October 2, 2018

CURRENT ADDRESS

Division of Graduate Education (EHR), W11213
National Science Foundation
2415 Eisenhower Avenue, Alexandria, VA 22314
Phone: (703)292-7877, Fax: (703)292-9048, Email: chuang@nsf.gov

PERMANENT ADDRESS

Don Myers Technology and Innovation Building, 112E
Department of Computer Science
American University
4400 Massachusetts Avenue, NW, Washington DC 20016
Phone: (202)885-6881, Fax:(202)885-2723, Email: chhuang@american.edu

EDUCATION

Ph.D. in Computer Science and Engineering, State University of New York at Buffalo, 1996-2001
M.S. in Computer Science, University of Southern California, 1992-1994
B.S. in Computer and Information Science, National Chiao-Tung University, Hsinchu, Taiwan, 1985-1989

PROFESSIONAL EMPLOYMENT

Administrative

Sep 2017 - present	Program Director (on IPA assignment), Division of Graduate Education National Science Foundation, Alexandria, VA 22314 ▷ *CyberCorps: Scholarship for Service Program* ▷ *Secure and Trustworthy Cyberspace Program*
Sep 2018 - present	Graduate Program Director, Department of Computer Science American University, Washington DC 20016

Academic

Sep 2018 - present	Professor (tenured), Department of Computer Science American University, Washington DC 20016
Aug 2007 - Aug 2018	Associate Professor (tenured), Department of Computer Science and Engineering University of Connecticut, Storrs, CT 06269
Aug 2001 - Aug 2007	Assistant Professor, Department of Computer Science and Engineering University of Connecticut, Storrs, CT 06269

Relevant Pre-PhD Positions

Aug 1996 - June 2001 Lecturer (98-00), Teaching Assistant (96-00), Research Assistant (00-01)
Department of Computer Science and Engineering
State University of New York at Buffalo, Buffalo, NY 14260

RESEARCH AREAS

Extreme-Scale Computing and Data Analytics
Computational Biology and Life-Science Informatics
Combinatorial Algorithms and Experimental Algorithmics

PROFESSIONAL SOCIETIES

Member of ISCB (International Society of Computational Biology)
Member of IEEE (Institute of Electrical and Electronics Engineers)
Member of ACM (Association for Computing Machinery)

CITIZENSHIP & VISA STATUS

Dual Citizenship of Taiwan and U.S. (by naturalization)

SCHOLARLY PUBLICATIONS[1]

Journals - Full Articles

1. NT Tran* and C-H Huang, *"MODSIDE: A Motif Discovery Pipeline and Similarity Detector"*, to appear in BMC Genomics. ▷ Webtool available at **http://modside.org/**

2. NT Tran* and C-H Huang, *"MOTIFSIM 2.1: An Enhanced Software Platform for Detecting Similarity in Multiple DNA Motif Datasets"*, Journal of Computational Biology, Vol 24, No 9, pp. 895-905. ▷ Webtool available at **http://motifsim.org/** (PMID: 28632401) 2017

3. Chun-Hsi Huang, *"REU Site: Bio-Grid Initiatives for Interdisciplinary Research and Education"*, Journal of Parallel and Distributed Computing, Vol 105, July 2017, pp. 174-182. ▷ Website available at **http://biogrid.engr.uconn.edu/**

4. NT Tran* and C-H Huang, *"Cloud-based MOTIFSIM: Detecting Similarity in Large DNA Motif Datasets"*, Journal of Computational Biology, Vol 24, No 5, 2017, pp. 450-459. (PMID: 27606547) ▷ Webtool available at **http://cloudbasedmotifsim.org/**

5. A Al-Okaily*, B Almarri*, S Al Yami*, and C-H Huang, *"Toward a Better Compression for DNA Sequences Using Huffman Encoding"*, Journal of Computational Biology, Vol 24, No 4, 2017, pp. 280-288. (PMID: 27960065) ▷ Software available at **https://github.com/aalokaily/Unbalanced-Huffman-Tree/**

6. A Al-Okaily* and C-H Huang, *"ET-Motif: Solving the Exact (l, d)-Planted Motif Problem Using Error Tree Structure"*, Journal of Computational Biology, 2016:23(7), pp. 615-623. (PMID: 27152692)

[1] * denotes graduate advisees at UConn. ** denotes undergraduate REU fellows sponsored by the NSF.

7. Ngoc Tam Tran* and Chun-Hsi Huang, *"MOTIFSIM: A Web Tool for Detecting Similarity in Multiple DNA Motif Datasets"*, BioTechniques, Vol 59, No 1, 2015, pp. 26-33.
   ▷ Webtool available at **http://motifsim.org/** (PMID: 26156781)

8. NT Tran*, L DeLuccia**, A McDonald** and C-H Huang, *"Cross-Disciplinary Detection and Analysis of Network Motifs"*, Bioinformatics and Biology Insights, 2015:9, pp. 49-60. (PMID: 25983553)

9. NT Tran*, S Mohan**, Z Xu and CH Huang, *"Current Innovations and Future Challenges of Network Motif Detection"*, Briefings in Bioinformatics, Vol 16, No 3, 2015, pp. 497-525. (PMID: 24966356)

10. Chih Lee* and Chun-Hsi Huang, *"LASAGNA-Search 2.0: Integrated Transcription Factor Binding Site Search and Visualization in a Browser"*, Bioinformatics, Vol 30, No 13, 2014, pp. 1923-1925.
    ▷ Webtool available at **http://biogrid-lasagna.engr.uconn.edu/lasagna_search/** (PMID: 24578403)

11. Ngoc Tam Tran* and Chun-Hsi Huang, *"A Survey of Motif Finding Webtools for Detecting Binding Site Motifs in ChIP-Seq Data"*, Biology Direct, 9:4 (22 pages), 2014. (PMID: 24555784)

12. Ngoc Tam Tran* and Chun-Hsi Huang, *"Gene Expression and Gene Ontology Enrichment Analysis for H3K4me3 and H3K4me1 in Mouse Liver and Mouse Embryonic Stem Cell using ChIP-Seq and RNA-Seq"*, Gene Regulation and Systems Biology, 2014:8, pp. 33-43. (PMID: 24526835)

13. Chih Lee* and Chun-Hsi Huang, *"LASAGNA: A Novel Algorithm for Transcription Factor Binding Site Alignment"*, BMC Bioinformatics, Vol 14, 108 (13 pages), 2013. (PMID: 23522376)

14. C. Lee* and C.-H. Huang, *"LASAGNA-Search: An Integrated Webtool for Transcription Factor Binding Site Search and Visualization"*, BioTechniques, Vol 54, No 3, 2013, pp. 141-153.
    ▷ Webtool available at **http://biogrid-lasagna.engr.uconn.edu/lasagna_search/** (PMID: 23477382)

15. Chih Lee* and Chun-Hsi Huang, *"Searching for Transcription Factor Binding Sites in Vector Spaces"*, BMC Bioinformatics, Vol 13, 215 (12 pages), 2012.
    ▷ Software available at **http://biogrid.engr.uconn.edu/tfbs_search/** (PMID: 23244338)

16. S Quader* and C Huang, *"Effect of Positional Dependence and Alignment Strategy on Modeling Transcription Factor Binding Sites"*, BMC Research Notes, 5:340 (11 pages), 2012. (PMID: 22748199)

17. E. Wong**, B. Baur**, S. Quader* and C.-H. Huang, *"Biological Network Motif Detection: Principles and Practice"*, Briefings in Bioinformatics, Vol 13, No 2, 2012, pp. 202-215. (PMID: 22396487)

18. Chih Lee*, Brittany Nkounkou** and Chun-Hsi Huang, *"Comparison of LDA and SPRT on Clinical Dataset Classifications"*, Biomedical Informatics Insights, Vol 4, pp. 1-7, 2011. (PMID: 21949476)

19. C Wong**, Y Li**, C Lee* and C Huang, *"Ensemble Learning Algorithms for Classification of mtDNA into Haplogroups"*, Briefings in Bioinformatics, Vol 12, No 1, 2011, pp. 1-9. (PMID: 20203074)

20. Chih Lee* and Chun-Hsi Huang, *"Toward Optimizing the Cache Performance of Suffix Trees for Sequence Analysis Algorithms"*, Advances in Computational Biology, Springer, Series in Advances in Experimental Medicine and Biology (*AEMB*), 2010, Vol 680, Part 4, pp. 411-417. (PMID: 20865526)

21. C Lee*, A Abdool and CH Huang, *"PCA-based Population Structure Inference with Generic Clustering Algorithms"*, BMC Bioinformatics, Vol 10, Suppl 1, S73 (13 pages), 2009. (PMID: 19208178)

22. CH Huang, A Konagaya, V Lanza and P Sloot, *"Biomedical Computations on the Grid"*, IEEE Tran on Information Technology in Biomedicine, Vol 12, No 2, 2008, pp. 133-137. (PMID: 18416025)

23. Longde Yin*, Chun-Hsi Huang and Jun Ni, *"Clustering of Gene Expression Data: Performance and Similarity Analysis"*, BMC Bioinformatics, Vol 7, Suppl 4, S19 (11 pages), 2006. (PMID: 17217511)

24. Vincenzo Lanza and Chun-Hsi Huang, *"Advanced Course for Doctors as Departmental IT Network Administrators in Anesthesia and Intensive Care Units"*, Journal of Clinical Monitoring and Computing, Vol 20, No 5, 2006, pp. 333-339. (PMID: 16964536)

25. Chun-Hsi Huang, Sanguthevar Rajasekaran, Laurence T. Yang and Xin He, *"Finding Hamiltonian Paths in Tournaments on Clusters"*, Cluster Computing, Vol 9, No 3, 2006, pp. 345-353.

26. Chun-Hsi Huang, Xin He and Min Qian*, *"Communication-Optimal Parallel Parenthesis Matching"*, Parallel Computing, Vol 32, No 1, 2006, pp. 14-23.

