACM International Conference on High Performance Computing (HiPC)* (1995, Delhi, India)

101. Vice-Chair of Program Committee, *8th Annual IEEE International Parallel Processing Symposium (IPPS)* (1994, Cancun)

102. General Co-Chair, *7th Annual International Conference on Parallel and Distributed Computing and Systems (PDCS)* (1994, Las Vegas)

103. Member of Program Committee, *7th Annual IEEE International Parallel Processing Symposium (IPPS)* (1993, Newport Beach)

104. Member of Steering Committee, *5th Annual IEEE Symp. on Parallel and Distributed Processing (SPDP)* (1993, Dallas)

105. Co-Chair of Program Committee, *4th Annual IEEE Symp. on Parallel and Distributed Processing (SPDP)* (1992, Dallas)

106. Member of Program Committee, *2d Workshop on Algorithms and Data Structures (WADS)* (1991, Ottawa)

107. Member of Program Committee, *6th Annual ACM Symp. on Computational Geometry (SoCG)* (1990, Berkeley)

Other Editorial Activities

- *Handbook of Algorithms and Theory of Computation,* CRC Press (1st Edition: 1995–98; 2d Edition: 2006–).

- *Handbook of Parallel and Distributed Computing,* McGraw-Hill (1993–97).

- *Handbook of Computer Science and Engineering,* CRC Press (1994–97).

- *Computational Mathematics Series Editor* for Chapman & Hall / CRC (1999–2002).

PUBLICATIONS

Note on journal versions of conference papers: Conference papers marked by * have not appeared in journal version, and will not be submitted to journals unless the conference's page limitations constrained the presentation (journals will not publish papers that do not add substantially to a published conference version of a paper).

In Refereed Conferences

1. Extraction and Analysis of Spacial Correlation Micrograph Features for Traceability in Manufacturing (with Adam Dachowicz and Jitesh H. Panchal). *Proc. of ASME 2019 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference (IDETC/CIE 2019)*, Anaheim, California, August 18–21, 2019, 12 pages.

2. * Optical PUF Design for Anti-Counterfeiting in Manufacturing of Metallic Goods (with Adam Dachowicz and Jitesh H. Panchal). *Proc. of ASME 2018 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference (IDETC 2018)*, Quebec City, Quebec, Canada, August 26–29, 2018. 12 pages.

3. * Security and Privacy Risks in Electronic Communications: A User's Assessment (with Fariborz Farahmand, Joshua Ripple, and Robin L. Dillon-Merrill). *Proc. 2017 IEEE 8th Annual Ubiquitous Computing, Electronics and Mobile Communication Conference (UEMCON 2017)*, New York, October 2017, pp. 412–417. Won **Best Paper Award** in the track on "Big Data, Image Processing and Multimedia Technology" (best paper awards were given within tracks).

4. * Confidentiality Management in Collaborative Design (with Adam Dachowicz, Siva Chaitanya Chaduvula, and Jitesh H. Panchal). *Proc. of ASME 2016 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference (IDETC 2016)*, Charlotte, North Carolina, August 2016. 15 pages.

5. ErsatzPasswords: Ending Password Cracking and Detecting Password Leakage (with Mohammed H. Almeshekah, Chris Gutierrez, and Eugene H. Spafford). *Proc. 31st Annual Computer Security Applications Conference (ACSAC 15)*, Los Angeles, California, December 2015. Acceptance rate: 24% (47/193). Won **Outstanding Paper Award** from that conference.

6. * Enhancing Password Security using Deceptive Covert Communication (with Mohammed H. Almeshekah and Eugene H. Spafford). *Proc. 30th International Information Security and Privacy Conference*, Hamburg, Germany, May 2015, pp. 159–173.

7. Similarity Group-by Operators for Multi-dimensional Relational Data (with Ruby Y. Tahboub, Mingjie Tang, Walid G. Aref, Qutaibah M. Malluhi, Mourad Ouzzani, Yasin N. Silva). *Proc. 32d International Conference on Data Engineering (ICDE 2016)* Helsinki, Finland, May 2016, pp. 1448–1449.

8. Secure Collaborations in Engineering System Design (with Shumiao Wang, Siddharth Bhandari, Jitesh Panchal, and Karthik Ramani).

Proc. of ASME 2014 International Design and Engineering Technical Conference and Computers and Information in Engineering Conference (IDETC 2014), Buffalo, New York, August 2014. 13 pages.

9. * Back Channels Can Be Useful! – Layering Authentication Channels to Provide Covert Communication (with Mohammed H. Almeshekah and Eugene H. Spafford). *Proc. The 21st International Workshop in Security Protocols (SPW 2013)*, Cambridge, United Kingdom, March 2013.

10. * Secure and Private Outsourcing of Shape-Based Feature Extraction (with Shumiao Wang, Mohammed Nassar, and Qutaibah Malluhi) *Proc. 15th International Conference on Information and Communications Security (ICICS 13)*, Beijing, China, November 2013, pp. 90–99. Acceptance rate: 26% (29/113).

11. * Secure and Efficient Outsourcing of Sequence Comparisons (with Marina Blanton, Keith Frikken and Qutaibah Malluhi). *Proc. 17th European Symposium on Research in Computer Security (ESORICS 2012)*, Pisa, Italy, September 2012, pp. 505–522. Acceptance rate: 20% (50/148).

12. * Private Outsourcing of Matrix Multiplication over Closed Semi-Rings (with Keith Frikken and Shumiao Wang). *Proc. International Conference on Security and Cryptography (SECRYPT 2012)*, Rome, Italy, July 2012, pp. 136–144. Acceptance rate for full papers: 14% (22/160).

13. * Privacy-Preserving Business Process Outsourcing (with Mehdi Bentounsi and Salima Benbernou). *Proc. 19th IEEE International Conference on Web Services (ICWS 2012)*, Honolulu, Hawaii, June 2012, pp. 662-663.

14. * Anonyfrag: An Anonymization-Based Approach For Privacy-Preserving BPaaS (with Mehdi Bentounsi, Salima Benbernou, and Cheikh Deme). *Proc. 1st International Workshop on Cloud Intelligence (Cloud-I, a VLDB 2012 Workshop)*, Istanbul, Turkey, August 2012.

