

# Curriculum Vitae of Sanguthevar Rajasekaran

**Current Address:** 257 ITEB, Dept. of CSE, 371 Fairfield Road, Storrs,  
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**Citizen of:** the USA;

## Degrees

<i>Year</i>	<i>Degree</i>	<i>Institution</i>
1988	Ph.D. in Computer Science	Harvard University (Advisor: <b>John H. Reif</b> ) Thesis Title: <b>Randomized Parallel Computation</b>
1983	M.E. in Automation	Indian Institute of Science
1981	B.E. in Electrical Technology	Indian Institute of Science
1977	B.Sc. in Special Physics	Madurai Kamaraj University

## Areas of Expertise

- Algorithms and Complexity; • Big Data Analytics; • Bioinformatics and Computational Biology;
- Parallel and High-Performance Computing; etc.

## Honors and Awards

- Fellow of the AAAS.
- Fellow of the IEEE.
- Member, Connecticut Academy of Science and Engineering (from May 2005). Members are elected on the basis of their accomplishments in Science and Engineering and/or technology. Membership to this academy is limited to 200 by statute.
- School of Engineering Outstanding Teaching Award, Univ. of Connecticut, 2004.
- Outstanding CSE Faculty of the Year Award, University of Connecticut, 2005.

## Selected Research Fundings

1. **PI: S. Rajasekaran**, “Randomized Parallel Algorithms,” Research Initiation Award, National Science Foundation, \$75,000, 1992-95.
2. **PI: S. Rajasekaran**, “Randomized Parallel Algorithms,” National Science Foundation, \$60,000, 1995-97.
3. **Co-PI: S. Rajasekaran**, “Using Parallelism and Randomness in the Analysis of Large-Scale Real-Time Systems,” **PI:** Insup Lee, National Science Foundation, CCR93-11622, \$ 200,000. Sept. 1993 – Aug. 1996.
4. **Co-PI: S. Rajasekaran**, “High-Performance Environmental Models and Class Libraries of Parallel Algorithms,” **PI:** Peter Sheng, Environmental Protection Agency, \$768,015, Jan. 1997-Dec. 2000.

5. **Co-PI: S. Rajasekaran**, “Mainstreaming Parallel and Distributed Computing in the Computer Science Undergraduate Curriculum,” **PI:** Sanjay Ranka. Other **Co-PIs:** Gerhard Ritter, Sartaj Sahni, and Theodore J. Johnson. National Science Foundation, \$391,565, 9-1-96 to 8-31-99,
6. **PI: S. Rajasekaran**, “Integrating Randomization Techniques in the Undergraduate and Graduate Curricula,” **Co-PIs:** Randy Chow, Linda Crocker, Panos Pardalos, Sanjay Ranka, Gerhard Ritter, Sartaj Sahni, Stanley Su, Baba Vemuri. National Science Foundation, \$372,312, August 1998 to July 2001.
7. **PI: S. Rajasekaran**, “An Algorithmic Evaluation of Optical Architectures,” **Co-PI:** Sartaj Sahni. National Science Foundation, \$280,000, August 2000 to July 2003.
8. **PI: S. Rajasekaran**, “Very Fast Modeling Tools for Fuel Cells,” **Co-PI:** R. Ammar, US Army, \$68,242, January 2003 to December 2003.
9. **PI: S. Rajasekaran**, “ITR: Information Extraction from Massive Data Sets,” **Co-PIs:** Sartaj Sahni, Tom Cormen, Reda Ammar, Chun-Hsi Huang, Panos Pardalos, N. Prabahkar, Dong-Guk Shin. National Science Foundation, \$1,231,000, September 2003 to August 2008.
10. **Co-PI: S. Rajasekaran**, “Transformation Spaces, Specifications, and Characterizations,” **PI: Ian Greenshields**, **Co-PIs:** Reda Ammar, Steve Demurjian, Krishna Pattipati, Alex Russell. DARPA, \$500,000, January 2004 to December 2004.
11. **PI: S. Rajasekaran**, “Randomization Methods in Algorithm Design,” **Co-PIs:** P.M. Pardalos and J. Rolim, National Science Foundation and New Jersey Commission of Science and Technology, Workshop Funding, \$15,000, December 1997.
12. **PI: S. Rajasekaran**, “Mobile Networks and Computing,” **Co-PIs:** B.R. Badrinath, P.M. Pardalos and F. Hsu, National Science Foundation and New Jersey Commission of Science and Technology, Workshop Funding, \$15,000, March 1999.
13. **Co-PI: S. Rajasekaran**, “International Workshop on Bio-Grid Computing,” **PI: C.-H. Huang**, National Institutes of Health, \$100,000, January 2005 to December 2010.
14. **Co-PI: S. Rajasekaran**, “High Performance Techniques and Tools for Aircraft Diagnosis and Prognosis,” **PI: Reda A. Ammar**, Pratt and Whitney, \$18,000, Fall 2005.
15. **Co-PI: S. Rajasekaran**, “An Advanced Multi-core Micro-server Development System,” **PI: Reda A. Ammar**, Pratt and Whiney, \$25,000, Fall 2006.
16. **Co-PI: S. Rajasekaran**, “An Advanced Multi-core Micro-server Development System,” **PI: Reda A. Ammar**, AVETeC, \$100,000, May 1, 2007 to April 30, 2008.
17. **Co-PI: S. Rajasekaran**, “Building Motif Lexicons”, **PI: Matrin Schiller**, National Institutes of Health, \$1,120,000, June 2007 to May 2011.
18. **PI: S. Rajasekaran**, “U.S.-Egypt Cooperative Research: High Performance Techniques for Remote Sensing”, **Co-PI: R.A. Ammar**, NSF, \$89,989, January 2008 to December 2009.
19. **Co-PI: S. Rajasekaran**, “US-Egypt International Workshop on Supercomputing Applications in Climate Sciences and Remote Sensing”, March 17-19, Cairo, Egypt **PI: I. Greenshields**, **Co-PI: R.A. Ammar**, NSF, \$47,721, January to June 2008.
20. **Co-PI: S. Rajasekaran**, “Collaborative Research: CRI: IAD: Developing a Novel Infrastructure for Underwater Acoustic Sensor Networks **PI: J. Cui**, NSF, \$319,998, July 2007 to June 2010.