27. S Balla, V Thapar, S Verma, T Luong, T Faghri, C-H Huang, S Rajasekaran, JJ del Campo, J Shinn, W Mohler, M Maciejewski, M Gryk, B Piccirillo, S Schiller and M Schiller, *"Minimotif Miner: A Tool for Investigating Protein Function"*, Nature Methods, Vol 3, No 3, 2006, pp. 175-177. Short notes also appear as *"Matchmaker"* in *Netwatch* section, Science, Vol 311, 2006, p. 925; and as *"Minimotif Miner"* in *Toolbox* section, Journal of Proteome Research, Vol 15, Issue 4, 2006, pp. 736-737.
▷ Webtool available at **http://mnm.engr.uconn.edu/** (PMID: 16489333)

28. S. Rajasekaran, V. Thapar, H. Dave and C.-H. Huang, *"Randomized and Parallel Algorithms for Distance Matrix Calculations in Multiple Sequence Alignment"*, Journal of Clinical Monitoring and Computing, Vol 19, No 4-5, 2005, pp. 351-359. (PMID: 16328949)

29. S. Rajasekaran, S. Balla, C.-H. Huang, V. Thapar, M. Gryk, M. Maciejewski and M. Schiller, *"High-Performance Exact Algorithms for Motif Search"*, Journal of Clinical Monitoring and Computing, Vol 19, No 4-5, 2005, pp. 319-328. (PMID: 16328946)

30. C.-H. Huang, V. Lanza, S. Rajasekaran and W. Dubitzky, *"HealthGrid - Bridging Life Science and Information Technology"*, Journal of Clinical Monitoring and Computing, Vol 19, No 4-5, 2005, pp. 259-262. (PMID: 16328941)

31. S. Rajasekaran, S. Balla and C.-H. Huang, *"Exact Algorithms for Planted Motif Problems"*, Journal of Computational Biology, Vol 12, No 8, 2005, pp. 1115-1126. (PMID: 16241901)

32. Chain-Wu Lee and Chun-Hsi Huang, *"Toward Cooperative Genomic Knowledge Inference"*, Parallel Computing, Vol 30, No 9-10, 2004, pp. 1127-1135.

33. Chain-Wu Lee, Chun-Hsi Huang, Laurence T. Yang and Sanguthevar Rajasekaran, *"Distributed Path-Based Inference in Semantic Networks"*, Journal of Supercomputing, Vol 27, No 2, 2004, pp. 211-227.

34. C.-H. Huang and S. Rajasekaran, *"Parallel Pattern Identification in Biological Sequences on Clusters"*, IEEE Transactions on NanoBioscience, Vol 2, No 1, 2003, pp. 29-34. (PMID: 15382420)

35. Z-Z Chen, X He and C-H Huang,*"Finding Double Euler Trails of Planar Graphs in Linear Time"*, SIAM Journal on Computing, Vol 31, No 4, 2002, pp. 1255-1285. A preliminary version appeared in Proceedings of the 40-th IEEE Symposium on Foundations of Computer Science (*FOCS*), 319-329.

36. Xin He and Chun-Hsi Huang, *"Communication-Efficient BSP Algorithm for All Nearest Smaller Values Problem"*, Journal of Parallel and Distributed Computing, Vol 61, 2001, pp. 1425-1438.

Journals - Short Notes

1. Chun-Hsi Huang, *"Bioethics in a Health-Grid"*, Journal of Long-Term Effects of Medical Implants, Vol 18, Issue 1, 2009, p.37.

2. Chun-Hsi Huang and Vincenzo Lanza, *"HealthGrid: Towards Collaborative and On-Demand Healthcare"*, Journal of Clinical Monitoring and Computing, Vol 22, No 3, 2008, pp. 226-228.

3. Chun-Hsi Huang and Sanguthevar Rajasekaran, *"High-Performance Parallel Bio-computing"*, Parallel Computing, Vol 30, No 9-10, 2004, pp. 999-1000.

Conference Proceedings

1. Haitham Ghalwash* and Chun-Hsi Huang, *"QoS for SDN-Based Fat-tree Networks"*, to appear in Proc. of 2019 Future of Information and Communications Conference (*FICC*), Mar. 14-15, 2019, San Francisco, CA.

2. Haitham Ghalwash* and Chun-Hsi Huang, *"A QoS framework for SDN-based Networks"*, to appear in Proc. of the 4-th IEEE International Conference on Collaboration and Internet Computing (*IEEE CIC*), Oct 18-20, 2018. Philadelphia, PA.

3. Fei Dou*, Jin Lu, Zigeng Wang, Xia Xiao, Jinbo Bi and Chun-Hsi Huang, *"Top-Down Indoor Localization with Wi-Fi Fingerprints using Deep Q-Network"*, to appear in Proc. of 15-th IEEE Int'l Conference on Mobile Ad-hoc and Sensor Systems (*IEEE MASS*), Oct. 9-12, 2018, Chengdu, China.

4. Abdulrahman Alshegaifi* and Chun-Hsi Huang, *"A Locality-Aware, Energy-Efficient Cache Design for Large-Scale Multi-Core Systems"*, to appear in Proc. of 14-th IEEE International Conference on Green Computing and Communications (*GreenCom*), July 30 - Aug. 3, 2018, Halifax, Canada.

5. Haitham Ghalwash* and Chun-Hsi Huang, *"Software-Defined Extreme-Scale Networks for Big-Data Applications"*, in Proc. of 21-st IEEE High Performance Extreme Computing Conference (*HPEC*), 1-7, Sep. 12-14, 2017, Waltham, MA.

6. Addulrahman Alshegaifi* and Chun-Hsi Huang, *"Towards an Energy-Efficient Cache Architecture for Extreme-Scale Systems"*, in Proc. of 21-st IEEE High Performance Extreme Computing Conference (*HPEC*), Sep. 12-14, 2017, Waltham, MA.

7. A Miyajan*, C-H Huang and T Al-Somani, *"Speedup Higher-Order Masking of AES Using Normal Basis and SIMD"*, in Proceedings of the 11-th International Conference on Computer Engineering & Systems (*ICCES*), 293-298, Dec. 20-21, 2016, Cairo, Egypt.

8. H Ghalwash* and C-H Huang, *"On SDN-Based Extreme-Scale Networks"*, in Proc. of 20-th IEEE High Performance Extreme Computing Conference (*HPEC*), 1-7, Sep. 13-15, 2016, Waltham, MA.

9. A Alshegaifi* and C-H Huang, *"Impact of Stack Caches: Locality Awareness and Cost Effectiveness"*, presented in the 18-th Int'l Conf on Electrical and Computer Systems Engineering, Apr. 25-26, 2016, Boston, MA; published in Int'l Journal of Electrical, Computer, Energetic, Electronic and Communication Engineering, World Academy of Science, Engineering and Technology, 10:4, pp. 480-486.

10. A Miyajan*, Z Shi, C-H Huang and T Al-Somani, *"An Efficient High-Order Masking of AES using SIMD"*, in Proceedings of the 10-th International Conference on Computer Engineering & Systems (*ICCES*), 363-368, Dec. 23-24, 2015, Cairo, Egypt.

11. A Miyajan*, Z Shi, C-H Huang and T. Al-Somani, *"Accelerating Higher-Order Masking of AES Using Composite Field and SIMD"*, in Proc. of the 15-th IEEE International Symposium on Signal Processing and Information Technology (*ISSPIT)*, 575-580, Dec. 7-10, 2015, Abu Dhabi, UAE.

12. Chun-Hsi Huang, *"REU Site: Bio-Grid Initiatives for Interdisciplinary Research and Education"*, in Proc. of the 2015 Workshop on Education for High Performance Computing (*EduHPC*), in conjunction with the International Conference for High-Performance Computing, Networking, Storage and Analysis (*ACM SC15*), Sep. 16, 2015, Austin, TX. (doi: 10.1145/2831425.2831429)

13. N Tran* and C Huang, *"Scalable Parallel Algorithms for Biological Motif Search"*, in Proc. of SIAM Conf. on Parallel Processing for Scientific Computing (*PP12*), Feb. 15-17, 2012, Savannah, Georgia.

14. Chih Lee* and Chun-Hsi Huang, *"Geometric Visualization of Transcription Factor Binding Sites in Context"*, in Proc. of the 2-nd ACM Conference on Bioinformatics, Computational Biology and Biomedicine (*ACM BCB*), 457-461, Aug. 1-3, 2011, Chicago, IL.

15. Saad Quader*, Nathan Snyder**, Kevin Su**, Ericka Mochan** and Chun-Hsi Huang, *"ML-Consensus: A General Consensus Model for Variable-Length Transcription Factor Binding Sites"*, in Proc. of the 9-th European Conference on Evolutionary Computation, Machine Learning and Data Mining in Bioinformatics (*EvoBio*), Springer LNCS 6623, 25-36, Apr. 27-29, 2011, Torino, Italy.

16. Brittany Nkounkou**, Colin Brown**, Chih Lee* and Chun-Hsi Huang, *"Biological Data Classifications with LDA and SPRT"*, in Proc. of the first IEEE International Workshop on Mining and Management of Biological and Health Data, in conjunction with the IEEE International Conference on Bioinformatics & Biomedicine, 164-168, Dec. 18-21, 2010, Hong Kong.

17. J Christopherson** and C-H Huang, *"Optimized Data Migration within a Medical Grid"*, in Proc. of the 3-rd Int'l Conf on Health Informatics, 117-120, Jan. 20-23, 2010, Valencia, Spain.

18. C Luciano** and C Huang, *"Structural Motif Enumeration in Transcriptional Regulation Networks"*, in Proc. of the first Int'l Conf on Bioinformatics, 131-136, Jan. 20-23, 2010, Valencia, Spain.

19. Chih Lee*, Ali Abdool and Chun-Hsi Huang, *"PCA-based Population Structure Inference with Generic Clustering Algorithms"*, in Proceedings of the 7-th Asia Pacific Bioinformatics Conference (*APBC*), 761-771, Jan 13-16, 2009, Beijing, China.

20. V Lanza, M Ignazia Cascio and C Huang, *"Towards an e-Learning and Tele-medicine Network for Better Quality of Patient Care"*, in Proc of 4-th European Congress of the Int'l Federation for Medical and Biological Engineering (*MBEC*), Vol 22 (Part 8), 986-993, Nov. 23-27, 2008, Antwerp, Belgium.

21. Vincenzo Lanza, Maura Ignazia Cascio and Chun-Hsi Huang, *"Towards On-Demand Biomedical Knowledge Extraction"*, in Proc. of the 2008 International Conference on Health Informatics (*HealthInf*), 102-109, Jan. 28-31, 2008, Funchal, Madeira-Portugal.