15. * Leakage-Free Redactable Signatures (with Elisa Bertino and Ashish Kundu). *Proc. ACM Conference on Data and Application Security and Privacy*, San Antonio, Texas, February 2012, pp. 307–316.

16. * Secure Authenticated Comparisons (with Keith Frikken and Hao Yuan). *Proc. 9th Conference on Applied Cryptography and Network Security (ACNS 11)*, Nerja, Spain, June 2011, pp. 514–531. Acceptance rate: 18% (31/172).

17. * Duress Detection for Authentication Attacks Against Multiple Administrators, (with Emil Stefanov), *Proc. 2010 ACM CCS Workshop on Insider Threats (WITS 10)*, Chicago, October 2010, pp. 37–46.

18. * Data Structures for Range Minimum Queries in Multidimensional Arrays (with Hao Yuan). *Proc. 21st ACM-SIAM Symp. on Discrete Algorithms (SODA 10)*, Austin, Texas, January 2010, pp. 150–160. Acceptance rate: 30% (136/445)

19. * Securely Outsourcing Linear Algebra Computations (with Keith Frikken). *Proc. of 5th ACM Symposium on Information, Computer and Communications Security (AsiaCCS 10)*, Beijing, China, April 2010, pp. 48–59.

20. * Identifying Interesting Instances for Probabilistic Skylines (with Yinian Qi). *Proc. 21st International Conference and Workshop on Database and Expert Systems Applications (DEXA 10)*, Bilbao, Spain, August 2010, pp. 300–314.

21. * Efficient and Secure Distribution of Massive Geo-Spatial Data (with Hao Yuan). *Proc. 17th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (GIS 2009)*, Seattle, Washington, November 2009, pp. 440–443.

22. * Robust Authentication Using Physically Unclonable Functions (with Marina V. Blanton and Keith B. Frikken). *Proc. 12th Information Security Conference (ISC 2009)*, Pisa, Italy, September 2009, pp. 262–277. Acceptance rate for full papers: 28% (29/105)

23. * Computing All Skyline Probabilities for Uncertain Data (with Yinian Qi). *Proc. 28th ACM SIGMOD-SIGACT-SIGART Symposium on Principles of Database Systems (PODS 09)*, Providence, Rhode Island, July 2009, pp. 279-287.

24. * Genuinity Signatures: Designing Signatures for Verifying 3D Object Genuinity (with Daniel Aliaga). *Proc. 30th Annual Conference of the European Association for Computer Graphics (Eurographics 09)*, Munich, Germany, pp. 437–446. Acceptance rate: 23% (56/243)

25. * Efficient Data Structures for Range-Aggregate Queries on Trees (with Hao Yuan). *Proc. of 12th International Conference on Database Theory (ICDT 09)*, Saint-Petersburg, Russia, pp. 111–120. Acceptance rate: 32% (25/77).

26. * Incentives and Perceptions of Information Security Risks (with Fariborz Farahmand and Benn Konsynski). *Proc. International Conference on Information Systems (ICIS 08)*, Paris, France, December 2008.

27. * Efficient Private Record Linkage (with Mohamed Yakout and Ahmed Elmagarmid). *Proc. 25th International Conference on Data Engineering (ICDE 09)*, Shanghai, China, April 2009, pp. 1283–1286.

28. * Private and Cheating-Free Outsourcing of Algebraic Computations (with David Benjamin). *Proc. of 6th Annual Conference on Privacy, Security and Trust (PST 08)*, Fredericton, New Brunswick, Canada, October 2008, pp. 240–245. Acceptance rate: 28% (25/71).

29. * Binding Software to Specific Native Hardware in a VM Environment: The PUF Challenge and Opportunity, (with Eric D. Bryant, John T. Korb, and John R. Rice). *Proc. of 1st Workshop on Virtual Machine Security (VMSec 08)*, Fairfax, Virginia, October 2008, pp. 45–48. Acceptance rate: 35% (7/20).

30. * Efficient Privacy-Preserving k-Nearest Neighbor Search (with Yinian Qi). *Proc. of 28th International Conference on Distributed Computing Systems (ICDCS 08)*, Beijing, China, June 2008, pp. 311–319. Acceptance rate: 16% (102/638).

31. * Efficient Distributed Third-Party Data Authentication for Tree Hierarchies (with Hao Yuan). *Proc. of 28th International Conference on Distributed Computing Systems (ICDCS 08)*, Beijing, China, June 2008, pp. 184–193. Acceptance rate: 16% (102/638).

32. * Private Combinatorial Group Testing (with Keith B. Frikken, Marina V. Blanton and YounSun Cho). *Proc. of 3d ACM Symposium on Information, Computer and Communications Security (AsiaCCS 08)*, Tokyo, March 2008, pp. 312–320. Acceptance rate: 18% (32/182 for regular papers).

33. * Efficient Data Authentication in an Environment of Untrusted Third-Party Distributors (with YounSun Cho and Ashish Kundu). *Proc. 24th International Conference on Data Engineering (ICDE 08)*, Cancun, Mexico, April 2008, pp. 696–704.

34. * Private Discovery of Shared Interests (with YounSun Cho). *Proc. 9th International Conference on Information and Communications Security (ICICS 07)*, Zhengzhou, China, December 2007.

35. * Incorporating Temporal Capabilities in Existing Key Management Schemes (with Marina V. Blanton and Keith B. Frikken). *Proc. 12th European Symposium on Research in Computer Security (ESORICS 07)*, Dresden, Germany, September 2007, pp. 515–530.

36. * Discrepancy-Sensitive Dynamic Fractional Cascading, Dominated Maxima Searching, and 2-d Nearest Neighbors in Any Minkowski Metric (with Marina V. Blanton, Michael T. Goodrich, and Stanislas Polu).

Proc. 2007 Workshop on Algorithms and Data Structures (WADS 07), Halifax, Nova Scotia, August 2007, pp. 114–126. Acceptance rate: 26% (40/150).