21. **Co-PI: S. Rajasekaran**, “Botnet Detection and Migration”, Sonalysts Inc., Phase II SBIR Grant, Dept. of Homeland Security, \$229,004, June 2007 to May 2009.
22. **PI: S. Rajasekaran**, “Data Integration Techniques”, Connecticut Health Information Network, \$47,000, Jan. 2008 to June 2008.
23. **PI: S. Rajasekaran**, “Data Mining Techniques for Drug Discovery”, Boehringer-Ingelheim, \$18,000, March 2010 to July 2010.
24. **PI: S. Rajasekaran**, “EMT/NANO: Computing with Protein Based Associative Memory Processors,” **Co-PIs:** R. Birge, V. Kumar, and S. Sahni, NSF, \$749,999, September 2008 to August 2011.
25. **PI: S. Rajasekaran**, “Data Integration Techniques,” UCHC Institute for Public Health Research (IPHR), \$30,000, August 2009 to July 2010.
26. **Co-PI: S. Rajasekaran**, “Real-Time Monitoring of Transportation Vulnerability,” **PI:** R.A. Ammar, **Co-PI:** N. Lownes, Department of Homeland Security, July 1, 2009 - June 30, 2010, \$100,000.
27. **PI: S. Rajasekaran**, “Data Integration Techniques,” UCHC Institute for Public Health Research (IPHR), \$30,000, August 2010 to July 2011.
28. **PI: S. Rajasekaran**, “Data Integration Techniques,” UCHC Institute for Public Health Research (IPHR), \$30,000, August 2011 to July 2012.
29. **Co-PI: S. Rajasekaran**, “Risk, Resilience and Response Models with Applications to High Speed Rail Transportation,” **PI:** N. Lownes, **Co-PI:** R. Ammar, Department of Homeland Security, July 1, 2010 to June 30, 2012, \$200,000.
30. **Co-PI: S. Rajasekaran**, “The effects of Impurities on Fuel Cell Performance and Durability,” Department of Energy, March 2007 to February 28, 2011, \$1.9M.
31. **Senior Personnel: S. Rajasekaran**, “MRI: Development of Instrumentation for an Autonomous UW Sensor Network,” **PI:** J-H. Cui, **Co-PIs:** I. Babb, Z. Shi, T. Torgerson and S. Zhou, **Senior Personnel:** R.A. Ammar, A. Bagtzoglou, Y. Fei, Y. Lei, L. Lui, E. Schultz, L. Wang, B. Wang and P. Willett, National Science Foundation - Computer & Information Science & Engineering, August 1, 2008 to July 31, 2011, \$500,000.
32. **PI: S. Rajasekaran**, “Data Integration Techniques,” UCHC Institute for Public Health Research (IPHR), \$60,000, August 2012 to July 2013.
33. **PI: S. Rajasekaran**, “Data Integration Techniques,” UCHC Institute for Public Health Research (IPHR), \$60,000, August 2013 to July 2014.
34. **PI: S. Rajasekaran**, “Graduate Assistantship in Areas of National Need Project on Cloud Computing,” **Co-PIs:** R.A. Ammar, J. Cui, I. Greenshields, and P. Luh, Department of Education, \$400,000, August 2010 to July 2013.
35. **Co-PI: S. Rajasekaran**, “Graduate Assistantship in Areas of National Need Project on Advanced Computing,” **PI:** R.A. Ammar, **Co-PIs:** S. Demurjian, J. Cui, and S. Zhou, Department of Education, \$500,000, September 2009 to August 2012.
36. **PI: S. Rajasekaran**, “Efficient Algorithms for Motif Search,” **Co-PIs:** R.A. Ammar, S. Sahni, and M. Schiller, National Institutes of Health, \$1,505,429, September 30, 2010 to September 29, 2014.

