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EDUCATION

1987   **PhD** in Computer Science
School of Computer & Information Science
Syracuse University, Syracuse, New York
Title: *The Conversion of Probabilistic Decision Tables*
into Efficient Decision Trees and Diagrams.
Advisor: Dr. F. L. Morris.

1980   **MS** in Computer Science
School of Computer & Information Science
Syracuse University, Syracuse, New York

1978   **MS** in Pure Mathematics, Mathematics Department
Syracuse University, Syracuse, New York.

1974   **BS** in Mathematics, Mathematics Department
American University of Beirut, Beirut, Lebanon

EXPERIENCE

<u>Professor and Chair since 2014</u>   **August 1992 - present**
Department of Computer Science
San José State University, San José, California.
Courses taught include: compiler design, operating systems, software engineering, design and analysis of algorithms and complexity theory, programming languages, automata, and computability, and topics courses: genetic algorithms, data compression, coding and information theory, algorithm animation in Java, bioinformatics, and fundamentals of UNIX system administration. Supervised numerous master theses and independent studies.

<u>Professor</u>   **August 2005 - Aug 2014**
Applied and Natural Sciences Program
University of California at Santa Cruz Extension
Cupertino, California.
Courses taught include: "Bioinformatics tools, databases and methods", "Advanced sequence analysis in bioinformatics", "Introduction to molecular biology", and "Perl for bioinformatics".

Visiting Professor   **August 2017**
Department of Computer Science
Aalto University, Espoo, Finland.
Gave an intensive short course on Evolutionary Computation and conducted research.

Visiting Professor   **June 2016**
Department of Computer Science
American University of Armenia, Yerevan, Armenia.
Gave an intensive course (45 hours) on Bioinformatics and conducted research.

Visiting Professor   **August 2012**
Department of Computer Science
Aalto University, Espoo, Finland.
Gave an intensive short course on Evolutionary Computation and conducted research.

Visiting Professor   **August 2008 and 2010**
Department of Computer Science and Engineering
Helsinki Institute of Technology, Espoo, Finland.
Gave an intensive short course on Algorithms in Bioinformatics in Dr. Jorma Tarhio's group.

Visiting Professor   **July 2008 and 2010**
Department of Computer Science
Haute Ecole d'Ingénierie et de Gestion du Canton de Vaud
Yverdon-les-Bains, Switzerland.
Taught a course on Bioinformatics.

Visiting Professor   **August 2007**
Department of Computer Science
Haute Ecole d'Ingénierie et de Gestion du Canton de Vaud
Yverdon-les-Bains, Switzerland.
Taught a course on Genetic Algorithms.

Visiting Professor   **June - July 2007**
Department of Computer Science and Engineering
Helsinki Institute of Technology, Espoo, Finland.
Gave seminars and conducted research on string algorithms in Dr. Jorma Tarhio's group.

Visiting Professor   **January - June 2004**
Department of Computer Science and Engineering
Helsinki Institute of Technology, Espoo, Finland.
Taught a graduate course in bioinformatics and conducted research.

Visiting Professor   **June - July 2003**
European Molecular Biology Laboratory, Heidelberg, Germany.
Developed bioinformatics modules for biology teachers.

Visiting Professor   **July - August 2002**
Department of Computer Science and Engineering
Helsinki Institute of Technology, Espoo, Finland.
Taught a course on genetic algorithms and conducted research.

Visiting Professor   **October - December 2000**
Department of Computer Science
University of Málaga, Málaga, Spain.
Conducted research in theoretical issues in evolutionary computation.

DAAD Scholar   **August 1999 - July 2000**
Department of Computer Science
Technische Universität München, München, Germany.
Taught graduate courses on algorithms and data compression. Conducted research in the
fields of genetic algorithms and algorithm visualization.

Visiting Professor   **June 1996 - August 1996**
Department of Computer Science
Technische Universität München, München, Germany.
Taught a graduate course on applications of information theory to data compression, ran a
two day seminar on genetic algorithms and conducted research in theoretical CS.

DAAD Scholar   **August 1994 - July 1995**
Department of Computer Science
University of Dortmund, Dortmund, Germany.
Taught two-semester graduate level course on information theory and conducted research
in evolutionary heuristics applied to combinatorial optimization problems.

Fulbright Scholar   **January 1992 - July 1992**
Department of Computer Science
American University in Bulgaria, Blagoevgrad, Bulgaria.
Ran a seminar on neural networks; collaborated with researchers from the Institute of Mathematics at the Bulgarian Institute of Sciences, and actively participated in the revision of
the curriculum of the university.

Dana Research Scholar   **September 1989 - August 1990**
Department of Biomedical Engineering
The Johns Hopkins University School of Medicine, Baltimore, Maryland.
Conducted research in the fields of neural networks and genetic algorithms.

Assistant Professor   **September 1986 - December 1991**
Department of Computer Science
Wellesley College, Wellesley, MA.
Courses taught include: introductory computer science courses using Pascal and Basic, data
structures and organization, design and analysis of algorithms, coding and information theory, operations research, computability theory, neural networks, languages and automata,
and mathematical foundations of computer science. Supervised several honors theses and

independent studies.