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38. * Efficient Techniques for Realizing Geo-Spatial Access Control (with Marina V. Blanton and Keith B. Frikken). *Proc. of 2d ACM Symposium on Information, Computer and Communications Security (AsiaCCS 07)*, Singapore, March 2007, pp. 82–92. Accceptance rate: 18%.

39. * Passwords Decay, Words Endure: Secure and Re-usable Multiple Password Mnemonics (with Mercan Topkara and Umut Topkara). *Proc. 22d Annual ACM Symposium on Applied Computing (SAC 07)*, Seoul, Korea, March 2007, pp. 292–299.

40. * Information Hiding through Errors: A Confusing Approach (with Mercan Topkara and Umut Topkara). *Proc. SPIE International Conference on Security, Steganography, and Watermarking of Multimedia Contents*, 2007, San Jose, CA, 12 pages.

41. * Secure and Private Collaborative Linear Programming (with Jiangtao Li). *Proc. 2nd International Conference on Collaborative Computing: Networking, Applications and Worksharing (CollaborateCom 06)*, Atlanta, Georgia, November 2006, pp. 1–8.

42. Point-Based Trust: Define How Much Privacy Is Worth (with Danfeng Yao, Keith Frikken, and Roberto Tamassia). *Proc. 8th International Conference on Information and Communications Security (ICICS 06)*, Raleigh, North Carolina, December 2006, pp. 190–209. [Best Student Paper Award]

43. * Words Are Not Enough: Sentence Level Natural Language Watermarking (with Mercan Topkara and Umut Topkara). *Proc. 1st ACM Workshop on Multimedia Content Protection and Security (MCPS 06)*, Santa Barbara, California, October 2006, pp. 37–46.

44. * The Hiding Virtues of Ambiguity: Quantifiably Resilient Watermarking of Natural Language Text through Synonym Substitutions (with Mercan Topkara and Umut Topkara). *Proc. ACM Multimedia and Security Workshop (MMSEC 06)*, Geneva, Switzerland, September 2006, pp. 164–174.

45. An Empirical Study of Automatic Event Reconstruction Systems (with Sundararaman Jeyaraman). *Proc. 6th Annual Digital Forensics Research Workshop (DFRWS 06)*, Lafayette, Indiana, August 2006.

46. * Key Management for Non-Tree Access Hierarchies (with Marina V. Blanton and Keith B. Frikken). *Proc. 11th ACM Symposium on Access Control Models and Technologies (SACMAT 06)*, Lake Tahoe, California, June 2006, pp. 11–18. Acceptance rate: 30% (25/82).

47. * Efficient Correlated Action Selection (with Marina V. Blanton, Keith B. Frikken, and Jiangtao Li). *Proc. 10th Financial Cryptography and Data Security Conference (FC 06)*, Anguilla, British West Indies, February 2006, pp. 296–310. Acceptance rate: 30% (19/64 for regular papers).

48. * Lost in Just the Translation (with Christian Grothoff, Krista Grothoff, and Ryan Stutsman). *Proc. 21st Annual ACM Symposium on Applied Computing (SAC 06)*, Dijon, France, April 2006, pp. 338–345. Acceptance rate: 32% (300/927).

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52. * ViWiD: Visible Watermarking-Based Defense Against Phishing (with Mercan Topkara, Ashish Kamra, and Cristina Nita-Rotaru). *Proc. of the Workshop on Digital Watermarking (IWDW 05)*, Lecture Notes in Computer Sciences, Springer Verlag, Siena, Italy, September 2005, pp. 470–482..

53. * Indexing Information for Data Forensics (with Michael T. Goodrich and Roberto Tamassia). *Proc. 3rd Conference on Applied Cryptography and Network Security (ACNS 05)*, New York, June 2005, pp. 206–221. Acceptance rate: 22% (35/156).

54. Translation-Based Steganography (with Christian Grothoff, Krista Grothoff, Ludmila Alkhutova, and Ryan Stutsman). *Proc. 7th International Information Hiding Workshop (IHW 05)*, Barcelona, Spain, June 2005, pp. 219–233.

55. * Provable Bounds for Portable and Flexible Privacy-Preserving Access Rights (with Marina V. Blanton). *Proc. 10th ACM Symposium on Access Control Models and Technologies (SACMAT 05)*, Stockholm, Sweden, June 2005, pp. 95–101. Acceptance rate: 21% (19/90).

56. * Privacy-Preserving Credit Checking (with Keith Frikken and Chen Zhang). *Proc. 6th ACM Conference on Electronic Commerce (EC 05)*, Vancouver, Canada, June 2005, pp. 147–154. Acceptance rate: 29% (33/113).

57. * Secure Collaborative Planning, Forecasting, and Replenishment (SCPFR) (with Marina Blanton, Vinayak Deshpande, Keith Frikken, Jiangtao Li, and Leroy Schwarz). *Multi-Echelon / Public Applications of Supply Chain Management Conference*, Atlanta, June 2006.

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59. * Secure Biometric Authentication for Weak Computational Devices (with Keith B. Frikken, Michael T. Goodrich, and Roberto Tamassia). *Proc. 9th International Conference on Financial Cryptography and Data Security (FC 05)*, Lecture Notes in Computer Sciences, Springer Verlag (LNCS 3570), Roseau, Dominica, February 2005, pp. 357–370. Acceptance rate: 24% (22/92).

60. * Achieving Fairness in Private Contract Negotiation (with Keith B. Frikken). *Proc. 9th International Conference on Financial Cryptography and Data Security (FC 05)*, Lecture Notes in Computer Sciences, Springer Verlag (LNCS 3570), Roseau, Dominica, February 2005, pp. 270-284. Acceptance rate: 24% (22/92).

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64. * Private Collaborative Forecasting and Benchmarking (with Marina Bykova, Jiangtao Li, Keith B. Frikken, and Mercan Karahan). *Proc. 3rd ACM Workshop on Privacy in the Electronic Society (WPES 04)*, Washington, DC, October 2004, pp. 103–114. Acceptance rate: 22% (10/45 for regular papers).

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66. * Hidden Access Control Policies with Hidden Credentials (with Keith B. Frikken and Jiangtao Li). *Proc. 3rd. ACM Workshop on Privacy in the Electronic Society (WPES 04)* (short paper), Washington, DC, October 2004, pp. 27–28. Acceptance rate: 45% (21/45 for short papers).