22. Chun-Hsi Huang and Vincenzo Lanza, *"Health-Grid: Towards Collaborative and On-Demand Healthcare"*, in Proc. of the 2007 Annual Meeting of the Society for Computing and Technology in Anaesthesia (*SCATA*), 10-11, Nov. 21-23, 2007, the Royal College of Anaesthetists, London, UK.

23. Chun-Hsi Huang, *"Latency Reduction in Clinical and Translational Research"*, in Proc. of the 21-st International Symp. on Critical Care Medicine, 437-446, Nov. 10-13, 2006, Venice-Mestre, Italy.

24. Chun-Hsi Huang, *"Grid-Enabling the UMLS"*, in Proceedings of the 2006 American Medical Informatics Association Spring Congress, May 16-18, Phoenix, AZ. (CD-ROM)

25. Thomas Puzak* and Chun-Hsi Huang, *"An Analysis of the Effects of Spatial Locality on the Cache Performance of Binary Search Trees"*, in Proceedings of the International Conference on Software and Data Technologies (*ICSoft*), Vol 2, 94-101, Sep. 11-14, 2006, Setubal, Portugal.

26. Longde Yin* and Chun-Hsi Huang, *"Clustering of Gene Expression Data: Performance and Similarity Analysis"*, in Proceedings of the IEEE Symposium of Computations in Bioinformatics and Bioscience (*SCBB*), 142-149, June 22-26, 2006, Hangzhou, China.

27. Longde Yin* and Chun-Hsi Huang, *"A Heuristic Approach to Scoring Gene Clustering Algorithms"*, in Proceedings of the International Conference on Bioinformatics and Computational Biology (*BioComp*), 135-141, June 26-29, 2006, Las Vegas, NV.

28. Chun-Hsi Huang, *"BioGrid: A Collaborative Environment for Life Science Research"*, in Proc. of the 20-th Int'l Symp. on Critical Care Medicine, 123-132, Nov. 18-21, 2005, Trieste, Italy. (invited)

29. Chun-Hsi Huang and Sanguthevar Rajasekaran, *"BioGrid - Bridging Life Science and Information Technology"*, in Proceedings of the 5-th IEEE/ACM International Symposium on Cluster Computing and the Grid (*IEEE/ACM CCGrid*)(*BioGrid Workshop*), 450-454, May 9-12, 2005, Cardiff, UK.

30. S. Rajasekaran, S. Balla, C.-H. Huang, V. Thapar, M. Gryk, M. Maciejewski and M. Schiller, *"Exact Algorithms for Motif Search"*, in Proceedings of the 3-rd Asia-Pacific Bioinformatics Conference (*APBC*), 239-248, Jan. 17-21, 2005, Singapore.

31. S Rajasekaran, S Balla and C-H Huang, *"Exact Algorithms for Planted Motif Challenge Problems"*, in Proc. of the 3-rd Asia-Pacific Bioinformatics Conf (*APBC*), 249-259, Jan. 17-31, 2005, Singapore.

32. S Rajasekaran, V Thapar, H Dave and C-H Huang, *"A Randomized Algorithm for Distance Matrix Calculations in Multiple Sequence Alignment"*, in Proc. of the First Conference on Knowledge Exploration in Life Science Informatics (*KELSI*), LNAI 3303:33-45, Nov. 25-26, 2004, Milano, Italy.

33. Chun-Hsi Huang and Sanguthevar Rajasekaran, *"Biomedical Computations on the Grid"*, in Proceedings of the 4-th IEEE/ACM International Symposium on Cluster Computing and the Grid (*IEEE/ACM CCGrid*) (*BioGrid Workshop*), Apr. 19-22, 2004, Chicago, IL. (CD-ROM)

34. C-W Lee, C-H Huang, S Rajasekaran, L T Yang and D F Hsu, *"Distributed Path-Based Inference in Semantic Networks"*, in Proc of the 7-th IEEE Int'l Symposium on Parallel Architectures, Algorithms, and Networks (*I-SPAN*), 232-237, May 10-12, 2004, Hong Kong, China.

35. Chain-Wu Lee, Chun-Hsi Huang and Sanguthevar Rajasekaran, *"TROJAN: A Scalable Distributed Semantic Network System"*, in Proceedings of 15-th IEEE International Conference on Tools with Artificial Intelligence (*ICTAI*), 219-223, Nov. 3-5, 2003, Sacramento, CA.

36. Chun-Hsi Huang and Xin He, *"Average-Case Communication-Optimal Parallel Parenthesis Matching"*, in Proceedings of the 13-th International Symposium on Algorithms and Computation (*ISAAC*), LNCS 2518:308-319, Springer-Verlag, Nov. 20-23, 2002, Vancouver, Canada.

37. C-H Huang, *"Parallel Pattern Identification in Biological Sequences on Clusters"*, in Proc of the 4-th IEEE Int'l Conf on Cluster Computing (*IEEE Cluster*), 127-134, Sep. 24-26, 2002, Chicago, IL.

38. C-H Huang, *"Grid-Enabled Parallel Divide-And-Conquer - Theory and Practice"*, in Proc. of 17-th ACM SIGAPP Symp. on Applied Computing (*SAC*), 865-869, Mar. 10-14, 2002, Madrid, Spain.

39. Chun-Hsi Huang and Xin He, *"Parallel Range Searching in Large Databases Based on General Parallel Prefix Computation"*, in Proceedings of the 10-th SIAM Conference on Parallel Processing for Scientific Computing, Mar. 12-14, 2001, Portsmouth, VA. (CD-ROM)

40. Chun-Hsi Huang and Xin He, *"Communication-Efficient Bulk Synchronous Parallel Algorithm for Parentheses Matching"*, in Proceedings of the 10-th SIAM Conference on Parallel Processing for Scientific Computing, Mar. 12-14, 2001, Portsmouth, VA. (CD-ROM)

41. Chun-Hsi Huang and Xin He, *"Finding Hamiltonian Paths in Tournaments on Clusters – A Provably Communication-Efficient Approach"*, in Proceedings of the 16-th ACM SIGAPP Symposium on Applied Computing (*SAC*), 549-553, Mar. 11-14, 2001, Las Vegas, NV.

42. Xin He and Chun-Hsi Huang, *"Scalable Coarse Grained Parallel Interval Graph Algorithms"*, in Proceedings of the International Conference on Parallel and Distributed Processing Techniques and Applications (*PDPTA*), 1369-1376, June 26-29, 2000, Las Vegas, NV.

43. C-H Huang and X He, *"Communication-Efficient Coarse-Grained Parallel Algorithm for All Nearest Smaller Values Problem and its Applications"*, in Proc. of the Int'l Conf on Parallel and Distributed Processing Techniques and Applications (*PDPTA*), 1377-1384, June 26-29, 2000, Las Vegas, NV.

44. Zhi-Zhong Chen, Xin He and Chun-Hsi Huang,*"Finding Double Euler Trails of Planar Graphs in Linear Time"*, in Proceedings of the 40-th IEEE Symposium on Foundations of Computer Science (*FOCS*), 319-329, Oct. 17-19, 1999, New York City.

Conference Proceedings - Abstract Refereed and Published

1. Bardiya Vaziri** and C.-H. Huang, *"Semantic Integration in Biomedical Networks"*, ISCB Conference on Semantics in Healthcare and Life Sciences (*C-SHALS*), Feb. 25-27, 2009, Boston, MA.

2. C Bergenhem**, C Lee* and C Huang, *"On the Cache-Awareness in DNA Probe Selection"*, in Proc of the 2008 Rocky Mountain Bioinformatics Conf, 16-17, Dec. 4-7, 2008, Aspen/Snowmass, CO.

3. Vincenzo Lanza and Chun-Hsi Huang, *"Cyber-infrastructure for Biomedical Computing and Learning"*, in Proceedings of the 15-th International Conference on Intelligent Systems for Molecular Biology (*ISMB*), July 21-25, 2007, Vienna, Austria.

4. Min Qian* and Chun-Hsi Huang, *"Parallel Algorithms for Finding Short Approximate non-Tandem Repeats"*, in Proceedings of the 13-th International Conference on Intelligent Systems for Molecular Biology (*ISMB*), June 25-29, 2005, Detroit, MI.

5. Chun-Hsi Huang, *"Toward A Distributed UMLS"*, in Proceedings of the 2-nd Biological Language Conference (*BLC*), 77-78, Nov. 18-19, 2004, Carnegie Mellon University, Pittsburgh, PA.

6. Chun-Hsi Huang, Sanguthevar Rajasekaran and Longde Yin*, *"Distributed Clinical Knowledge Inferencing"*, in Poster Book of the 8-th International Conference on Research in Computational Molecular Biology (*RECOMB*), 556-557, Mar. 27-31, 2004, San Diego, CA.

7. Longde Yin*, Chun-Hsi Huang and Sanguthevar Rajasekaran, *"Parallel Data Mining of Bayesian Networks from Gene Expression Data"*, in Poster Book of the 8-th Int'l Conference on Research in Computational Molecular Biology (*RECOMB*), 122-123, Mar. 27-31, 2004, San Diego, CA.

Technical Reports

1. Chih Lee* and Chun-Hsi Huang, *"Negative Example Aided Transcription Factor Binding Site Search"*, Arxiv preprint arXiv:1104.1234v1 [q-bio.GN], 2011.

2. Chun-Hsi Huang, *"CRI: Computing Infrastructure for the UConn Health-Grid Initiatives"*, in Proceedings of the 2006 NSF CISE CRI-PI's Workshop, 172-176, June 23-25, 2006, Snowbird, Utah.

3. Chun-Hsi Huang, *"Communication-Efficient Bulk Synchronous Parallel Algorithms"*, Ph.D. Dissertation, Department of Computer Science and Engineering, SUNY-Buffalo, Technical Report 2001-06.