37. **PI: S. Rajasekaran**, “First International IEEE Conference on Computational Advances in Bio and Medical Sciences (ICCABS) - Travel Awards,” **co-PI:** I.I. Mandiou, NSF/CISE, February 1, 2011 to January 31, 2012, \$20,000.
38. **PI: S. Rajasekaran**, “Second International IEEE Conference on Computational Advances in Bio and Medical Sciences (ICCABS) - Travel Awards”, NSF/CISE, February 1, 2012 to January 31, 2013, \$20,000.
39. **PI: S. Rajasekaran**, “Third International IEEE Conference on Computational Advances in Bio and Medical Sciences (ICCABS) - Travel Awards”, NSF/CISE, February 1, 2013 to January 31, 2014, \$12,000.
40. **Co-PI: S. Rajasekaran**, “Efficient Algorithms for Data Processing in Chemicals Detection,” **PI:** R.A. Ammar, Owlstone, Inc., July 1, 2013 to June 30, 2014, \$75,000.
41. **PI: S. Rajasekaran**, “Big Data Analytics for Revenue Assurance,” **Co-PI:** R.A. Ammar, Northeast Utilities, August 1, 2013 to January 31, 2014, \$47,400.
42. **PI: S. Rajasekaran**, “Fourth International IEEE Conference on Computational Advances in Bio and Medical Sciences (ICCABS) - Travel Awards”, NSF/CISE, February 1, 2014 to January 31, 2015, \$12,000.
43. **Co-PI: S. Rajasekaran**, “Graduate Assistantship in Areas of National Need Project on Exascale Computing in Science and Engineering,” **PI:** C.-H. Huang, **Co-PI:** M. Khan, Department of Education, \$805,032, August 16, 2013 to August 15, 2016.
44. **Co-PI: S. Rajasekaran**, “CC-NIE Network Infrastructure: Enabling Data-intensive Research at the University of Connecticut Through Science DMZ,” **PI: B. Wang**, NSF, \$372,457, September 1, 2013 to August 31, 2016.
45. **PI: S. Rajasekaran**, “BIGDATA: F: DKA: DKM: Novel Out-of-core and Parallel Algorithms for Processing Biological Big Data,” **Co-PIs:** J. Bi, J. Graf, S. Sahni, and G. Weinstock, National Science Foundation, \$1,200,000, September 1, 2014-August 31, 2018.
46. **PI: S. Rajasekaran**, “Data Integration Techniques,” UCHC Institute for Public Health Research (IPHR), \$60,000, August 2014 to July 2015.
47. **PI: S. Rajasekaran**, “Big Data Solutions for Attack Forecasting,” **Co-PIs:** R. Ammar and S. Gokhale, Comcast, \$100,000, January 2015 through December 31, 2015.
48. **PI: S. Rajasekaran**, “A Cloud Enabled HPC Infrastructure for Materials Genomics, Big Data and Big Compute Sciences,” **Other PIs:** R. Ramprasad, Y.-J. Shin, University of Connecticut, \$1,400,000, July 1, 2015 through June 30, 2016.
49. **Co-PI:** S. Rajasekaran, “AF: Medium: A High Performance Computing Foundation to Whole-Genome Prediction,” **PI:** Jinbo Bi, NSF, \$750,000, August 1, 2015-July 31, 2018.
50. **Co-PI: S. Rajasekaran**, “AOII Wireless 3D Nanorod Composite Arrays based High Temperature Surface-Acoustic-Wave Sensors for Selective Gas Detection through Machine Learning Algorithms,” **PI:** Yu Lei, **Co-PI:** Puxian Gao, Department of Energy, \$400,000, September 1, 2015 to August 31, 2018.
51. **PI: S. Rajasekaran**, “Fifth International IEEE Conference on Computational Advances in Bio and Medical Sciences (ICCABS) - Travel Awards”, NSF/CISE, February 1, 2016 to December 31, 2016, \$12,000.

52. **PI: S. Rajasekaran**, “Sixth International IEEE Conference on Computational Advances in Bio and Medical Sciences (ICCABS) - Travel Awards”, NSF/CISE, August 1, 2016 to July 31, 2017, \$20,000.
53. **PI: S. Rajasekaran**, “RAISE: Big Data Tools: From Bioinformatics to Materials Genomics,” **Co-PI: R. Ramprasad**, NSF, \$700,000, August 1, 2017 to July 31, 2020.
54. **Co-PI: S. Rajasekaran**, “MATDAT18: Materials and Data Science Hackathon,” **PI: B. Reich**, **Co-PIs: A. Ferguson, T. Mueller**, NSF, \$148,810, August 1, 2017 to July 31, 2018.
55. **PI: S. Rajasekaran**, “Seventh International IEEE Conference on Computational Advances in Bio and Medical Sciences (ICCABS) - Travel Awards”, NSF/CISE, August 1, 2017 to July 31, 2018, \$20,000.
56. **PI: S. Rajasekaran**, “Computational Techniques to Accelerate the Discovery of Biomaterials,” **Co-PIs: S. Kumbar, S. Nukavarapu, R. Ramprasad, and M. Wei**, University of Connecticut BME seed grant, August 1, 2017 to July 31, 2018, \$60,000.

## Director of Dissertation Committees (Ph.D.)

1. Subrata Saha, University of Connecticut (June 2017)
2. Aljoharah Algwaiz, University of Connecticut (June 2017)
3. Marius Nicolae, University of Connecticut (May 2016)
4. Manal Al-Harbi, University of Connecticut (December 2015)
5. Mahmoud Maghraby, University of Connecticut (May 2015)
6. Mai Hamdalla, University of Connecticut (February 2014)
7. Rania Kilany, University of Connecticut (June 2013)
8. Samir A. Mohamed, University of Connecticut (June 2013)
9. Tian Mi, University of Connecticut (June 2013)
10. Hieu Dinh, University of Connecticut (June 2012)
11. Vamsi Kundeti, University of Connecticut (June 2011)
12. Dolly Sharma, University of Connecticut (June 2011)
13. Sahar Al Seesi, University of Connecticut (June 2010)
14. Dragos Trinca, University of Connecticut (June 2009)
15. Mingjun Song, University of Connecticut (June 2009)
16. Vishal Thapar, University of Connecticut (June 2009)
17. Jaime Davila, University of Connecticut (June 2008)
18. Sudha Balla, University of Connecticut (June 2007)
19. Ahmed Mohamed, University of Connecticut (June 2006)
20. Jaeyong Lim, University of Florida (June 2003)

21. Jun Luo, University of Florida (June 2002)
22. Lixin Fu, University of Florida, 2001.
23. Jon Freeman, University of Pennsylvania, 1994.
24. Suneeta Ramaswami, University of Pennsylvania, 1994.
25. David Wei, University of Pennsylvania, 1991.

## **Current Ph.D. Students**

1. Xingyu Cai
2. Abdullah-Al Mamun
3. Robert Martin
4. Sudipta Pathak
5. Zigeng Wang
6. Peng Xiao
7. Xia Xiao

## **Director of Thesis Committees (M.S.)**

1. Priya Periaswamy, 2015
2. Jerlin Camilus Merlin, 2012
3. Seema Munavalli, 2012
4. Hieu Dinh, 2010
5. Vamsi Kundeti, 2009
6. Snigdha Verma, University of Connecticut, 2006.
7. Ramandeep Kaur, University of Connecticut, 2006.
8. Vishal Thapar, University of Connecticut, 2005.
9. Betsy Cheriyan, University of Connecticut, 2004.
10. Guanqun Zhang, University of Connecticut, 2004.
11. Madhurima Pawar, University of Florida, 2001.
12. Meenakshi Sundar, University of Florida, 2001.
13. Xiaoming Jin, University of Florida, 2000.
14. Vidyamani Parkhe, University of Florida, 2000.
15. Huang Chunbo, University of Florida, 1999.
16. Craig Hill, University of Florida, 1998.