67. * A Hierarchical Protocol for Increasing the Stealthiness of Steganographic Methods (with Mercan Karahan, Umut Topkara, Cuneyt Taskiran, Eugene T. Lin, and Edward J. Delp). *Proc. ACM Multimedia and Security Workshop (MMSEC 04)*, Magdeburg, Germany, September 2004, pp. 16–24.

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69. * Privacy-Preserving Location-Dependent Query Processing (with Keith B. Frikken). *Proc. IEEE International Conference on Pervasive Services (ICPS 04)*, July 2004, pp. 9–17.

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74. * Private Fingerprint Verification without Local Storage (with Florian Kerschbaum, David Mraihi, and John R. Rice). *Proc. International Conference on Biometric Authentication (ICBA 04)* (short paper), Hong Kong, July 2004, pp. 387–394.

75. * Attacking Digital Watermarks (with Radu Sion). *Proc. Symposium on Electronic Imaging (SPIE 04)*, San Jose, California, January 2004, Vol. 5306, pp. 848–858.

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81. * Enhanced Smart-card Based License Management (with Jiangtao Li). *Proc. 2003 IEEE Conference on Electronic Commerce (CEC 03)*, Newport Beach, California, June 2003, pp. 111–119.

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285. A Survey of Watermarking Techniques for Non-Media Digital Objects (abstract of keynote talk). *Proc. Australasian Information Security Workshop (AISW 05)*, Newcastle, Australia, January 2005, p. 73.

286. Extreme Events Involving Computer Systems and Networks, *Report of the Workshop on Extreme Events*, National Center for Atmospheric Research, Boulder, Colorado, 2000, pp. 27–28.

287. Program Chair's Message. *Proc. Second Merged IPPS/SPDP Symposium*, San Juan, Puerto Rico, 1999, p. xvii.

288. Section Advisor's Introduction. *Handbook of Computer Science and Engineering*, CRC Press, 1997, pp. 29–31.

289. Issues on the Algorithm-Software Continuum (position statement as panel member). *Proc. 4th Symposium on the Frontiers of Massively Parallel Computation*, McLean, Virginia, 1992, p. 212.

290. Editor's Foreword. *Algorithmica* Special Issue on Computational Geometry, **8** (1992), pp. 343–344.

291. La Multiplication en Parallele des Matrices Concaves et ses Applications, *Actes des Journees du Laboratoire d'Informatique de Paris-Nord*, Villetaneuse, France, 1989, pp. 179–198.

Patents Issued

292. US Patent 11,552,783, issued on January 10, 2023; titled: Computing without Revealing: Order Statistics (with Siva C. Chaduvula, Adam Dachowicz, Jitesh H. Panchal, Mohammad S. Rahman)

293. US Patent 11,239,998, issued on February 15, 2022; titled: System Architecture and Method of Processing Data Therein (with Siva C. Chaduvula, Adam Dachowicz, Jitesh H. Panchal, Mohammad S. Rahman)

294. U.S. Patent 7,870,399, issued on January 11, 2011; titled: Software trusted platform module and application security wrapper (with Eric D. Bryant, Avni Harilal Rambhia, and John R. Rice)

295. U.S. Patent 7,853,018, issued on December 14, 2010; titled: Method and Apparatus for Hiding a Private Key (with Eric D. Bryant)

296. U.S. Patent 7,757,097 B2, issued on July 13, 2010; titled: Method and system for tamperproofing software (with Hoi Chang)

297. U.S. Patent 7,539,872, issued on May 26, 2009; titled: Method and System for Rights Assessment over Digital Data through Watermarking (with Radu Sion and Sunil Prabhakar)

298. U.S. Patent 7,287,166, issued on October 23, 2007; titled: Guards for Application in Software Tamperproofing (with Hoi Chang and John R. Rice)

299. U.S. Patent 2007/0244693 A1, issued on October 18, 2007; titled: Natural Language Watermarking (with Srinivas Bangalore, Dilek Z. Hakkani-Tur, Giuseppe Riccardi, Mercan Topkara, Umut Topkara)

300. U.S. Patent 6,941,463, issued on September 9, 2005; titled: Secure Computational Outsourcing Techniques (with John R. Rice, Eugene H. Spafford, and Kostas N. Pantazopoulos)

301. U.S. Patent 6,957,341, issued on October 18, 2005; titled: Method and System for Secure Computational Outsourcing and Disguise (with John R. Rice)

RESEARCH CONTRACTS AND GRANTS RECEIVED

2023–24 $75,644 Acquisition Innovation Research Center
Dept. of Defense Grant AIRC WRT-1081.07.7
Title: Standards for Models: Mission-Aware Integrated Digital Transformation fo
Operational Advantage
(the above amount is Atallah's share of budget – project has
many other co-PIs, involves multiple universities)

2022–23 $61,468 Acquisition Innovation Research Center
Dept. of Defense Grant AIRC WRT-1057.18d
Title: Mission-Aware Integrated Digital Transformation for
Operational Advantage
(the above amount is Atallah's share of budget – project has
many other co-PIs, involves multiple universities)

2017–18 $120,000 Naval Postgraduate School, Grant NPS-FOA-16-001
Title: Computing without Revealing: A Cryptographic Approach to
eProcurement
(with J. Panchal)

2016–18 $154,327 Qatar National Research Fund, Grant NPRP X-063-1-014
Title: The Garbled Computer: Towards Computing without Seeing
(the above amount is Atallah's share of budget – project has many other
co-PIs, involves multiple universities)

2013–18 $1,000,000 National Science Foundation, Grant CPS-1329979
Title: Foundations of Cyber-Physical Infrastructure for Creative Design and
Making of Cyber-physical Products
(with J. Panchal and K. Ramani)

2010–15 $25,000,000 National Science Foundation, STC Grant
Title: Emerging Frontiers of Science of Information
(with W. Szpankowski as PI, and many other co-PIs)