FEDERAL GRANTS/CONTRACTS

1. **Project Title**: *CyberCorps Scholarship for Service IPA* (DGE-1855366)
   Funding Source: National Science Foundation (EHR/DGE), with 10% AU Cost Share
   Amount & Period: $280,876 (Sep. 5, 2018 - Sep. 4, 2019)
   Role: Principal Investigator

2. **Project Title**: *CyberCorps Scholarship for Service IPA* (DGE-1755374)
   Funding Source: National Science Foundation (EHR/DGE), with 10% UConn Cost Share
   Amount & Period: $212,565 (Sep. 5, 2017 - Sep. 4, 2018)
   Role: Principal Investigator

3. **Project Title**: *GAANN: Exascale Computing in Science and Engineering* (P200A130153)
   Funding Source: US Department of Education ($845,376); UConn SoE matching ($211,344)
   Amount & Period: $1,056,720 (Aug. 16, 2013 - Aug. 15, 2018)
   Role: Principal Investigator (co-PIs: S. Rajasekaran, M. Khan)

4. **Project Title**: *Bio-Grid Initiatives for Interdisciplinary Research and Education* (OCI-1156837)
   Funding Source: National Science Foundation (OCI: REU Site, $200K); SoE matching ($41,124)
   Amount & Period: $241,124 (March 1, 2012 - Feb. 28, 2015)
   Role: Principal Investigator (co-PI: R. Ammar)

5. **Project Title**: *Bio-Grid Initiatives for Interdisciplinary Research and Education* (CCF-0755373)
   Funding Source: National Science Foundation (CISE-CCF: REU Site)
   Amount & Period: $285,000 (March 1, 2008 - Feb. 28, 2012)
   Role: Principal Investigator

6. **Project Title**: *Building Motif Lexicons* (R01-GM079689-01A1)
   Funding Source: National Institutes of Health (NIGM/NLM)
   Amount & Period: $1,100,000 (May 01, 2007 - Apr. 30, 2011)
   Role: co-Principal Investigator (PI: M. Schiller (UCHC); other Investigators: S. Rajasekaran (UConn), M. Gryk (UCHC) and M. Maciejewski (UCHC))

7. **Project Title**: *Computing Infrastructure for the UConn Health-Grid Initiatives* (CNS-0551549)
   Funding Source: National Science Foundation (CISE-CNS: CRI)
   Amount & Period: $62,000 (March 1, 2006 - Feb. 28, 2008)
   Role: Principal Investigator

8. **Project Title**: *Workshop on Biomedical Computations on the Grid* (R13-LM008619)
   Funding Source: National Institutes of Health (National Library of Medicine)
   Amount & Period: $100,000 (Jan. 15, 2005 - Oct. 14, 2010)
   Role: Principal Investigator (co-PI: S. Rajasekaran)

9. **Project Title**: *Information Extraction from Massive Data Sets* (ITR-0326155)
   Funding Source: National Science Foundation (CISE-IIS: ITR-Medium)
   Amount & Period: $1,200,000 (Aug. 31, 2003 - Aug. 30, 2008)
   Role: Senior Personnel (PI: S. Rajasekaran; co-PIs: S. Sahni (U. Florida), T. Cormen (Dartmouth) and P. Pardalos (U. Florida))

INSTITUTIONAL INTERNAL GRANTS

1. **Project Title**: *Graph Algorithms on Coarse Grained Parallel Computers*
   Funding Source: UConn Research Foundation (Faculty Large Grant)
   Amount & Period: $20,837 (June 02 - Dec. 04)
   Role: Principal Investigator

2. **Project Title**: *Efficient Parallel Pattern Identification in Biological Sequences*
   Funding Source: Deanery, UConn School of Engineering (IT Grant, GE Source)
   Amount & Period: $8,629 (Jan. 02 - May 02)
   Role: Principal Investigator

PROFESSIONAL SERVICE

Invited Speeches

1. Talk Title: *Biological Modeling, Simulation and Computing to the Exascale*
   2011 International Symposium on Grids and Clouds (*ISGC*) and the Open Grid Forum (*OGF 31*)
   Academia Sinica, Taipei, Taiwan, Mar. 21-25, 2011.

2. Talk Title: *Peta-Scale Computing in Network Biology*
   CBI (Chem-Bio Informatics) Session at the 2010 International Conference on Bioinformatics (*InCoB*)
   Waseda University, Tokyo, Japan, Sep. 28, 2010.

3. Talk Title: *High-Performance Computing in Network Biology*
   9-th Emerging Information and Technology Conference (*EITC 09*), Bioinformatics Track
   Massachusetts Institute of Technology, Aug. 6-7, 2009.

4. Talk Title: *Towards an e-Learning and Telemedicine Network for Better Quality of Patient Care*
   International Year of Science and Technology for Africa: *The Role of Telemedicine Against Diseases and in Health Promotion*, International Institute of Tele-medicine, Rome, Italy, Nov. 30, 2007.

5. Talk Title: *Health-Grid: Towards Collaborative and On-Demand Healthcare*
   2007 Annual Meeting of the Society for Computing and Technology in Anaesthesia (*SCATA*), Royal College of Anaesthetists, London, UK, Nov. 21-23, 2007.

6. Talk Title: *Advances on Health-Grid*
   International Symposium on Critical Care Medicine, Venice-Mestre, Italy, Nov. 10-13, 2006.

7. Talk Title: *Health-Grid*
   20-th Annual APICE (Anesthesia, Pain, Intensive Care and Emergency Medicine) Seminar, School of Critical Care Medicine, University of Trieste, Trieste, Italy, Nov. 18-21, 2005.

8. Talk Title: *Grid-Enabled Approaches for Biomedical Applications*
   Yale University High Performance Computing Symposium, Apr. 29-30, 2004.

Professional Associations

- Executive Committee Member, IEEE Technical Committee on Scalable Computing, 2006-present.

Editorial Service

- Serving on Editorial Board
  - PLOS ONE, Public Library of Science, 2014-present.
  - Biomedical Informatics Insights, SAGE Publishing, 2007-present.
- Serving as Associate Editor
  - IEEE Transactions on Information Technology in Biomedicine (*IEEE-TITB*), 2008-2010.
- Serving as Guest Editor
  - IEEE Transactions on Information Technology in Biomedicine, 2007.
  - Journal of Clinical Monitoring and Computing, 2005.
  - Parallel Computing, 2004.

Conference Service

- Serving as General Chair:
  - **Workshop on Biomedical Computations on the Grid** (*BioGrid*), in conjunction with the IEEE Symposium on Cluster Computing and the Grid (*CCGrid*, 2003-2007).
    - (7-th), June 29, 2009 via AG, Storrs-Berlin; tutorial on Feb. 9-10, 2010, Sydney, Australia.
    - (6-th), June 2, 2008, Chicago, IL.
    - (5-th), May 17, 2007, Rio de Janeiro, Brazil.
    - (4-th), May 18, 2006, Singapore.
    - (3-rd), May 10, 2005, Cardiff, UK.
    - (2-nd), Apr. 21, 2004, Chicago, IL.
    - (1-st), May 14, 2003, Tokyo, Japan.
- Serving as Finance co-Chair:

  - First **IEEE International Conference on Computational Advances in Bio and medical Sciences** (*ICCABS*), Feb. 3-5, 2011, Orlando, FL.

- Serving on Steering Committee:

  - **International Conference on Smart Grids, Green Communications and IT Energy-aware Technologies** (*ENERGY*)
    (9-th) June 2-6, 2019, Athens, Greece; (8-th) May 20-24, 2018, Nice, France; (7-th) May 21-25, 2017, Barcelona, Spain.
  - **International Conference on Global Health Challenges** (*GLOBAL HEALTH*)
    (7-th), Nov. 18-22, 2018, Athens, Greece; (6-th), Nov. 12-16, 2017, Barcelona, Spain.
  - **International Conference on Informatics and Assistive Technologies for Health-Care, Medical Support and Wellbeing** (*HEALTHINFO*)
    (3-rd) Oct. 14-18, 2018, Nice, France; (2-nd) Oct. 8-12, 2017, Athens, Greece.
  - **Int'l Conference on Advances in Circuits, Electronics and Micro-electronics** (*CENICS*)
    (11-th) Sep. 16-20, 2018, Venice, Italy; (10-th) Sep. 10-14, 2017, Rome, Italy.

- Serving as Invited Faculty Panelist:

  - 2012 **Microsoft Research Faculty Summit**, July 15-17, 2012, Microsoft Conference Center, Redmond, WA.

- Serving on Program Committee:

  - 2019 IEEE International Conference on Communications (*ICC*): Green Communication Systems and Networks Symposium (*GCSN*), May 20-24, 2019, Shanghai, China.
  - International Conference on Smart Grids, Green Communications and IT Energy-aware Technologies (*ENERGY*)
    (9-th) June 2-6, 2019, Athens, Greece; (8-th) May 20-24, 2018, Nice, France; (7-th) May 21-25, 2017, Barcelona, Spain; (6-th) June 26-30, 2016, Lisbon, Portugal; (5-th) May 24-29, 2015, Rome, Italy; (4-th) Apr. 20-24, 2014, Chamonix, France; (3-rd) Mar. 24-29, 2013, Lisbon, Portugal; (2-nd) Mar. 25-29, 2012, St. Maarten, Netherlands Antilles; (1-st) May 22-27, 2011, Venice, Italy.
  - International Conference on eHealth, Telemedicine, and Social Medicine (*eTELEMED*)
    (11-th) Feb. 24-28, 2019, Athens, Greece; (10-th) Mar. 25-29, 2018, Rome, Italy; (9-th) Mar. 19-23, 2017, Nice, France; (8-th) Apr. 24-28, 2016, Venice, Italy; (7-th) Feb. 22-27, 2015, Lisbon, Portugal.
  - IEEE International Conference on Bioinformatics and Biomedicine (*BIBM*)
    (12-th) Dec. 3-6, 2018, Madrid, Spain; (11-th) Nov. 13-16, 2017, Kansas City, MO; (10-th) Dec. 15-18, 2016, Shenzhen, China; (9-th) Nov. 9-12, 2015, Washington, D.C.; (8-th) Nov. 2-5, 2014, Belfast, UK; (7-th) Dec. 18-21, 2013, Shanghai, China; (6-th) Oct. 4-7, 2012, Philadelphia, PA; (4-th) Dec. 19-22, 2010, Hong Kong; (3-rd) Nov. 1-4, 2009, Washington D.C.; (2-nd) Nov. 3-5, 2008, Philadelphia, PA; (1-st) Nov. 2-4, 2007, Silicon Valley, CA.
  - International Conference on Global Health Challenges (*GLOBAL HEALTH*)
    (7-th) Nov. 18-22, 2018, Athens, Greece; (6-th) Nov. 12-16, 2017, Barcelona, Spain; (5-th) Oct. 9-13, 2016, Venice, Italy; (4-th) July 19-24, 2015, Nice, France.
  - International Conference on Informatics and Assistive Technologies for Health-Care, Medical Support and Wellbeing (*HEALTHINFO*)
    (3-rd), Oct. 14-18, 2018, Nice, France; (2-nd), Oct. 8-12, 2017, Athens, Greece; (1-st), Aug. 21-25, 2016, Rome, Italy.