17. Faruqi Faisal, University of Florida, 1997.
18. Yi Cao, University of Florida, 1996.
19. José C. Cogolludo, University of Pennsylvania, 1993.
20. Jon Freeman, University of Pennsylvania, 1990.

## Publications Summary

The applicant has more than 400 scholarly papers in refereed journals, conferences, and books. Some highlights: • Invited chapters in 23 books; • Fifteen invited papers in international conferences and workshops and numerous other invited talks; • Widely cited in journals, conference proceedings, and books.

## Books

1. E. Horowitz, S. Sahni, and S. Rajasekaran, *Computer Algorithms/C++*, W.H. Freeman Press, New York, 1997; Second Edition by Silicon Press, 2008.
2. E. Horowitz, S. Sahni, and S. Rajasekaran, *Computer Algorithms*, W.H. Freeman Press, New York, 1998; Second Edition by Silicon Press, 2008.

## Edited Books

1. P. M. Pardalos and S. Rajasekaran, *Advances in Randomized Parallel Computing*, Kluwer Academic Press, 1999.
2. P. M. Pardalos, S. Rajasekaran, and J. Rolim, *Randomization Methods in Algorithm Design*, DIMACS Series in Discrete Mathematics and Theoretical Computer Science 43, 1999.
3. S. Rajasekaran, P.M. Pardalos, and F. Hsu, *Mobile Networks and Computing*, DIMACS Series in Discrete Mathematics and Theoretical Computer Science 52, AMS Press, 2000.
4. S. Rajasekaran, P. M. Pardalos, J. H. Reif, and J. Rolim, *Handbook of Randomized Computing* (Two volumes), Kluwer Academic Press, 2001.
5. S. Rajasekaran and J.H. Reif, *Handbook of Parallel Computing: Models, Applications and Algorithms*, CRC Press, 2008.
6. S. Rajasekaran, L. Fiondella, M. Ahmed, and R.A. Ammar, *Multicore Computing: Algorithms, Architecture, and Applications*, Chapman & Hall/CRC, 2014.

## Edited Proceedings and Special Issues

1. I. Mandoiu, S. Rajasekaran, and A. Zelikovsky, Selected articles from the Fifth IEEE International Conference on Computational Advances in Bio and Medical Sciences (ICCABS 2015): *Bioinformatics*, 18(Suppl 8):238, 7 June 2017.
2. I. Mandoiu, S. Rajasekaran, and A. Zelikovsky, Selected articles from the Fifth IEEE International Conference on Computational Advances in Bio and Medical Sciences (ICCABS 2015): *Genomics*, 18(Suppl 4):392, 24 May 2017.

3. S. Rajasekaran, S. Aluru, and D.A. Bader, HiCOMB Introduction and Committees, *IPDPS Workshops*, 2015:329-330.
4. J. Huan, S. Miyano, A. Shehu, X.T. Hu, B. Ma, S. Rajasekaran, V.K. Gombur, M.-P. Schapranow, I. Yoo, J. Zhou, B. Chen, V. Pai, B.G. Pierce, *2015 IEEE International Conference on Bioinformatics and Biomedicine*, BIBM 2015, Washington, D.C., USA, November 9-12, 2015, IEEE Computer Society 2015, ISBN 978-1-4673-6799-8.
5. J. Chen, Y. Khudyakov, V. Honavar, I. Mandoiu, S. Rajasekaran, and A. Zelikovsky, editors, Selected articles from the Fourth IEEE International Conference on Computational Advances in Bio and Medical Sciences (ICCABS 2014): *BMC Bioinformatics*, Volume 16, Supplement 17, 7 December 2015.
6. J. Chen, Y. Khudyakov, V. Honavar, I. Mandoiu, S. Rajasekaran, and A. Zelikovsky, editors, Selected articles from the Fourth IEEE International Conference on Computational Advances in Bio and Medical Sciences (ICCABS 2014): *BMC Genomics*, Volume 16, Supplement 11, 10 November 2015.
7. S.S. Iyengar, Y. Pan, S. Rajasekaran, J.H. Reif, and A. Zelikovsky, editors, *Proc. 5th IEEE International Conference on Computational Advances in Bio and medical Sciences (ICCABS)*, Miami, FL, October 15-17, 2015, <http://ieeexplore.ieee.org/xpl/mostRecentIssue.jsp?punumber=7332128>.
8. I. Mandoiu, M. Pop, S. Rajasekaran, and J.L. Spouge, editors, *International Journal of Bioinformatics Research and Applications*, Special Issue on Computational Advances in Biology and Medicine, Volume 10, No. 4/5, 2014.
9. Susana Sargento, Sanguthevar Rajasekaran, and Mario Dantas, editors, *Proc. IEEE International Conference on Computers and Communication (ISCC)*, June 23-26, 2014, Madeira, Portugal.
10. S.S. Iyengar, Sanguthevar Rajasekaran, Sartaj Sahni, Jake Chen, Vasant Honavar, editors, *Proc. 4th IEEE International Conference on Computational Advances in Bio and medical Sciences (ICCABS)*, 2014.
11. Vladimir Filkov, Ananth Kalyanaraman, Yury Khudyakov, Ion Mandoiu, Sanguthevar Rajasekaran, Knut Reinert and Alex Zelikovsky, editors, Selected articles from the Third IEEE International Conference on Computational Advances in Bio and Medical Sciences: *BMC Bioinformatics*, Volume 15, Supplement 8, 14 July 2014.
12. Vladimir Filkov, Ananth Kalyanaraman, Yury Khudyakov, Ion Mandoiu, Sanguthevar Rajasekaran, Knut Reinert and Alex Zelikovsky, editors, Selected articles from the Third IEEE International Conference on Computational Advances in Bio and Medical Sciences: *BMC Genomics*, Volume 15, Supplement 5, 14 July 2014.
13. S. Aluru, V. Filkov, S. Rajasekaran, and K. Reinert, editors, Special Issue of *BMC Bioinformatics*, 2013.
14. S. Aluru, V. Filkov, S. Rajasekaran, and K. Reinert, editors, Special Issue of *BMC Genomics*, 2013.
15. S. Aluru, V. Filkov, S. Rajasekaran, and K. Reinert, editors, *Proc. IEEE 3rd International Conference on Computational Advances in Bio and Medical Sciences, ICCABS 2013*, New Orleans Airport, LA, June 12-14, 2013, IEEE.