2010–14 $350,124 Qatar National Research Fund, Grant NPRP 096221090
Title: Trusted Computation-intensive Services in Cloud
Computing Environments
(the above amount is Atallah's share of budget – another $700,000 is budgeted
for Qatar University partners Q. Malluhi and K. Khan)

2009–12 $499,883 National Science Foundation, Grant CNS-0913875
Title: A Computational Framework for Marking Physical Objects against
Counterfeiting and Tampering
(with Daniel Aliaga)

2009–12 $267,816 National Science Foundation, Grant CNS-0915436
Title: Privacy Constrained Searching
(with Keith B. Frikken)

2009–12 $377,000 Air Force Office of Scientific Research, Contract FA9550-09-1-0223
Title: Techniques for Secure and Reliable Computational Outsourcing
(with Marina V. Blanton)

2006–09 $400,000   National Science Foundation, CyberTrust Grant CNS-0627488
Title: Improving the Privacy and Security of Online Survey Data Collection,
Storage, and Processing
(with J. Mills)

2003–07 $800,000   National Science Foundation, ITR Grant 0325345-IIS
Title: Secure Supply-Chain Protocols
(with V. Deshpande and L. Schwarz)

2003–06 $276,274   National Science Foundation, ITR Grant 0312357-IIS
Title: Distributed Data Mining to Protect Information Privacy
(with C. Clifton)

2003–05 $150,000   National Science Foundation, ITR Grant 0242421-IIS
Title: Watermarking Relational Databases
(with S. Prabhakar)

2002–05 $273,791   Office of Naval Research, Contract N00014-02-1-0364
Title: General Paradigms for Watermarking and Tamperproofing
Multi-Type/Media Documents

2004– $20,000   Motorola
Title: Secure Supply-Chain Collaborations
(with V. Deshpande and L. Schwarz)

2002–03 $29,500   Discovery Park e-Enterprise Center
Title: Secure Supply-Chain Collaboration
(with L. Schwarz and V. Deshpande)

2002–05 $55,423   National Science Foundation, Grant 0219560-IIS
Title: Private Prediction Using Selective Models

2001–02 $100,000   Trask Trust Fund
Title: Software Tamperproofing
(with J.T. Korb and J.R. Rice)

2001–02 $40,118   Lilly Endowment Inc.
Title: Watermarking Semi-Structured Content: XML and DBMS
(with S.K. Prabhakar)

2001–02 $36,688   Lilly Endowment Inc.
Title: Natural Language Watermarking: Watermarking Text-Meaning
Representation Trees
(with V. Raskin)

2001–02 $119,860   Hewlett Packard
Title: Curriculum in Mobile Communications Projects
(with J.O. Allebach–PI, C.A. Bouman, G.T.C. Chiu, E.J. Coyle,
E.J. Delp, L. Jamieson, J. Krogmeier, C. Rosenberg)

2000–01 $25,623   Lilly Endowment Inc.
Title: Protocols for Secure Remote Database Access

2000–01	$21,113	Lilly Endowment Inc. Title: Randomness in Computer Security (with S.S. Wagstaff)
2000–01	$24,507	Lilly Endowment Inc. Title: Natural Language Watermarking: Enhancing Resilience and Implementation (with V. Raskin)
2000–01	$36,702	Lilly Endowment Inc. Title: Privacy-Enhancing Audit and Intrusion Detection (with S.K. Prabhakar)
1999–00	$21,685	Lilly Endowment Inc. Title: A New Approach for Tamperproofing Software
1999–00	$36,685	Lilly Endowment Inc. Title: Watermarking and Quadratic Residues (with S.S. Wagstaff)
1999–00	$39,000	Lilly Endowment Inc. Title: Database Support for Information Security (with S.K. Prabhakar)
1999–00	$36,685	Lilly Endowment Inc. Title: Natural Language Processing Techniques for Information Security (with V. Raskin)
1999–03	$360,844	National Science Foundation, Grant EIA-9903545 Title: Audit Trails: Content, Storage and Processing (with E.H. Spafford)
1999–02	$5,000	National Science Foundation, REU supplement to Grant 9903545-EIA Title: Audit Trails: Content, Storage and Processing (with E.H. Spafford)
1997	$5,000	Microsoft
1996–99	$799,348	DARPA, Contract F30602-96-1-0334 Title: Software Tools for Enhanced Computer Security (with E.H. Spafford–PI, S.S. Wagstaff, A.L. Hosking, and C.E. Brodley)
1996–98	$111,222	National Security Agency, Contract MDA904-96-1-0116 Title: Pattern Matching Techniques for Computer Misuse and Anomaly Detection (with E.H. Spafford)
1996–98	$40,598	Office for Research and Development, Contract 96-F152200-000 Title: Audit Data Reduction and Misuse Detection: A Pattern Matching Approach (with E.H. Spafford)

1995–96	$150,000	IBM Title: Project Purdue On-Line (with A. K. Elmagarmid, A. Joshi, E. N. Houstis, S. Weerawarana A. P. Mathur, J. R. Rice)
1992–96	$212,457	National Science Foundation, Grant 9202807-CCR Title: Parallel Algorithms for Geometric Problems
1990–93	$256,216	Air Force Office of Scientific Research, Contract AFOSR-90-0107 Title: Efficient Algorithmic Techniques for Combinatorial Problems (with A. Apostolico, W. Szpankowski)
1989–92	$373,000	National Library of Medicine, Grant R01-LM05118 Title: Algorithms for Macromolecular Structure Analysis (with A. Apostolico, P.T. Gilham, W. Szpankowski, H.L. Weith)
1988–92	$320,000	Office of Naval Research, Contract N00014-84-K-0502 Title: Parallel Algorithms: Design, Analysis, and Implementation (with Susanne E. Hambrusch)
1986–88	$67,763	National Science Foundation, Grant DCR-8602385 Title: High-Level Systems for Scientific Computing (with W.R. Dyksen)
1986–88	$144,583	Office of Naval Research, Grant N00014-84-K-0502 Title: Parallel Algorithms: Design, Analysis, and Implementation (with Susanne E. Hambrusch)
1986–88	$14,700	Purdue Research Foundation XR Grant
1986–87	$60,000	Sperry Title: Parallel Processing of Database Operations (with B. Bhargava)
1986	$25,000	SUN Microsystems
1986–87	$117,084	National Science Foundation, Grant DCR-8612590 Title: A Laboratory for Electronic Prototyping (with C. Bajaj and C. M. Hoffmann)
1986–91	$4,246,350	Office of Naval Research, URI N00014-86-K-0689 Title: Computational Combinatorics (with T. Morin, S. Abhyankar, V. Chandru, C. Coullard, G. N. Frederickson, S. E. Hambrusch, R. Rardin, D. Wagner, R. Wong)
1985	$65,970	Tektronics
1985–90	$312,500	National Science Foundation, Grant DCR-8451393 Title: Presidential Young Investigator
1985–90	$187,500	AT&T Information Systems Title: Design and Analysis of Algorithms (matching funds for the above NSF PYI grant)