- International Conference on Bioinformatics (*InCoB*)
  (16-th) Sep. 26-28, 2018, New Delhi, India; (15-th) Sep. 21-23, 2016, Singapore; (14-th) Sep. 9-11, 2015, Tokyo, Japan; (first joint GIW-InCoB conference) (13-th) July 31 - Aug. 2, 2014, Sydney, New South Wales, Australia; (12-th) Sep. 20-22, 2013, Taicang, China; (11-th) Oct. 3-5, 2012, Bangkok, Thailand; (10-th) Nov. 30 - Dec. 3, 2011, Kuala Lumpur, Malaysia; (9-th) Sep. 26-28, 2010, Waseda University, Tokyo, Japan.
- International Conference on Physiological Computing Systems (*PhyCS*)
  (5-th) Sep. 19-21, 2018, Seville, Spain; (4-th) July 28-29, 2017, Madrid, Spain; (3-rd) July 29-31, 2016, Lisbon, Portugal; (2-nd) Feb. 11-13, 2015, Angers, France; (1-st) Jan. 7-9, 2014, Lisbon, Portugal.
- International Conference on Economics of Grids, Clouds, Systems, and Services (*GECON*)
  (15-th) Sep. 18-20, 2018, Pisa, Italy; (14-th) Sep. 19-21, 2017, Biarritz-Anglet-Bayonne, France; (13-th) Sep. 20-22, 2016, Athens, Greece; (11-th) Sep. 16-18, 2014, Cardiff, UK; (10-th) Sep. 18-20, 2013, Zaragoza, Spain; (9-th) Nov. 27-28, 2012, Berlin, Germany; (8-th) Dec. 5-6, 2011, Paphos, Cyprus; (7-th) Aug. 30-31, 2010, Ischia, Italy; (6-th) Aug. 24, 2009, Delft, The Netherlands; (5-th) Aug. 25-26, 2008, Las Palmas, Canary Island, Spain; (4-th) Aug. 28, 2007, Rennes, France.
- Int'l Conference on Advances in Circuits, Electronics and Micro-electronics (*CENICS*)
  (11-th) Sep. 16-20, 2018, Venice, Italy; (10-th) Sep. 10-14, 2017, Rome, Italy; (9-th) July 24-28, 2016, Nice, France; (8-th) Aug. 23-28, 2015, Venice, Italy; (7-th) Nov. 16-20, 2014, Lisbon, Portugal; (6-th) Aug. 25-31, 2013, Barcelona, Spain.
- IEEE International Conference on Computer and Information Technology (*CIT*)
  (18-th) July 30 - Aug. 3, Halifax, Canada; (17-th) Aug. 21-23, 2017, Helsinki, Finland; (16-th) Dec. 8-10, 2016, Fiji; (15-th) Oct. 26-28, 2015, Liverpool, England, UK; (13-th) Dec. 3-5, 2013, Sydney, Australia; (11-th) Aug. 31 - Sep. 2, 2011, Paphos, Cyprus; (10-th) June 29 - July 1, 2010, Bradford, UK; (9-th) Oct. 11-14, 2009, Xiamen, China; (8-th) July 8-11, 2008, Sydney, Australia; (7-th) Oct. 16-19, 2007, Aizu, Japan; (6-th) Sep. 20-22, 2006, Seoul, Korea; (5-th) Sep. 21-23, 2005, Shanghai, China; (4-th) Sep. 14-16, 2004, Wuhan, China.
- IEEE International Conference on Green Computing and Communications (*GreenCom*)
  (14-th), July 30 - Aug. 3, Halifax, Canada; (13-th), June 21-23, 2017, Exeter, UK.
- 20-th IEEE International Conference on High Performance Computing and Communications (*HPCC-2018*), June 28-30, 2018, Exeter, England, UK.
- Eleventh International Conference on Frontier of Computer Science and Technology (*FCST*), June 21-23, 2017, Exeter, UK.
- International Conference on Health Informatics (*HealthInf*)
  (10-th) Feb. 21-23, 2017, Porto, Portugal; (9-th) Feb. 21-23, 2016, Rome, Italy; (8-th) Jan. 12-15, 2015, Lisbon, Portugal; (7-th) Mar. 3-6, 2014, Eseo, Angers, Loire Valley, France; (6-th) Feb. 11-14, 2013, Barcelona, Spain; (5-th) Feb. 1-4, 2012, Vilamoura-Algarve, Portugal; (4-th) Jan. 26-29, 2011, Rome, Italy; (2-nd) Jan. 14-17, 2009, Porto, Portugal; (1-st) Jan. 28-31, 2008, Funchal, Madeira-Portugal.
- International Workshop on Collaboration Technologies and Systems in Healthcare and Biomedical Fields (*CoHeB*), in conjunction with the International Conference on Collaboration Technologies and Systems (*CTS*)
  (5-th) June 1-5, 2015, Atlanta, GA; (4-th) May 19-23, 2014, Minneapolis, MN; (3-rd) May 20-24, 2013, San Diego, CA; (2-nd) May 21-25, 2012, Denver, CO; (1-st) May 23-27, 2011, Philadelphia, PA.
- 14-th IEEE Int'l Workshop on High Performance Computational Biology (*HiCOMB*), in conjunction with the 29-th International Parallel and Distributed Processing Symposium (*IPDPS*), May 25, 2015, Hyderabad, India.

- International Conference on Information Technology in Bio-Medical Informatics (*ITBAM*) (5-th) Sep. 1-5, 2014, Munich, Germany; (4-th) Aug. 26-Aug. 30, 2013, Prague, Czech Republic; (3-rd) Sep. 3-Sep. 7, 2012, Vienna University of Technology, Vienna, Austria; (2-nd) Aug. 29-Sep. 2, 2011, Toulouse, France; (1-st) Aug. 30-Sep. 1, 2010, Bilbao, Spain.
- Symposium on Grid and Distributed Computing (*GDC*)
  (6-th) Nov. 21-23, 2013, Jeju Island, Korea; (5-th) Dec. 16-19, 2012, Kangwondo, Korea; (4-th) Dec. 8-10, 2011, Jeju Island, Korea; (3-rd) Dec. 9-11, 2010, Bali, Indonesia; (2-nd) Dec. 10-12, 2009, Jeju Island, Korea.
- Int'l Conference on ICT as Key Tech. for the Fight against Global Warming (*ICT-GLOW*)
  (2-nd) Sep. 3-Sep. 7, 2012, Vienna, Austria; (1-st) Aug. 29-Sep 2, 2011, Toulouse, France.
- 2012 FTRA International Conference on Intelligent Robotics, Automations, telecommunication facilities, and applications (*IRoA-12*), Aug. 23-25, 2012, Yantai, China.
- Int'l Conf. on Complex Medical Engineering (*CME*), June 1-4, 2012, Richmond, Virginia.
- 12-th IEEE/ACM Int'l Conf. on Grid Computing, Sep. 21-23, 2011, Lyon, France.
- European Health-Grid Conference (*HealthGrid*)
  (9-th) June 27-28, 11, Bristol, UK; (6-th) June 2-4, 08, Chicago; (5-th) Apr. 24-27, 07, Geneva, Switzerland; (4-th) June 7-9, 06, Valencia, Spain; (3-rd) Apr. 7-9, 05, Oxford, UK; (2-nd) Jan. 29-30, 04, Clermont-Ferrand, France.
- Int'l Bioinformatics Workshop (*IBW*), June 4-6, 2010, Wuhan University, Wuhan, China.
- IEEE Symposium on Parallel and Distributed Processing with Applications (*ISPA*)
  (7-th) Aug. 10-12, 09, Chengdu, China; (3-rd) Nov. 2-5, 05, Nanjing, China; (2-nd) Dec. 13-15, 04, Hong Kong.
- Workshop on Challenges for the Application of Grids in Healthcare at the 2009 IEEE Symposium on Cluster Computing and the Grid (*CCGrid*), May 18-21, 2009, Shanghai, China.
- IEEE Symposium on Cluster Computing and the Grid (*CCGrid*)
  (8-th) May 19-22, 2008, Lyon, France; (7-th) May 14-17, 2007, Rio de Janeiro, Brazil.
- International Conference on Bioinformatics Research and Development (*BIRD*)
  (2-nd) July 7-9, 2008, Vienna, Austria; (1-st) Mar. 12-14, 2007, Berlin, Germany.
- 2008 European Congress of the International Federation for Medical and Biological Engineering (*MBEC*), Nov. 23-27, Antwerp, Belgium, 2008.
- International Conference on Life Science Grids (*LSGrid*)
  (4-th) Sep. 6-7, 2007, Univ of Glasgow, Scotland; (3-rd) Oct. 13-14, 2006, Riken Genomic Science Institute, Japan.
- International Conference on Computational Science (*ICCS*), May 27-30, 2007, Beijing, China.
- Int'l Workshop on Bioinformatics and Security (*BIOS*) at the Second Int'l Conference on Availability, Reliability and Security Conference (*AReS*), Apr. 10-13, 2007, Vienna, Austria.
- 2007 IEEE International Symposium on Bioinformatics and Life Science Computing (*BLSC*), May 21-23, 2007, Niagara Falls, Canada.
- First Workshop on High-Performance Computing in Genomics, Proteomics and Transcriptomics (*HPC-GPT*) at the International Symposium on Parallel and Distributed Processing and Applications (*ISPA*), Dec. 1-4, 2006, Sorrento, Italy.
- IEEE Workshop on High-Performance Computing in Medicine and Biology (*HiPCoMB*)
  (2-nd) April 18-20, 2006, Vienna, Austria, held in conjunction with 20-th International Conference on Advanced Information Networking and Applications (*AINA*); (1-st) July 20-22, 2005, Fukuoka, Japan, held in conjunction with 11-th International Conference on Parallel and Distributed Systems (*ICPADS*).