Research Assistant   **September 1984 - June 1986**
School of Computer and Information Science
Syracuse University, Syracuse, New York.

Assistant Professor   **September 1980 - June 1983**
Computer Science Department
Utica College of Syracuse University, Utica, New York.
Courses taught include: introductory computer science courses using Pascal, Fortran and APL, data structures and organization, design and analysis of algorithms, coding and information theory, and discrete mathematics.

Teaching Assistant   **September 1976 - June 1980 & September 1983 - June 1984**
Mathematics Department
Syracuse University, Syracuse, New York.
Courses taught include: different sequences in calculus, linear algebra, and abstract algebra.

BOOK CHAPTERS AND JOURNAL PUBLICATIONS

- *Information Technology in Bio- and Medical Informatics*, S. Khuri (editor) with M. Bursa, M. Holzinger, E. Renda; **Lecture Notes in Computer Science (LNCS) 10443**, Springer-Verlag, Lyon, France 2017. ISBN 978-3-319-64264-2.

- *C. elegans avoids toxin-producing Streptomyces using a seven transmembrane domain chemosensory receptor*, A. Tran, A. Tang, C. O'Loughlin, A. Balisteri, E. Chang, D. Cota, J. Li, A. Varshney, V. Jimenez, J. Pyle, B. Tsujimoto, C. Wellbrook, C. Vargas, A. Duong, N. Ali, S. Mathews, S. Levinson, S. Woldemariam, S. Khuri, M. Bremer, D.Eggers, N. L'Etoile, L. Miller Conrad, and M. VanHoven; **eLife**, 2017, Volume 6, PMID: 28873053.

- *Information Technology in Bio- and Medical Informatics*, S. Khuri (editor) with M. Bursa, M. Holzinger, E. Renda; **Lecture Notes in Computer Science (LNCS) 9832**, Springer-Verlag, Porto, Portugal 2016. ISBN 978-3-642-15019-7.

- *Information Technology in Bio- and Medical Informatics*, S. Khuri (editor) with M. Bursa, M. Holzinger, E. Renda; **Lecture Notes in Computer Science (LNCS) 9267**, Springer-Verlag, Valencia, Spain, 2015. ISBN 978-3-319-22740-5.

- *Information Technology in Bio- and Medical Informatics*, S. Khuri (editor) with M. Bursa, E. Renda; **Lecture Notes in Computer Science (LNCS) 8649**, Springer-Verlag, Berlin, Germany, 2014. ISBN 978-3-319-10265-8.

- *Modulation of Phagocytosis in Tetrahymena thermophila by Histamine and the Antihistamine Diphenhydramine*, N. Buduma, J. Balabanian, P. Dalvi, SK. Chia, A. Dhaliwal, D. Eliya, J. Boothby, S. Bros-Seemann, R. Kibler, S. Khuri and S. Veregge; **Acta Protozoologica**, Krakow, Poland, 2013, Volume 52, Issue 4, pp. 317-323.

- *Information Technology in Bio- and Medical Informatics*, S. Khuri (editor) with M. Bursa, E. Renda; **Lecture Notes in Computer Science (LNCS) 8060**, Springer-Verlag, Berlin, Germany, 2013. ISBN 978-3-642-40092-6.

- *Information Technology in Bio- and Medical Informatics*, S. Khuri (editor) with C. Böhm, L. Lhotska, E. Renda; **Lecture Notes in Computer Science (LNCS) 7451**, Springer-Verlag, Berlin, Germany, 2012. ISBN 978-3-642-32394-2.

- *Information Technology in Bio- and Medical Informatics*, S. Khuri (editor) with C. Böhm, L. Lhotska, N. Pisanti; **Lecture Notes in Computer Science (LNCS) 6865**, Springer-Verlag, Berlin, Germany, 2011. ISBN 978-3-642-23207-7.

- *Information Technology in Bio- and Medical Informatics*, S. Khuri (editor) with L. Lhotska, N. Pisanti; **Lecture Notes in Computer Science (LNCS) 6266**, Springer-Verlag, Berlin, Germany, 2010. ISBN 978-3-642-15019-7.

- *Assembling DNA Fragments with a Distributed Genetic Algorithm*, G. Luque, E. Alba Torres, S. Khuri; **Parallel Computing for Bioinformatics and Computational Biology**, Wiley-Interscience, New Jersey, 2006, chapter 12, pp. 285-302.

- *Sequential and Distributed Evolutionary Algorithms for Combinatorial Optimization Problems*, E. Alba Torres, S. Khuri; **Recent Advances in Intelligent Paradigms and Applications**, Springer-Verlag, Berlin, Heidelberg, 2002, chapter 10, pp. 211-233.

- *Applying Evolutionary Algorithms to Combinatorial Optimization Problems*, E. Alba Torres, S. Khuri; **Lecture Notes in Computer Science**, vol. 2074, Part II, Springer-Verlag, Berlin, Heidelberg, 2001, pp. 689-700.

- *A User-Centered Approach for Designing Algorithm Visualizations*, S. Khuri; published in special issue of **Informatik/Informatique**, No.2, April 2001, pp. 12-17.