1985–86	$60,000	Sperry Title: Parallel Processing of Database Operations (with B. Bhargava)
1984	$3,500	Purdue Research Foundation XL Grant (I declined to accept the award because the above Sperry grant funded the project)
1984–86	$100,573	Office of Naval Research, Grant N00014-84-K-0502 Title: Parallel Algorithms and VLSI Computation (with Susanne E. Hambrusch)
1984–85	$45,000	Sperry Title: Parallel Computation (with D.B. Gannon)

OTHER PROFESSIONAL SERVICE / RECOGNITION

Panels, Proposal Reviews

- Served on External Review Committee for the Department of Computer Science and Engineering of the American University in Beirut (2013)

- Served on National Academies Panel on Digitization and Communications Science (2007–8)

- Served on External Review Committee for SUNY Buffalo's Department of Computer Science and Engineering (2008)

- Served on NSF Committee of Visitors for the oversight of the programs in the CISE Division of Computer and Computation Research (1993)

- Served on many NSF panels – both for proposal reviews and for direction-setting workshops

- Served New York State's Education Dept. in a 3-member Site Visit Committee to SUNY Buffalo, in the framework of the State's Statewide Doctoral Program Review (1990).

- Served as Consultant to the Ohio Board of Regents Investment Fund (1995)

- Served on a Canadian NSERC Expert Committee for a Site Visit to University of Ottawa (1996)

- Reviewed research proposals for

  - American Mathematical Society
  - Army Research Office

- National Science Foundation
- Natural Sciences and Engineering Research Council of Canada
- National Security Agency Mathematical Sciences Program
- Swedish Research Council for Engineering Sciences
- Ohio Board of Regents
- Idaho Board of Education

Other Invited Talks

[Does not include those listed earlier under "Distinguished Lecture Series at Universities" or under "Conference Talks Given as Keynote or Invited Speaker"]

2021	Notre Dame Univ.
2015	Goldman Sachs
2013	Qatar University
2012	Univ. of Paris 5
2011	Tech. Univ. Munich
2011	Rome Laboratory
2011	King Abdullah Univ. of Science and Technology
2011	Qatar University
2009	Shandong Univ.
2009	Rose-Hulman Inst. of Tech.
2009	American Univ. of Beirut
2008	Northrop Grumman Corp.
2008	Univ. of Montreal
2008	Syracuse Univ.
2007	Lockheed Martin Corp.
2006	SUNY at Buffalo
2006	American Univ. of Beirut
2006	Notre Dame Univ., Lebanon
2006	Univ. of Sharjah, UAE
2006	IUPUI
2005	Ecole Polytechnique, France
2004	Univ. of Illinois at Urbana-Champaign
2003	Univ. of Arizona
2001	Univ. of Illinois at Urbana-Champaign
2001	Univ. of Notre Dame
2001	Johns Hopkins Univ.
2001	Univ. of New Mexico
2000	Case Western Reserve Univ.
2000	Johns Hopkins Univ.
2000	Univ. of Maryland at College Park
2000	Computer Security Institute

1999   American Univ. of Beirut
1999   Computer Security Institute
1998   Schlumberger
1998   DARPA
1998   NSA
1998   MITRE
1996   Institut National de Recherche en Informatique et en Automatique (INRIA), France
1993   Georgia Inst. of Technology
1993   National Chung Cheng Univ., Taiwan
1992   Institut National de Recherche en Informatique et en Automatique (INRIA), France
1992   Univ. of North Texas
1991   Univ. of Maryland at College Park
1990   Univ. of Paris 7 Advanced School on Combinatorial Pattern Matching
1989   Univ. of Paris 13
1988   Northwestern Univ.
1988   SUNY at Stony Brook
1988   Rensselaer Polytechnic Institute
1988   Univ. of Pittsburgh
1988   Univ. of California at Davis
1988   Kestrel Institute
1988   RIACS Institute, NASA Ames Research Center
1988   Univ. of Tennessee
1988   Johns Hopkins Univ.
1988   SUNY at Buffalo
1988   AT&T Bell Laboratories
1986   Univ. of Maryland at College Park
1986   Washington Univ. in St. Louis
1984   Johns Hopkins Univ.
1982   AT&T Bell Laboratories
1982   Columbia Univ.
1982   Ohio State Univ.
1982   Purdue Univ.
1982   Rensselaer Polytechnic Institute

Refereeing for Journals and Conferences

ACM Trans. on Computer Systems
ACM Symp. on Computational Geometry
ACM-SIAM Symp. on Discrete Algorithms
Acta Informatica
Advances in Computing Research
Advances in Engineering Software
Algorithmica
Combinatorica
Computational Geometry: Theory & Applications
Discrete and Computational Geometry