- Workshop on High-Performance Scientific and Engineering Computing (*HPSEC*) at the International Conference on Parallel Processing (*ICPP*)
  (8-th) Aug. 18, 2006, Columbus, OH; (7-th) June 15, 2005, Oslo, Norway; (6-th) Aug. 15, 2004, Montreal, Canada.
- Workshop on Parallel and Distributed Scientific and Engineering Computing with Applications (*PDSEC*) at the International Parallel and Distributed Processing Symposium (*IPDPS*)
  (7-th) Apr. 25-29, 06, Rhodes Island, Greece; (6-th) Apr. 8, 05, Denver, CO; (5-th) Apr. 30, 04, Santa Fe, NM.
- Workshop on Distributed, High-Performance and Grid Computing in Comp. Biology (*GCCB*) at the 5-th European Conf. on Comp. Biology (*ECCB*), Sep. 10-13, 2006, Eilat, Israel.
- 2006 IEEE Symposium of Computations in Bioinformatics and Bioscience (*SCBB*)
  June 22-26, 2006, Hangzhou, China.
- First European Grid Conference (*EGC*), Feb. 14-16, 2005, Amsterdam, The Netherlands.
- Workshop on Parallel Bio-Computing (*PBC*) at the 6-th Int'l Conference on Parallel Processing and Applied Mathematics (*PPAM*), Springer LNCS, Sep. 11-14, 2005, Poznan, Poland.
- 18-th ISCA Int'l Conference on Parallel and Distributed Computing Systems (*PDCS*), Sep. 12-14, 2005, Las Vegas, NV.
- International Conference on Grid and Cooperative Computing (*GCC*), Springer LNCS
  (4-th) Nov. 30 - Dec. 3, 2005, Beijing, China; (3-rd) Oct. 21-24, 2004, Wuhan, China.
- Workshop on Data Mining and the Grid (*DM-Grid*) at the IEEE Int'l Conf. on Data Mining
  (2-nd) Nov. 27, 2005, New Orleans, LA; (1-st) Nov. 1, 2004, Brighton, UK.
- European Science Foundation - COST Action 282 Symposium on Knowledge Exploration & Life Science Informatics (*Kelsi*), Springer LNAI, Nov. 25-26, 2004, Milano, Italy.
- ISSB/ICA International Conference on Bioinformatics and its Applications (*ICBA*), Dec. 16-19, 2004, Fort Lauderdale, FL.
- International Conference on Parallel and Distributed Processing Techniques and Applications (*PDPTA*), June 24-27, 2002, Las Vegas, NV.

Reviewing

- Federal Funding Reviews
  - Permanent Member of NIH CSR Study Section ZRG1 IMST-K(14)
    (July 2017, March 2018, June 2018, Nov. 2018)
  - Panelist, NSF CISE-ACI, 2016
  - External Reviewer, NSF OISE, 2011
  - Panelist, NSF CISE-CCF, 2009
  - External Reviewer, NIH Study Section ZRG1 BST-M(58), 2009
  - Panelist, NSF OCI (Office of Cyber-infrastructure), 2007
  - Panelist, NIH-NIBIB Study Section ZEB1 OSR-A(J2), 2007
- Other Funding Reviews
  - External Reviewer, Israel Science Foundation (*ISF*), 2018

  - External Reviewer, National Science Center of Poland, 2015
    (Narodowe Centrum Nauki - NCN, http://www.ncn.gov.pl).
  - External Reviewer, Qatar National Research Fund (*QNRF*, http://www.qnrf.org)
    2011 National Priorities Research Program (NPRP)
  - External Reviewer, Human Frontier Science Program Organization (*HFSP*, http://www.hfsp.org)
    2008 Research Grant Competition

- Journal Reviewing:
  - Journal of Parallel and Distributed Computing
    (2018, 2015, 2011:2x, 2010, 2008, 2007:5x, 2005:3x, 2004:2x, 2003, 2002, 2001)
  - Journal of Computer and System Sciences (2018)
  - IEEE/ACM Transactions on Computational Biology and Bioinformatics (2017, 2015:2x, 2013)
  - PLOS Computational Biology (2016)
  - Bioinformatics (2015, 2014:2x, 2013:2x)
  - BMC Bioinformatics (2015, 2009, 2008)
  - BioMed Research International (2015:2x)
  - Briefings in Bioinformatics (2015, 2012)
  - IEEE Journal of Biomedical and Health Informatics (2015)
  - IEEE Access (2015)
  - BMC Genetics (2014)
  - Molecular Biology of the Cell (2014)
  - Biomedical Informatics Insights (2014, 2013:3x)
  - Statistics in Medicine (2013)
  - Computational Biology and Chemistry (2013)
  - Algorithms for Molecular Biology (2012)
  - Future Generation Computer Systems (2011, 2009, 2008, 2007, 2005, 2004)
  - Future Internet (2010)
  - Cluster Computing (2009), *Special Issue on e-Science*
  - IEEE Transactions on Information Technology in Biomedicine (2008, 2006)
  - IEEE Transactions on Systems, Man, and Cybernetics (2007, 2002)
  - Theoretical Computer Science (2006)
  - Journal of Clinical Monitoring and Computing (2006)
  - Computing Letters (2006)
  - IEEE Transactions on Parallel and Distributed Systems (2005)
    Special Issue on High-Performance Computational Biology
  - IEEE Transactions on VLSI Systems (2005)
  - Parallel Computing (2005)

  - Applied Bioinformatics (2005)
  - Soft Computing Journal (2004), *Special Issue on Bioinformatics and Medical Informatics*
  - IEEE Distributed System (2003)
  - Journal of Graph Algorithms and Applications (2002)

- Conference Reviewing (other than those served on committees):
  - 23-rd Int'l Conference of the European Federation for Medical Informatics (*MIE*), 2011.
  - World Congress on Medical and Health Informatics (*MedInfo*) (2010, 2007, 2004)
  - International Parallel and Distributed Processing Symposium (*IPDPS*) (2006, 2005, 2000).
  - International Symposium on Signal Processing and Information Technology (*ISSPIT*) (2006)
  - 9-th International Conference on Parallel and Distributed Systems (*ICPADS*) (2002)
  - ACM Symposium on Applied Computing (*ACM SAC*) (2002, 2001)

- Book Proposal Reviewing
  - Manuscript on *"Data Structures and Algorithms in Java, Sixth Edition "*, invited by Wiley, 2013.
  - Manuscript on *"Data Mining in Grid Computing Environments: Lessons Learned from the DataMiningGrid Project"*, invited by John Wiley and Sons, 2006.
  - Manuscript on *"Statistical Analysis of High-Throughput Data from Genomics and Proteomics"*, invited by Springer, 2005.
  - Manuscript on *"Digital Logic Design: A Modern Approach"*, invited by Morgan Kaufmann Publishers (ELS), 2005.

GRADUATE STUDENT SUPERVISION[2]

- PhD Major Advisor - Completed
  - Anas Al-Okaily (PhD, 2016)
    Dissertation: *A Novel Tree Structure for Pattern Matching in Biological Sequences*
    (First Employment: Teaching Assistant Professor, Northeastern University, Boston, MA)
  - Abdulaziz Miyajan (PhD, 2016)
    Dissertation: *An Efficient Leakage Free Countermeasure of AES Against Side Channel Attacks*
    (First Employment: Assistant Professor, Umm Al-Qura University, Mecca, Saudi Arabia)
  - Chih Lee (PhD, 2014)
    Dissertation: *Machine Learning Approaches to Transcription Factor Binding Site Search and Visualization* (First Employment: Bioinformatics Scientist, Illumina, San Diego, CA)
  - Ahmed A. Mohamed (PhD, 2006, co-advised with S. Rajasekaran)
    Dissertation: *Efficient Techniques for Multi-Document Summarization Using Document Graphs*
    (First Employment: Assistant Professor, Aswan University, Aswan, Egypt)

- PhD Major Advisor - Proposal Defended

[2]Unless otherwise indicated, degrees were awarded from the Department of Computer Science and Engineering, University of Connecticut.

  - Ngoc Tam Tran
    Dissertation: *Software Tools for DNA Motif Similarity Comparison and Analysis*
  - Haitham Ghalwash
    Dissertation: *QoS in SDN-Based Large-Scale Networks*

- PhD Major Advisor - Ongoing
  - Sultan Al Yami
  - Badar Almarri
  - Abdulrahman Alshegaifi
  - Fei Dou
  - Neil Malik
  - Kingsley Udeh

- MS[3] Major Advisor - Completed
  - Yao Li (Plan B, 2017)
  - Ramyaa Muthumani (Plan B, 2015)
  - Li Wei (Plan B, 2015)
  - Shweta Ware (Plan B, 2015)
  - Chih Lee (Plan B, 2013)
  - Saad Quader (Plan A, 2012)
    Thesis: *Effect of Positional Dependence in Recognizing Transcription Factor Binding Sites*
  - Kourosh Keikhanzadeh, D.D.S (Plan A, 2007)
    Division of Endodontology, Department of Oral Health and Diagnostic Sciences, School of Dental Medicine, University of Connecticut Health Center
    Thesis: *Development of a True Web-Based Electronic Patient Record for Endodontics*
  - Thomas Puzak (Plan A, 2006)
    Thesis: *The Effects of Spatial Locality on the Cache Performance of Binary Search Trees*
  - Wangang Xie (Plan B, 2006)
  - Min Qian (Plan B, 2004)

- PhD Thesis Committee - Completed
  - Tham Hoang (2018, *Advisor*: D. Shin)
    Subrata Saha (2017, *Advisor*: S. Rajasekaran)
    Manal Alharbi (2015, *Advisor*: S. Rajasekaran)
    Lina Pu (2015, *Advisor*: J. Cui)
    Mahmoud Maghraby (2015, *Advisors*: R. Ammar & S. Rajasekaran)
    Rania Kilany (2013, *Advisors*: R. Ammar & S. Rajasekaran)
    Samir Elsayed (2013, *Advisors*: R. Ammar & S. Rajasekaran)
    Sumit Narayan (2010, Electrical and Computer Engineering, *Advisor*: J. Chandy)

[3]The M.S. program in CSE (and at UConn, in general) has two options, Plan A (thesis) and Plan B (non-thesis).