16. S. Rajasekaran and M. Wozniak, Special section on invited papers from NetCoM-2009, *Future Generation Comp. Syst.* 29(1): 241, 2013.
17. I. Mandoiu, M. Pop, S. Rajasekaran and J.L. Spouge, Selected articles from the Second IEEE International Conference on Computational Advances in Bio and Medical Sciences: BMC Genomics, Volume 14, Supplement 7, 5 November 2013.
18. I. Mandoiu, M. Pop, S. Rajasekaran and J.L. Spouge, Selected articles from the Second IEEE International Conference on Computational Advances in Bio and Medical Sciences: BMC Bioinformatics, Volume 14, Supplement 18, 5 November 2013.
19. N. Meghanathan, D. Nagamalai, and S. Rajasekaran, editors, Networks and Communications (NetCom2013): Proceedings of the Fifth International Conference on Networks & Communications (Lecture Notes in Electrical Engineering Book 284).
20. S. Istrail, I.I. Mandoiu, M. Pop, S. Rajasekaran, and J.L. Spouge, editors, Proc. IEEE 2nd International Conference on Computational Advances in Bio and Medical Sciences, ICCABS 2012, Las Vegas, NV, USA, February 23-25, 2012, IEEE.
21. I.I. Mandoiu, T.M. Przytycka, and S. Rajasekaran, editors, Special Issue of BMC Bioinformatics, 2012, Volume 13, Supplement 5, 12 April 2012.
22. I.I. Mandoiu, T.M. Przytycka, and S. Rajasekaran, editors, Special Issue of BMC Genomics, 2012, Volume 13, Supplement 2, 12 April 2012.
23. I.I. Mandoiu, S. Miyano, T. Przytycka, S. Rajasekaran (Eds.), Proceedings of the 1st IEEE International Conference on Computational Advances in Bio and medical Sciences (ICCABS), IEEE, 2011.
24. M. Borodovsky, T.M. Przytycka, S. Rajasekaran, A. Zelikovsky: Special Section on Bioinformatics Research and Applications. *IEEE/ACM Trans. Comput. Biology Bioinform.* 8(4): 865-866 (2011).
25. M. Borodovsky, J.P. Gogarten, T.M. Przytycka, and S. Rajasekaran, *Bioinformatics Research and Applications, Proc. 6th International Symposium, ISBRA 2010*, LNBI 6053.
26. S. Rajasekaran, *Proc. 1st International Conference on Bioinformatics and Computational Biology (BICoB)*, 2009, LNBI 5462.
27. S. Rajasekaran, *Journal of Parallel and Distributed Computing Special Issue on Parallel Techniques for Information Extraction*, 68(1), 2008.
28. S. Rajasekaran, editor, Proceedings of the Third IASTED International Conference on Communication, Network, and Information Security, October 9-11, 2006, Cambridge, MA, USA IASTED/ACTA Press, 2006.
29. C.-H. Huang and S. Rajasekaran, *Special Issue of Journal of Clinical Monitoring and Computing (JCMC) on High Performance Parallel Bio-computing*, 2005.
30. C.-H. Huang and S. Rajasekaran, *Parallel Computing Special Issue on High Performance Parallel Bio-Computing*, 30(9-10), 2004.
31. S. Rajasekaran and S. Sahni, *International Journal of Foundations of Computer Science Special Issue on Randomized Computing*, March 1999.