IEEE Computer
IEEE Security and Privacy
IEEE Trans. on Biomedical Engineering
IEEE Trans. on Circuits and Systems
IEEE Trans. on Computers
IEEE Trans. on Pattern Analysis and Machine Intelligence
IEEE Trans. on Software Engineering
IEEE Trans. on Software Engineering and Methodology
IEEE Distributed Computing Systems Conf.
IEEE Int. Parallel Processing Symp.
IEEE Symp. on Parallel and Distributed Processing
Info. Processing Letters
Int. Colloq. on Automata, Languages, and Programming
Int. Conf. on Computing and Information
Int. Conf. on Distributed Computing Systems
Int. Conf. on Parallel Processing
Int. Conf. on Supercomputing
Int. J. on Computational Geometry & Applications
Int. J. of Computer Aided VLSI Design
Int. J. of Computer and Info. Sciences
Int. J. of Modeling and Simulation
Int. J. of Parallel Programming
J. of Algorithms
J. of the ACM
J. of Computer and System Sciences
J. of Intelligent and Fuzzy Systems
J. of Parallel and Distributed Computing
Mathematical Programming
Operations Research Letters
Parallel Processing Letters
Proceedings of the IEEE
SIAM J. on Computing
SIAM J. on Discrete Mathematics
Software Practice and Experience
Supercomputing Conf.
Symp. on Parallel Algorithms and Architectures
Symp. on Theoretical Aspects of Computer Science
Workshop on Algorithms and Data Structures
... and all the journals/conferences I served as editor or PC member

Reviewing of Books and Proposals for

Mathematics of Computation
Morgan Kaufmann Publishers
M.I.T. Press
Oxford University Press

John Wiley & Sons
Zentralblatt fuer Mathematik

STUDENTS

Note: All Theses are Ph.D. unless it is explicitly specified that they are M.S.

Ph.D. Student Thesis Supervision

- Michael T. Goodrich (1987). Currently Chancelor's Professor of Computer Science, University of California, Irvine, formerly Professor of Computer Science at Johns Hopkins University

- Jyh-Jong Tsay (1990). Currently Associate Professor at the Institute of Computer Science and Information Engineering, National Chung Cheng University, Chiayi, Taiwan.

- Joseph B. Manning (1990). Currently Permanent College Lecturer, Computer Science, University College, Cork, Ireland.

- Danny Z. Chen (1992). Currently Professor of Computer Science and Engineering, University of Notre Dame, South Bend, Indiana.

- Wenliang (Kevin) Du (2001). (Co-advisor: E.H. Spafford.) Currently Professor of Computer Science at Syracuse University

- Hoi Chang (2003). Independent software entrepreneur, formerly Chief Software Architect, Arxan Technologies Inc

- Radu Sion (2004). (Co-advisor: S. Prabhakar.) Currently Associate Professor of Computer Science at SUNY Stony Brook

- Keith B. Frikken (2005). Currently with Google, formerly Associate Professor of Computer Science at Miami University in Ohio

- Robert Gwadera (2005). (Co-advisor: W. Szpankowski). Currently Postdoc at the University of Lugano, Switzerland

- Jiangtao Li (2006). (Co-advisor: N. Li.) Currently with Facebook, formerly Security Architect at Intel

- Marina Blanton (2007). Currently Assistant Professor of Computer Science and Engineering, Uni versity of Notre Dame, South Bend, Indiana

- Mercan Topkara (2007). (Co-advisor: Cristina Nita-Rotaru.) IBM Thomas J. Watson Research Center

- Umut Topkara (2007). IBM Thomas J. Watson Research Center

- Hao Yuan (2010). YuanResearch.com

- Sundararaman Jeyaraman (2011). Facebook.

- Shumiao Wang (2014). Google.

- Mohammed Almeshekah (2015). King Saud University. (Co-advisor: Eugene H. Spafford)

- Siva Chaitanya Chaduvula (2019). Philips Research. (Co-advisor: Jitesh Panchal.) Winner of the 2020 ASME CIE Best Ph.D. Award.

- Adam Dachowicz (2020). Postdoc, Purdue (Co-advisor: Jitesh Panchal.)

- Javad Darivandpour (2021). Goldman Sachs.

- Duc V. Le (2021). Postdoc, U. of Bern, Switzserland (Co-advisor: Aniket Kate.)

Other Student Thesis Committees:

In Computer Science:

Andre Bondi, David Mount, Teemu Kerola, Bhasker Parthasarathy, Shuhshen Pan,
Ravi Janardan, Y-Huei Wang, Stefan Bechtolsheim, Ko-Yang Wang, Susan Rodger,
John Riedl, Ajay Gupta, Lynn TeWinkel, Tamal Dey, Bonita Rais, Yungho Leu,
Malcom C. Fields, Brian L. Stuart, Carl R. Gritter, Hyung-Yi T. Tu, Hiram Hunt,
Po Ting Wu, Kuei Yu Wang, Fausto Bernardini, Hong Wang, Houzhi Xu,
Praerit Garg, Evaggelia Pitoura, Mihai G. Sirbu, Ioana M. Boier Martin,
Constantine C. Pantazopoulos, Bozhidar D. Dimitrov, Katherine E. Price (M.S. thesis),
Jincheng Chen, Reuben Pasquini, Diego Zamboni, Tom Daniels,
Stefano Lonardi, Young Jun Kim, Dow-Yung Yang, Chuan-Ming Liu,
Joao Cangussu, Tian Zhao, Vanessa Cangussu (MS),
Stephanie Miller (MS Thesis), Ravishankar Ithal (MS Thesis), Kyungkoo Jun,
Benjamin Kuperman, Murat Kantarcioglu, Baskar Sridharan, Jaideep Vaidya,
Weichao Wang, Ioannis Ioannidis, Mohamed Hefeeda, Wei Jiang, Yang Yu,
Reynold Cheng, Paul Williams, Yuni Xia, Yuhui Zhong, Ossama Younis,
Florian Buchholtz, James Early, Paul Ruth, Mahesh Tripunitara, Rajeev Gopalakrishna,

Ji-Won Byun, Xuxian Jiang, Ethan Blanton, Tomek Czajka, Mummoor-thy Murugesan

Maleq Khan, Barry Wittman, Yongwook Choi, Jing Dong, Omar Alrawi (MS Thesis)

Zhen Zhu, Yinian Qi, Sael Lee, Samuel Kerr (MS), Tyler Wykoff, Rohit Jain

Brendan Saltaformaggio, Hasini Gunasinghe, Mohammad-Mohsen Minaei-Bidgoli, Shagufta Mehnaz

Yudong Cao, Shuxian Jiang, Debajyoti Das, Alexandre Block, Eman Alnabati, Tamalika Mukherjee