Lance Miller (2008, *Advisors*: A. Russell & T. J. Peters)
Vishal Thapar (2008, *Advisor*: S. Rajasekaran)
Mingjun Song (2008, *Advisor*: S. Rajasekaran)
Marwan Sleiman (2007, *Advisor*: L. Lipsky)
Jaime Davilla (2007, *Advisor*: S. Rajasekaran)
Sudha Balla (2007, *Advisor*: S. Rajasekaran)
Passent El-Kafrawy (2006, *Advisor*: R. McCartney)
Ahmed M. Mohamed (2004, *Advisor*: R. Ammar)

- MS Committee - Completed

  – Jieyao Gao (2017, *Advisor*: J. Bi)
  Mohammed Ameen (2017, *Advisor*: R. Ammar)
  Guanming Wu (2017, *Advisor*: A. Russell)
  Abdulaziz Alshammari (2017, *Advisor*: R. Ammar)
  Raed Alotaibi (2016, *Advisor*: R. Ammar)
  Morad Behandish (2016, Mechanical Engineering, *Advisor*: H. Ilies)
  Kranti Pothapu (2015, *Advisor*: A. Shvartsman)
  Ying Hu (2015, *Advisor*: S. Rajasekaran)
  Gregory Reinhold (2015, *Advisor*: A. Shvartsman)
  Hussain Albarakati (2015, *Advisor*: R. Ammar)
  Sultan Al Yami (2015, *Advisor*: Y. Shin)
  Ruhua Jiang (2015, *Advisor*: Y. Wu)
  Manal Alharbi (2015, *Advisor*: R. Ammar)
  Priya Periaswamy (2014, *Advisor*: S. Rajasekaran)
  Maram Hakami (2014, *Advisor*: R. Ammar)
  Orko Momin (2013, Electrical and Computer Engineering, *Advisor*: J. Chandy)
  Cengiz Karakoyunlu (2013, Electrical and Computer Engineering, *Advisor*: J. Chandy)
  Bo Ho (2013, *Advisor*: Y. Wu)
  Anuradharthi Ramani (2009, Electrical and Computer Engineering, *Advisor*: J. Chandy)
  Tina Miriam John (2008, Electrical and Computer Engineering, *Advisor*: J. Chandy)
  Herak Sen (2008, *Advisor*: S. Demurjian)
  Mohamed Saleem (2008, *Advisor*: S. Demurjian)
  Ramandeep Kaur (2006, *Advisor*: S. Rajasekaran)
  Snigdha Verma (2006, *Advisor*: S. Rajasekaran)
  Hong Wang (2005, *Advisor*: A. Russell)
  Narasimha Shashidhar (2005, *Advisor*: A. Russell)
  Guanqun Zhang (2004, *Advisor*: S. Rajasekaran)
  Steven Moore (2004, *Advisor*: R. Ammar)
  Betsy Cherian (2004, *Advisor*: S. Rajasekaran)
  Yutong Yin (2003, *Advisor*: L. Lipsky)
  Xin Liu (2003, *Advisor*: I. Greenshields)
  Ahmed M. Mohamed (2002, *Advisor*: R. Ammar)

TEACHING (as Instructor at University of Connecticut)

- CSE5304 *High-Performance Computing* (graduate, formerly CSE332)

- SP17(19), SP14(16), FA12(21), SP10(9), SP09(8), SP07(9), SP05(22)

- CSE5302 *Advanced Computer Architecture* (graduate, formerly CSE340)
  - SP08(23), FA03(23), SP02(13)

- CSE5095 *Research Topics on Exascale Computing*
  - FA14(11)

- CSE4904/4939W/4940 *CSE Senior Design Lab* (undergrad, formerly CSE269/293W)
  - FA16/SP17(16), FA15/SP16(15), FA13/SP14(16), SP12(10), FA10(10), SP10(13), FA08(18), SP06(6)

- CSE4500 *Parallel Systems* (undergrad, formerly CSE228)
  - SP17(16), SP13(11), FA04(36), FA03(45), FA02(46)

- CSE3666/2304 *Computer Architecture* (undergrad, formerly CSE220/201)
  - SP15(50), SP11(19), SP08(13), SP07(16), FA06(30), SP06(19), FA05(27), SP05(25), SP04(28), SP03(32)

- CSE2500 *Introduction to Discrete Systems* (undergrad, formerly CSE254)
  - FA16(40), FA15(68), SP12(44), FA11(57), FA10(35), FA09(53), SP09(34), FA01(38)

- CSE2100 *Data Structures and Intro. to Algorithms* (undergrad, formerly CSE134)
  - SP16(54), FA14(95), FA13(124), FA12(108)

- CSE1100 *Introduction to Computing* (undergrad, formerly CSE123C)
  - FA07(105)

TEACHING (as Instructor at SUNY Buffalo)

- CSE116 *Intro. to Computer Science for Majors (II)* (undergrad) - SP99(12)

- CSE115 *Intro. to Computer Science for Majors (I)* (undergrad) - SP00(91), FA98(31)

- CSE114 *Intro. to Computer Programming (II)* (undergrad) - Summer99(31)

- CSE113 *Intro. to Computer Programming (I)* (undergrad) - FA99(33), Summer98(33)

RESEARCH STATEMENT

My current research interests are in the areas of *Extreme-Scale Computing and Data Analytics*, *Computational Biology and Life-Science Informatics*, as well as *Combinatorial Algorithms and Experimental Algorithmics*. My recent research focus has been on solving computation and data-intensive scientific problems arising from life-science disciplines in a broad sense.

Computational Biology, Life-Science Informatics

I am interested in applying algorithmic or learning techniques to solve computational problems in biology. I am particularly interested in problems related to *motif search*, *modeling transcription factor binding sites* and *multiple-sequence alignment*.

Transcription of genes followed by translation of their transcripts into proteins determines the type and functions of a cell. Expression of certain genes even initiates or suppresses differentiation of stem cells. It is therefore crucial to understand the mechanisms of transcriptional regulation. Among them, transcription factor (TF) binding is the one that has been given considerable attention by computational biologists for the past decade and is still being actively researched. A TF is a protein or protein complex that regulates transcription of one or more genes by binding to the double-stranded DNA. A first step in computational identification of target genes regulated by a TF is to pinpoint its binding sites in the genome. Once the binding sites are found, the putative target genes can be searched and located in flanking regions of the binding sites. In general, there are two approaches to computational transcription factor binding site (TFBS) identification, *motif discovery* and *TFBS search*. The former assumes that a set of sequences is given and each of the sequences may or may not contain TFBSs. An algorithm then predicts the locations and lengths of TFBSs. The term *motif* refers to the pattern that are shared by the discovered TFBSs. These algorithms rely on no prior knowledge of the motif and hence are known as *de novo* motif discovery algorithms. The latter assumes that, in addition to a set of sequences, the locations and lengths of TFBSs are known. An algorithm, guided by the given sequences with known TFBSs, then learns (hence referred to as *supervised learning*) from these examples and predicts TFBSs in new sequences.

I am interested in designing combinatorial algorithms for motif search, multi-sequence alignment algorithms tailored to TFBS alignment and modeling, as well as machine learning approaches to binding site prediction based on such models. These problems are of increasing importance with the release of ChIP-seq data from the ENCyclopedia Of DNA Elements (ENCODE) and Model Organism ENCyclopedia Of DNA Elements (modENCODE) projects, which significantly increased the amount of TF binding affinity information available to researchers.

High-Performance Computing, Cyber-Infrastructures, Exascale Computing

Exascale computing capabilities will for the first time enable a truly multi-scale attack on research problems emerging from various science and engineering disciplines. The challenge to attain exascale capability is complex and involves technical hurdles such as exploiting massive parallelism at the algorithm level, coping with software run-time errors from a billion processing elements, efficient large-scale inter-processor and processor-memory communications, as well as reducing the power requirements for future hardware. I am particularly interested in pursuing research work that leads to sustained exascale-level throughput by coordinating large-scale distributed systems, as well as promoting awareness of this new technology in the biomedical research community.

For more than ten years I have been working on the development, deployment and evaluation of modern Grid and Cloud technologies for this purpose. The Grids/Clouds represent an emerging and expanding

instrumentation, computing, information and storage platform that allows geographically distributed resources, which are under distinct control, to be linked together in a transparent fashion. The power of such a large-scale distributed system lays not only in the aggregate computing ability, data storage, and network bandwidth that can readily be brought to bear on a particular problem, but also on its ease of use. Towards this end, I have initiated the UConn *Health-Grid Initiatives*, aiming at establishing a campus-wide Computational Grid for certain computation-intensive life-science applications, a (campus-wide) Data Grid for distributed and optimized storage of large amounts of accessible data, as well as a Knowledge Grid for intelligent use of the Data Grid for biomedical knowledge creation and tools to all UConn users.

Combinatorial Algorithms, Parallel Algorithms

With the rapid advances of high-performance computing systems and networking technologies, not only those computation-intensive scientific computing problems have been experimentally studied on parallel machines, efficient parallelization of problems generally considered to be communication-intensive, such as graph problems, also attracts attention. Graph problems have been shown to have considerably less internal structures than many other problems studied. This results in highly data-dependent communication patterns and makes it difficult to achieve communication efficiency. However, a large number of fundamental problems in *network biology* can be formalized as graph problems.

I have been interested in both sequential and parallel graph algorithms. In the sequential setting, with collaborators, I solved an open question in the design of complementary metal-oxide semiconductor (CMOS) VLSI circuits: *Can a polynomial-time algorithm decide if a given planar graph has a plane embedding E such that E has a double Euler trail?* This question was answered in the affirmative with a linear-time algorithm. I also follow up on open questions such as: *Finding the minimum double Euler tour cover for a series-parallel* (SP) *graph in deterministic polynomial time*, and similar important problems.

In the parallel framework, I am interested in the analysis of computation and communication complexities on parallel programming models such as the BSP (*Bulk Synchronous Parallel*) model. Communication overhead has been pointed out to be the major bottleneck for the performance of parallel algorithms. Among the proposed parallel computation models, the BSP model has received much attention as the bridging model for parallel computation as it generally better addresses practical concerns such as communication and synchronization overheads. The BSP also offers the prospect of achieving both scalable parallel performance and architecture independence. With only few parameters, the BSP model aims at giving predictable algorithmic performance. This is of vital importance, especially for supercomputing in the next generation, where billions of compute cores from a variety of architectures are interconnected by a high-speed network.

My research group has been applying the sequential and parallel algorithmic techniques in graph theory to various pattern identification problems in biological sequences or networks. Related research involves developing efficient computational and mathematical methods for managing and analyzing information from the sequence, structure and function of biological molecules and systems.

TEACHING STATEMENT

In addition to my other research, service and advising obligations, I have devoted myself to and enjoyed teaching both undergraduate and graduate courses. I must say the proficiency in knowledge conveying is the most rewarding experience. Prior to joining UConn as a faculty member, I had taught undergraduate C++, Java, and Data Structure courses for six semesters as an instructor when I was a graduate student. Experience from those years has prepared me well to handle almost any teaching environment. I am quite comfortable dealing with students and so are they with me. I can design new courses in my area of research, and actively contribute to curriculum changes and design on new programs. I have developed a style, a methodology for effective teaching, and most of all have learned to interact with students from varied backgrounds.