## Book Chapters

1. S. Rajasekaran, V. Kundeti, and M. Schiller, Algorithms for Local Structural Alignment and Structural Motif Identification, in *Algorithms in Computational Molecular Biology: Techniques, Approaches, and Applications*, John Wiley, 2011.
2. J. Davila and S. Rajasekaran, Randomized Packet Routing, Selection and Sorting on the POPS Network, in *Handbook of Parallel Computing: Models, Algorithms, and Applications*, CRC Press, 2008, pp. 13.1-13.14.
3. S. Rajasekaran, Deterministic and Randomized Sorting Algorithms for Parallel Disk Models, in *Handbook of Parallel Computing: Models, Algorithms, and Applications*, CRC Press, 2008, pp. 6.1-6.18.
4. S. Balla, S. Rajasekaran, and J. Davila, Sorting and FFT Based Techniques in the Discovery of Biopatterns, in *Bioinformatics Algorithms: Techniques and Applications*, Wiley Book Series on Bioinformatics (Series Editors: Yi Pan and Albert Y. Zomaya), 2008, pp. 93-115.
5. R. Ammar, S. Demurjian, I. Greenshields, K. Pattipati, and S. Rajasekaran, Analysis of Heterogeneous Data in Ultrahigh Dimensions, to appear in *Emergent Information Technologies and Enabling Policies for Counter Terrorism*, Editors: R. Popp and J. Yen, IEEE Press, 2006.
6. S. Rajasekaran, Motif Search Algorithms, *Handbook of Computational Molecular Biology*, Editor: S. Aluru, CRC Press, 2006, 37-1–37-21.
7. S. Rajasekaran, J. Davila, and S. Balla, Approximation Algorithms for the Primer Selection, Planted Motif Search, and Related Problems, *Handbook of Approximation Algorithms*, CRC Press, 2007, pp. 75-1–75-25.
8. S. Rajasekaran, An Overview of Simulated Annealing, in *Encyclopedia of Optimization*, edited by P.M. Pardalos, Oxford University Press, 2001.
9. S. Rajasekaran, Sorting and Selection Algorithms for Parallel Disks, in *Handbook of Massive Data Sets*, Kluwer Academic Press, 2001.
10. S. Rajasekaran and D. Krizanc, Random Sampling: Sorting and Selection, in *Handbook of Randomized Computing*, edited by S. Rajasekaran et al., Kluwer Academic Press, 2001.
11. X. Liu, P.M. Pardalos, S. Rajasekaran, and M.G.C. Resende, A GRASP for Frequency Assignment in Mobile Radio Networks, in *Mobile Networks and Computing*, edited by S. Rajasekaran, P. M. Pardalos, and F. Hsu, AMS Press, 2000.
12. S. Rajasekaran, K. Naik, and D. Wei, Frequency Assignment Algorithms for Mobile Computing, in *Mobile Networks and Computing*, edited by S. Rajasekaran, P. M. Pardalos, and F. Hsu, AMS Press, 2000.
13. S. Rajasekaran, Computing on Optical Models, in *Randomization Methods in Algorithm Design*, edited by P.M. Pardalos, S. Rajasekaran, and J. Rolim, AMS Press, 1999, pp. 239-249.
14. S. Rajasekaran and S. Sahni, Fundamental Algorithms for the Array with Reconfigurable Optical Buses, in *Parallel Computation Using Optical Interconnections*, edited by K. Li, Y. Pan, and S. Q. Zheng, Kluwer Academic Publishers, 1998, pp. 185-204.
15. S. Rajasekaran, Randomized Parallel Computing, in *Encyclopedia of Computer Science and Technology*, Volume 40, edited by A. Kent and J. G. Williams, Marcel Dekker Inc., 1999, pp. 265-282.

16. S. Rajasekaran, Randomized Parallel Computing in *Encyclopedia of Microcomputers*, edited by A. Kent and J. G. Williams, Marcel Dekker Inc., 1998.
17. S. Rajasekaran, Basic algorithms on parallel optical models of computing, in *Parallel Processing of Discrete Problems*, edited by P.M. Pardalos, Springer-Verlag New York, Inc., 1999, pp. 181-195.
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195. \* (Invited) S. Rajasekaran, Mesh Connected Computers with Fixed and Reconfigurable Buses, *DIMACS workshop on Models, Architectures, and Technologies for Parallel Computation*, Sept 20-22, 1993.
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## Research Patents

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## Professional Experience

- Since April 2017, Board of Trustees Distinguished Professor, University of Connecticut
- Since August 2002, UTC Chair Professor of CSE, University of Connecticut
- Since January 1, 2005, Director of Booth Engineering Center for Advanced Technology, University of Connecticut.
- August 2000–June 2002, Chief Scientist, Arcot Systems, Santa Clara, CA (on leave from University of Florida).
- August 1999–July 2002, Professor of Computer and Information Science, University of Florida.

- August 1994–July 1999, Associate Professor of Computer and Information Science, University of Florida.
- August 1988–July 1994, Assistant Professor of Computer and Information Science, University of Pennsylvania.
- July–August 1993, Part-time Visiting Scholar, University of Maryland Institute for Advanced Computer Studies.
- July–August 1991, Visiting Scientist, SFB for VLSI-Entwurf und Parallelität, University of Saarlandes, Saarbrücken, Germany.
  
- Member, IEEE Fellows Evaluation Committee for CS, 2010, 2011, 2012, 2013, 2014, 2015.
- Area Editor, IEEE Transactions on Computers, 1996–1999; 2013-2016.
- Area Editor, ACM Computing Surveys, since 2015.
- Subject Area Editor, Journal of Parallel and Distributed Computing, since 1995.
- Editor, Parallel Processing Letters, since 2010.
- Associate Editor, Computing Letters, 2004-2008.
- Area Editor, Journal of Interconnection Networks, 1999-2003.
- Associate Editor, *International Journal of Computers and Their Applications (IJCA)*, 2004-2008.
- Co-editor, Kluwer Series on Biocomputing, 2000-2003.
- Member, IASTED Technical Committee on Biomedical Engineering, 2003-2006.
  
- General Chair, International Conference on Computational Advances in Bio and medical Sciences (ICCABS), 2015, 2016, 2017.
- Conference Co-Chair, IEEE International Conference on Bioinformatics and Biomedicine (BIBM), Washington D.C., November 9-12, 2015.
- Program Chair, 14th IEEE International Workshop on High Performance Computational Biology (HiCOMB), May 25, 2015.
- Program Committee Co-Chair, The 14th IEEE Symposium on Signal Processing and Information Technology (ISSPIT), December 2014.
- Steering Committee Chair and General Co-Chair, Fourth IEEE International Conference on Computational Advances in Bio and medical Sciences (ICCABS), 2014.
- Program Committee Co-Chair, 19th IEEE Symposium on Computers and Communications, Madeira, Portugal, June 23-26, 2014.
- Steering Committee Chair and General Co-Chair, Third IEEE International Conference on Computational Advances in Bio and medical Sciences (ICCABS), 2013.
- Steering Committee Chair and General Co-Chair, Second IEEE International Conference on Computational Advances in Bio and medical Sciences (ICCABS), 2012.