Mingyuan Wang, Easwar Vivek Mangipudi, Donghang Lu, Syed Rafiul Hussain, Benjamin Harsha

Seunghoon Lee, Mohammad Hassan Ameri Ekhtiarabadi, Alex Seto, Xiuyu Ye

In Industrial Engr:

Chin-Wen Lin, Widodo Sulistyono

In Electrical and Computer Engr:

Hyun S. Yang, Robert J. Safranek, Pradeep K. Dubey, Daniel W. Watson, Dennis M. Hawver, Ray A. Kamin III, Chao-Chun Wang, Allan D. Knies, Min Tan, Muthucumaru Maheswaran, Mitch Theys, Tracy Braun Richard Kennell, Hilmi Ozdoganoglu (MS Thesis), Issa Khalil

In Mechanical Engr:

Karim ElSayed

In Linguistics:

Craig J. McDonough, Dina Mohamed (M.A. Thesis) Christian F. Hempelmann, Katrina Triezenberg, Whitney Vandiver Simon Slobodnik (M.A. Thesis)

Outside Purdue:

Andreas Fabri, Ecole Nationale Superieure des Mines de Paris Katrin Dobrindt, Ecole Nationale Superieure des Mines de Paris Nou Dadoun, Univ. of British-Columbia Weifa Liang, Australian National Univ. Paulina Wegrowicz, McGill Univ. (MS thesis) Nathan Evans, Tech. U. Munich Charles Helou, U. of Montreal

Courses Taught

[All at Purdue University]

Regular courses:

CS 158   Programming

CS 182 Foundations of Computer Science
CS 251 Data Structures
CS 381 Intro. to the Analysis of Algorithms
CS 440 Intro. to File and Database Systems
CS 426 Computer Security
CS 555 Cryptography and Data Security
CS 572 Heuristic Problem Solving
CS 580 Algorithm Design, Analysis and Implementation
CS 650 Computational Aspects of Parallel Processing

Independent study courses (1 or 2 students per course):

CS 490 Image Template Matching
CS 590 Parallel Algorithms
CS 590 Expert System Buiding
CS 590 Computer Vision
CS 590 Parallel Computation I
CS 590 Parallel Computation II
CS 590 Security Techniques for Electronic Commerce
CS 590 Outsourcing Data Storage Securely
CS 590 Topics in Computer Security
CS 590 Watermarking Multimedia
CS 590 Audit Trail Data Compression
CS 590 Intrusion Detection
CS 590 Database Support for Audit Trails and Intrusion Detection
CS 590 Issues in Browser Security
CS 590 Internet Platform Architectures
CS 590 Watermarking Natural Language Text
CS 590 Stepping Stone Detection
CS 590 Code Obfuscation Techniques
CS 590 Secure P2P Networking
CS 590 Secure Multi-party Computing
CS 590 Confidential Data Outsourcing
CS 590 Secure Computations In Cloud

Note: Excellent teaching evaluations. Selected among Top Ten Outstanding Teachers for the College of Science in 1994, 1995, and the Outstanding Teacher for 2004 and 2006. Advisor to Purdue UPE student organization (2003–04), Purdue ACM student organization (1995–97) and to WICS (Women in Computer Science) student organization (1982–84).

Purdue Continuing-Education Short-Course Lectures on Information Security

- Risk Analysis

- Detecting Computer Crime

- Legislation and Standards

- Threats from Malicious Software

UNIVERSITY COMMITTEE DUTIES

[All at Purdue University]

Computer Science Department Committees:

Undergraduate (1982–83, 83–84, 86–99)
Colloquia (1984–85)
Industrial Relations (1984–85, 85–86)
5-Year Plan (1985–86)
Faculty Recruiting (1987–88, 90–95 as Chair, 97–99, 02–03, 03–05 as Chair, 11–12)
Graduate (1988–90, 95–96 as Chair, 96–97, 98–00, 05–06)
Promotions (1989–)
Upsilon Pi Epsilon Membership committee (many times)
690S Coordinator (many times)
Halstead Award selection committee (many times)
Purdue Research Foundation grants selection committee (many times)
ECE Liaison (many times)
Departmental Advisory Committee (00–01)
Head Search Committee (many times, often as Chair)
CS Dept. Executive Committee (many times)
Mentoring Committee (many times)
Awards Committee (many times)
Strategic Planning Steering Committee (2017)
CS Entrepreneurial Ambassador (2023–)
College of Science Innovation and Entrepreneurship (I&E) Fellow (2023–)

College of Science Committees:

International Travel Ranking
XR Grants
XL Grants
Representative of Computer Science Dept on Faculty Council (1990–96,2016–2017)
Faculty Affairs Committee (1990–93)
Promotions (1991–93, 03–05, 18–20)
Distinguished Professor Ad-Hoc Committee (as Chair: 1994–95; as member: 96–97, 99–00, 06, 15, 18)
Educational Policy and Curriculum Committee (1994–95)
University Faculty Scholar Committee (2000–01)

Grade appeals (2005–6)
Co-chair of Engagement group in strategic planning committee
Strategic Plan Oversight Committee (2009–10)
College of Science Faculty Council Committee (2016–17)

University Committees:

Agriculture and Artificial Intelligence (1984–85)
University Senate Member (1991–92)
Library Committee (1998)
Computing Research Institute Director Search Committee (1999–00)
Research Computing and Communications Advisory Committee (1999–00)
Trask Venture Fund Committee (2001–2003)
Homeland Security Institute Executive Committee (2003–5)
Distinguished Professor Nomination Committee (1994)
Committee on Research Integrity (2009–)
Co-Chair of Task Force on Retirement Benefits (2008–2010)
Faculty Awards and Recognition Committee (2015–16)
Provost's Standing Committee on Reputational Stewardship (2016–2019)
Provost Search Committee (2017)
Bement Award Selection Committee (2018–2023)

Other Duties:

Member of Internal Advisory Board of Center for Education and Research
in Information Assurance and Security (1998-)
Member of Executive Committee of Discovery Park's e-Enterprise Center (2002-)
Member of Discovery Park Strategic Plan Task Force (2002)
Member of Internal Advisory Board for Purdue's Homeland Security Institute (2002)