At the University of Connecticut, I teach a wide spectrum of CSE courses, including such graduate courses as CSE5095 *Exascale Computing*, CSE5304 (formerly CSE332) *High-Performance Computing*, CSE340 (now CSE5302) Graduate *Computer Architecture*, and undergraduate courses as CSE4939W, CSE4940 (formerly CSE269) *CSE Design Project*, CSE4500 (formerly CSE228) *Parallel Systems*, CSE2304 and CSE3666 (formerly CSE201/220) *Computer Architecture*, CSE2500 (formerly CSE254) *Discrete Mathematics*, CSE2100 *Data Structures and Introduction to Algorithms*, and CSE123 (now CSE1010) *Introduction to Computing*. These areas have been undergoing the most dramatic changes witnessed in decades.

To be an effective teacher in such challenging areas, I approach teaching from three points of view: *topic taught*, *audience*, and *effective use of technology*. I make sure that I have mastery over the topic through my past course experience, by reading published materials on the topic, by discussing it with colleagues, and by practicing the details through pilot projects. If the topic taught is the prerequisite of my area of research, I attempt to apply my research and publicize it through my teaching. For example, while teaching CSE4500 *Parallel Systems*, in addition to class materials, I often describe current research topics in parallel algorithms and show students the connection between class materials and the state-of-the-art research, so that those junior and senior students in my class realize that research is not that far-fetched. I had several undergraduate students working with me on my research project for credits towards their Senior Design Lab. Most of them have taken my CSE4500.

Alternatively, I use the courses I teach as basis for developing students' research interests by assigning projects in related topics. For example, while teaching CSE340 *Computer Architecture*, I assigned a project on paper critiques that dealt with reading, class discussion, and critiques on several recently published papers in representative areas. This effort turned out to be successful since a few students who took the course and successfully completed that project later told me they have been applying the knowledge they gained in CSE340 in their current research. I also wrote recommendation letters for students who did very well in that class. A few of them got admitted to doctoral programs at prestigious universities and are in frequent communication with me about research ideas. I enjoy that most of my students are close to me.

Another aspect of my teaching philosophy relates to the audience. I understand that in a typical state university like the University of Connecticut, students come from varied social and educational backgrounds. In order to overcome any difficulty that may arise due to this variety, I always review the prerequisite materials before I start the main topic. This brings all members of the audience to a level ground which in turn helps in effective presentation by me and assimilation by the students of the actual course materials. For example, when I started teaching CSE228 *Parallel Systems*, I spent a full week of lectures reviewing the concepts

from CSE259 *Computer Algorithms*. In some other courses a review may not be warranted for the entire class. When I taught the CSE5304 *High-Performance Computing*, there were always graduate students from outside of the CSE department who never had any course experience in computer organization and computer algorithms. Instead of reviewing the concepts for the entire class, I gave these students additional class notes to study and meet them during my office hours for a few weeks in order to bring them up to par with the class. This personal review helped them perform well in the course.

Computer Science and Engineering curriculum has been getting more complex every day with the inclusion of newer concepts. The scope of courses in the curriculum has thus dramatically widened with the introduction of these new concepts. More materials need to be covered today in the same time frame as a few years ago. I believe I can satisfy this need to a great extent with use of technology in the classroom. All my lectures are in the form of on-line slides. Students have access to the slides through the course web-page. Students can prepare ahead for the lectures. Availability of slides and electronic presentation also allow the students to concentrate on the lectures rather than on taking notes. More importantly, to the best I can, I always make the lecture notes available to students before class so that students can preview the materials. This method helps in effective coverage of more materials in a given time frame. My slides are freely available for any other faculty members to use. I do not recycle my slides for a course but reuse them with improvements the next time I teach the course.

In addition to classroom teaching, I regularly mentor undergraduate honor projects for students who request to convert my course for honor credits. Also, I have directed the NSF-sponsored Bio-Grid REU (Research Experience for Undergraduates) Site at UConn in 2008-2014 and recruited undergrad students from the following universities to participate in related research work in summer:

Bowdoin College	Carnegie Mellon University	CUNY - Hunter
Colorado Mesa U	Duke University	East Coast Polytech Institute
Fairfield University	Hobart College	Lewis-Clark State College
Loyola Marymount U	Manchester Community College	Manhattanville College
Rhode Island College	Siena College	Swarthmore College
Tufts Univ	UC San Diego	U Connecticut
U Delaware	Univ of Hartford	Univ of Maine, Orono
UMass Amherst	U Pennsylvania	U Puget Sound
U Tennessee Chattanooga	U Texas Dallas	Western New England College

We mentored students towards successful research projects, included students as co-authors of papers, prepared reference letters for students applying to graduate school and graduate fellowships. Bio-Grid alumni entered such prestigious graduate schools or medical schools as

Boston U	Columbia U	Cornell U
Rensselaer Polytech Institute	Stanford U	UC Santa Barbara
U Connecticut	U Connecticut (Medicine)	U Maryland, College Park
UNC Chapel Hill	U Pennsylvania	U Pittsburgh
U Southern California	U Texas (Medicine)	

A few students succeeded in winning prestigious graduate fellowships, including

- Two NSF Graduate Research Fellowships (2012 and 2016)
- One Honorable Mention of NSF Graduate Research Fellowship (2012)
- One Alfred P. Sloan Foundation Graduate Scholarship (2012)
- One US DoEd GAANN Fellowship (2010)

Listed in the following table are student evaluations of the courses I taught at UConn.
(**73%, 35 out of 48, of the courses I taught received an evaluation score $\geq$ the departmental mean.**)

Semester, Course #	Course Title	Enrollment	*Instructor*/Dept Mean/Univ Mean
SP17 CSE4940	CSE Senior Design Project II	16	*5.0*/3.9/4.3 (electronic)
SP17 CSE5304/4500	High-Perf Comp/Parallel Systems	19/16	*4.0*/4.2/4.2 (electronic)
FA16 CSE2500	Intro. to Discrete Systems	39	*4.0*/3.1/4.0 (electronic)
FA16 CSE4939W	CSE Senior Design Project I	16	*4.0*/4.1/4.2 (electronic)
SP16 CSE4940	CSE Senior Design Project II	15	*5.0*/3.9/4.3 (electronic)
SP16 CSE2100	Data Structures & Int. Algo	54	*4.0*/3.4/4.0 (electronic)
FA15 CSE2500	Intro. to Discrete Systems	68	*3.0*/2.8/4.0 (electronic)
SP15 CSE2304	Computer Architecture	51	*3.5*/3.3/4.0 (electronic)
FA14 CSE2100	Data Structures & Int. Algo	89	*3.0*/3.6/3.6 (electronic)
FA14 CSE5095	Exascale Computing	10	*5.0*/4.7/4.1 (electronic)
SP14 CSE5304	High-Performance Computing	16	*5.0*/4.6/4.2 (electronic)
SP14 CSE4940	CSE Senior Design Project II	16	*5.0*/4.4/4.1 (electronic)
FA13 CSE2100	Data Structures & Int. Algo	123	*3.0*/3.0/3.9 (electronic)
FA13 CSE4939W	CSE Design Project	16	*4.0*/3.4/4.1 (electronic)
SP13 CSE4500	Parallel Systems	11	*3.5*/3.4/4.1 (electronic)
FA12 CSE5304	High-Performance Computing	21	*8.4*/9.0/8.9
FA12 CSE2100	Data Structures & Int. Algo	94	*7.4*/8.3/8.7
SP12 CSE2500	Intro. to Discrete Systems	44	*8.8*/7.9/8.7
SP12 CSE4940	Computer Science Design Lab	10	*9.7*/8.5/8.9
FA11 CSE2500	Intro. to Discrete Systems	57	*8.3*/8.0/8.7
SP11 CSE2304	Computer Architecture	19	*7.4*/7.5/8.6
FA10 CSE2500	Intro. to Discrete Systems	35	*8.5*/8.0/8.7
FA10 CSE4939W	CSE Design Project	10	*9.0*/8.6/8.9
SP10 CSE5304	High-Performance Computing	9	*8.6*/9.3/9.0
SP10 CSE4939W	CSE Design Project	13	*9.0*/8.2/8.9
FA09 CSE2500	Intro. to Discrete Systems	53	*8.9*/7.5/8.6
SP09 CSE5304	High-Performance Computing	8	*8.5*/9.3/8.9
SP09 CSE2500	Intro. to Discrete Systems	34	*7.9*/8.1/8.7
FA08 CSE4904	CSE Design Project	18	*9.2*/8.3/8.7
SP08 CSE340	Computer Architecture	23	*9.2*/9.1/8.9
SP08 CSE201	Computer Architecture	13	*8.1*/8.5/8.7
FA07 CSE123	Intro to Computing	105	*7.6*/7.5/8.7
SP07 CSE332	High-Performance Computing	9	*9.4*/8.4/8.7
SP07 CSE201	Computer Architecture	16	*8.5*/8.4/8.7
FA06 CSE220	Intro to Comp Architecture	30	*8.3*/8.2/8.7
SP06 CSE269	Computer Science Design Lab	6	*9.3*/8.4/8.7
SP06 CSE220	Intro to Comp Architecture	30	*8.3*/8.4/8.7
FA05 CSE220	Intro to Comp Architecture	27	*8.2*/7.9/8.7
SP05 CSE332	High-Performance Computing	22	*8.9*/8.9/8.8
SP05 CSE201	Computer Architecture	25	*9.2*/7.9/8.6
FA04 CSE228	Parallel Systems	36	*8.4*/8.3/8.6
SP04 CSE201	Computer Architecture	28	*9.3*/8.3/8.6
FA03 CSE340	Computer Architecture	23	*8.8*/8.3/8.8
FA03 CSE228	Parallel Systems	45	*8.2*/8.4/8.5
SP03 CSE201	Computer Architecture	32	*7.7*/8.1/8.6
FA02 CSE228	Parallel Systems	46	*8.8*/8.2/8.6
SP02 CSE340	Computer Architecture	13	*9.2*/8.9/8.9
FA01 CSE254	Intro. to Discrete Systems	38	*8.3*/7.9/8.5