- Founder and General Chair, First IEEE International Conference on Computational Advances in Bio and medical Sciences (ICCBABS), 2011.
- Advisory Chair, The Second International Conference on Access Networks, Services and Technologies (ACCESS), June 19-24, Luxembourg, 2011.
- Program Co-Chair, International Symposium on Bioinformatics Research and Applications (ISBRA), 2010.
- Founder and General Chair, First International Conference on Bioinformatics and Computational Biology (BICoB), 2009.
- General Chair, The Fourth International Conference on Networks and Communications (Net-Com), 2012, Dec. 22-24, Chennai, India.
- General Chair, The First International Workshop on Wireless & Mobile Networks (WiMo-2009), Brisbane, Australia, July 7-10.
- General Chair, The First International Conference on Networks & Communications (NetCom 2009), 27-29 Dec. 2009, Chennai, India.
- Co-Chair, Doctoral Dissertation Consortium, International Conference on High Performance Computing & Simulation (HPCS), Caen, France, June 28-July 2, 2010.
- Co-Chair, Algorithms Track, International Conference on Contemporary Computing, 2008.
- General Chair, Third International Conference on Communication, Network, and Information Security (CNIS), 2006.
- Program Co-Chair, 18th International Conference on Parallel and Distributed Computing Systems (PDCS), 2005.
- Co-Chair, International Workshop on Biomedical Computations on the Grid, 2004, 2005, 2006.
- General Co-Chair, The Third IEEE International Symposium on Signal Processing and Information Technology (ISSPIT), 2003.
- Co-Chair, International Conference on Biocomputing, 2001.
- Co-Chair, Seventh International Workshop on Solving Irregularly Structured Problems in Parallel (IRREGULAR 2000).
- Chair, DIMACS Workshop on Mobile Networks and Computing, March 1999.
- Chair, Workshop on Randomized Parallel Computing, 1996, 1997.
- Co-Chair, Workshop on Randomized Parallel Computing, 1998.
- Vice Chair, Workshop on Routing and Communications Networks, EuroPar 1998.
- Co-Chair, DIMACS Workshop on Randomization Methods in Algorithm Design, Dec. 12 to 14, 1997.
- Panel Member, Internatioal Symposium on Parallel and Distributed Computing Systems (PDCS), 2004.

- Program Committee Member, 11th International Conference on Language and Automata Theory and Applications (LATA), Umea, Sweden, March 6-9, 2017.
- Program Committee Member, International Conference on Bioinformatics and Biomedicine (BIBM), Shenzhen, China, Dec. 15-18, 2016.
- Program Committee Member, The 8th ACM Conference on Bioinformatics, Computational Biology, and Health Informatics (ACM-BCB), Boston, MA, August 20-23, 2017.
- Program Committee Member, 17th Workshop on Advances in Parallel and Distributed Computational Models (APDCM), May 2015.
- Program Committee Member, 29th IEEE International Parallel & Distributed Processing Symposium (IPDPS), May 25-29, 2015.
- Program Committee Member, 16th Workshop on Advances in Parallel and Distributed Computational Models (APDCM), 2015.
- 9th International Conference on Language Automata Theory and Applications (LATA), Nice, France, March 2-6, 2015.
- Program Committee Member, 36th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Chicago, August 26-30, 2014.
- Program Committee Co-Chair, The nineteenth IEEE Symposium on Computers and Communications, 2014
- Associated Editor, 36th Annual International IEEE EMBS Conference, August 26-30, 2014, Chicago.
- Program Committee member, the 13th European Conference on Computational Biology (ECCB), 2014.
- Program Committee Member, 16th Workshop on Advances in Parallel and Distributed Computational Models (APDCM), 2013.
- PC Member, 14th Workshop on Advances in Parallel and Distributed Computational Models (APDCM), May 21, 2012, Shanghai, China, in conjunction with IEEE IPDPS.
- PC member, 2nd International Conference on Cloud Computing and Service Science, April 18-21, 2012, Porto, Portugal.
- Program Committee Member, IEEE International Conference on Bioinformatics and Biomedicine (BIBM), Nov. 12 to 15, 2011, Atlanta, GA.
- Program Committee Member, 16th IEEE Symposium on Computers and Communications (ISCC), June 28-July 1, 2011, Kerkyra (Corfu), Greece.
- Program Committee Member, 1st International Conference on Computer Science, Engineering and Applications (CCSEA), Chennai, India, July 15-17, 2011.
- Program Committee Member, First International Conference on Computer Science, Engineering and Information Technology (CCSEIT), September 23-25, Tirunelveli, India, 2011.
- Program Committee Member, IEEE International Symposium on Signal Processing and Information Technology (ISSPIT), Dec. 14-17, Bilbao, Spain, 2011.

- PC Member, IEEE ICC Workshop on Advanced Communications Technologies and Applications for Intelligent Transportation Systems, June 5-9, 2011, Kyoto, Japan.
- Program Committee Member, The First International Conference on Access Networks, Services and Technologies (ACCESS), September 20-25, Valencia, Spain, 2010.
- Program Committee Member, International Forum on Next Generation Multicore/Manycore Technologies (IFMT), 2010.
- Program Committee Member, International Conference on Digital Society (ICDS), 2009, 2010, 2011.
- Program Committee Member, 20th International Symposium on Algorithms and Computation (ISAAC), 2009.
- Program Committee Member, IEEE International Conference on Bioinformatics and Biomedicine (BIBM), 2009, 2010, 2011.
- Program Committee Member, 4th International Conference on Internet Monitoring and Protection (ICIMP), 2009.
- Program Committee Member, NEUTRAL 2009 (French Riviera, France)
- Program Committee Member, ISCA 22nd International Conference on Parallel and Distributed Computing and Communication Systems, 2009.
- Program Committee Member, 22nd International Conference on Parallel and Distributed Computing and Communication Systems (PDCCS), Louisville, KY, September 24-26, 2009.
- Program Committee Member, International Symposium on Bioinformatics Research and Applications (ISBRA), 2008, 2009, 2010.
- Program Committee Member, ACM Symposium on Applied Computing (SAC) Special session on Data Mining, 2006, 2007, 2008, 2009, 2010, 2011.
- Program Committee Member, Workshop on Advances in Parallel and Distributed Computational Models (APDCM), 2001, 2002, 2005, 2006, 2007, 2008, 2009, 2010, 2011.
- Program Committee Member, Tenth IEEE Symposium on Computers and Communication (ISCC), 2005, 2006, 2007, 2008, 2009, 2011.
- Program Committee Member, IASTED international conference on Communications and Computer Networks (CCN) 2005, 2006.
- Program Committee Member, International Symposium on Signal Processing and Information Technology (ISSPIT), 2005, 2006, 2008.
- Program Committee Member, International Parallel and Distributed Processing Symposium (IPDPS), 2004, 2005, 2006.
- Program Committee Member, International Conference on Biomedical Engineering (BioMED), 2003, 2004, 2005, 2006, 2008.
- Program Committee Member, Fourth International Conference on Modeling, Simulation, and Optimization, Kuai, Hawaii, August 17-19, 2004.
- Program Committee Member, *Third Workshop on Optics and Computer Science*, 1999.

- Program Committee Member, International Conference on Parallel Processing (ICPP), 2000, 2006.
- Program Committee Member, International Parallel Processing Symposium, 1997, 1998.
- Program Committee Member, International Symposium on Parallel Architectures, Algorithms, and Networks (ISPAN) 1996, 1997, 1998.
- Program Committee Member, Workshop on Interconnection Networks and Communication Algorithms, 1998.
- Program Committee Member, Randomized Algorithms (A satellite workshop to MFCS), 1998.
- Program Committee Member, International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA), 1996, 1997.
- Program Committee Member, International Conference on Parallel and Distributed Computing and Systems (PDCS), 1998, 2001, 2002, 2003, 2005, 2006, 2007, 2008, 2011.
- Program Committee Member, IEEE Symposium on Parallel and Distributed Processing, 1995.
- Program Committee Member, International Conference on High Performance Computing (HiPC), 1995, 1996, 1997, 2006, 2009.
- Session Chair, International Parallel and Distributed Processing Symposium (IPDPS), 2005.
- Session Chair, International Parallel Processing Symposium, Geneva, Switzerland, April 1997.
- Session Chair, International Parallel Processing Symposium, Newport Beach, CA, April 1993.
- Session Chair, Third IEEE Symposium on Parallel and Distributed Processing, Dallas, Texas, Dec. 1991.
- Made a site-visit on behalf of the US Department of Energy and evaluated a proposal for the DOE SBIR program.
- Referee: SIAM Journal on Computing, Journal of Computer and Systems Science, Information and Computation, Theoretical Computer Science, Algorithmica, Journal of Algorithms, Symposium on Foundations of Computer Science, Symposium on Theory of Computing, Oxford University Press, Prentice Hall Publishers, Conference on Foundations of Software Technology and Theoretical Computer Science, International Conference on Parallel Processing, IEEE Symposium on Parallel and Distributed Processing, IEEE Transactions on Computers, Parallel Processing Letters, Information Processing Letters, International Journal of Parallel Programming, Journal of Parallel and Distributed Computing, ASME Dynamic Systems, and Control Division Technical Papers.
- Panel Member for NIH, October 2016, February 2017
- Reviewer for NSF, 2003, 2004, 2005
- Panel Member, NSF, 2005, 2006, 2010, 2011 (two panels), 2013, 2014 (two panels)
- Reviewer, New York State Technology Transfer Incentive Program, May 2006, May 2017.
- Panel Member for New York State CART Program

- State of Texas Research Assessment Program (RAP) Review Board member, August 2004.
- Reviewer for the US Department of State Research Program
- Member, External Advisory Board, Dept. of Computer Science, Univ. of New Haven since 2003.

## Keynotes and Tutorials

1. Keynote Speech, IEEE International Conference on Bioinformatics and Biomedicine (BIBM), Kansas City, MO, USA, November 13 - 16, 2017.
2. Keynote Speech, First Symposium on Computational Materials Research, Advanced Electronic Structure Calculations and Big Data, University of Connecticut, Storrs, July 27, 2017.
3. Keynote Speech, QPRC 2017: The 34th Quality and Productivity Research Conference, June 13-15, University of Connecticut, Storrs, CT.
4. Keynote Speech, The 31st New England Statistics Symposium, April 21-22, 2017, University of Connecticut, Storrs, CT.
5. Keynote Speech, The 22nd IEEE Symposium on Computers and Communications (ISCC), 03 - 06 July 2017, Heraklion, Crete, Greece.
6. Keynote Speech, Fifth International Conference on Bioinformatics and Computational Biology (BICoB), Honolulu, Hawaii, March 4-6, 2013.
7. Keynote Speech, IEEE International Symposium on Signal Processing and Information Technology (ISSPIT), Ho Chi Minh City, Vietnam, December 12-15, 2012.
8. Keynote Speech, International Conference on Advances in Computer Science and Technology (ACST), Langkawi, Malaysia, April 2-4, 2008.
9. Keynote speaker, National Symposium on Bioinformatics, Annamalai University, India, Feb. 23, 2009.
10. Keynote speaker, 4th International Conference on Contemporary Computing (IC3), Noida, India, August 8-10, 2011.
11. Keynote Speaker, First International Conference on Advanced Computing and Communication, September 15-17, 2010, Orlando, Florida.
12. Indo-US Collaboration for Engineering Education (IUCEE) Workshop on Analysis of Algorithms, June 29 to July 3, Mysore, India. Gave a full course on algorithms to 30+ college teachers in India.
13. Tutorial on Sequential and Parallel Algorithms for Motif Search, International Symposium on Bioinformatics Research and Applications (ISBRA), Atlanta, May 8, 2008.
14. Invited Talk, Bio-IT World Conference & Expo, April 12, Boston, 2011.