- *Un Enfoque Entrado en el Usuario par Diseñar Animaciones de Algoritmos* (in Spanish), S. Khuri; **Novatica/Upgrade**, No. 150, March/April 2001, pp. 16-20.

- *Genetic Algorithms for Solving Open Shop Scheduling Problems*, S. Khuri, S. Miryala; **Lecture Notes in Artificial Intelligence: Progress in Artificial Intelligence**, Springer Verlag, Berlin, Heidelberg, 1999, pp. 357-369.

- *Transform Methods: Haar Analysis, Haar Transforms*, S. Khuri; **Handbook of Evolutionary Computation**, Oxford University Press, 1998.

- *Transform Methods: Walsh Analysis, Walsh Transforms*, S. Khuri; **Handbook of Evolutionary Computation**, Oxford University Press, 1998.

- *A Comparative Study of a Penalty Function, a Repair Heuristic, and Stochastic Operators with the Set-Covering Problem*, S. Khuri, T. Bäck, M. Schütz; **Artificial Evolution: Lecture Notes in Computer Science**, volume 1063, Springer Verlag, Berlin, 1996, pp. 320-332.

- *An Evolutionary Heuristic for the Minimum Vertex Cover Problem*, T. Bäck, S. Khuri; **Max-Planck-Institut für Informatik**, MPI-I-94-241, August 1994, pp. 86-90.

- *A Binary Decision Algorithm*, S. Khuri, A. Batarekh; **Information Sciences: An International Journal**, vol. 53, number 3, February 1991, pp. 251-270.

PUBLICATIONS AND PRESENTATIONS AT REFEREED CONFERENCES

- *Introducing Bioinformatics Algorithms in Computer Science Courses*, S. Khuri; workshop given at the 49th **ACM SIGCSE Technical Symposium**, Baltimore, Maryland, February 21 - 24, 2018; and abstract published in the **Proceedings of the 49th SIGCSE Technical Symposium on Computer Science Education**, ACM Press, 2018.

- *Increasing The Capacity Of STEM Workforce: Minor in Bioinformatics*, S. Khuri, M. VanHoven, and N. Khuri; presented at the 48th **ACM SIGCSE Technical Symposium**, Seattle, Washington, March 8 - March 11, 2017; and published in the **Proceedings of the 48th SIGCSE Technical Symposium on Computer Science Education**, ACM Press, 2017.

- *TreeComparator: A Tool to Compare Tree-Based Classifiers*, P. Mishra, N. Khuri, and S. Khuri; presented at the **American Association for the Advancement of Science, Pacific Division, 2017**, Waima, Hawaii, June 19 - 23, 2017; and abstract published in the **Proceedings of AAAS Conference 2017**, 2017.

- *Differentiating between Authentic and Cryptic 5' Splice Sites*, K. Sivaraman, R. Mohana, P. Mishra, and S. Khuri; presented at the **14th Annual Rocky Mountain Bioinformatics Conference, 2016**, Snowmass, Colorado, December 8 - 10, 2016; and abstract published in the **Proceedings of 14th Annual Rocky Mountain Bioinformatics Conference, 2016**.

- *Using Statistical Models to Predict Splice Sites and Cryptic Splice Sites*, S. Nerli and S. Khuri; presented at the 96th Annual Meeting of the **American Association for the Advancement of Science, 2015**, Pacific Division in San Francisco, California, June 14-17, 2015; and abstract published in the **Proceedings of AAAS Conference 2015**, Pacific Division, 2015.

- *A Computer Science Education Certificate for High School Teachers*, S. Khuri, P. Messina, R. Mak, K. O'Brien, H. Li, V. Lehmkuhl-Dakhwe, N. Khuri, C. Tseng, and F. Rivera; presented at the 96th Annual Meeting of the **American Association for the Advancement of Science, 2015**, Pacific Division in San Francisco, California, June 14-17, 2015; and abstract published in the **Proceedings of AAAS Conference 2015**, Pacific Division, 2015.

- *Genome-wide Prediction of Splice Sites using Maximal Dependence Decomposition*, S. Nerli and S. Khuri; presented at the **American Association for the Advancement of Science, 2015**, San Jose, California, February 12-16, 2015; and abstract published in the **Proceedings of AAAS Conference 2015**, 2015.

- *Using Probabilistic Graphic Models to Solve NP-Complete Puzzle Problems* , F. Wu and S. Khuri; presented at the **American Association for the Advancement of Science, 2015**, San Jose, California, February 12-16, 2015; and abstract published in the **Proceedings of AAAS Conference 2015**, 2015.

- *Profiling Cryptic Splice Sites in the Breast Cancer Type 1(BRCA1) Gene*, A. Bortolazzo and S. Khuri; presented at the **American Association for the Advancement of Science, Pacific Division Conference 2013**, Las Vegas, Nevada, June 16-19, 2013; and abstract published in the **Proceedings of AAAS Conference 2013**, page 97; 2013.

- *Computational Modeling of Cryptic Splicing Events*, A. Bortolazzo, N. Khuri and S. Khuri; presented at the **Great Lakes Bioinformatics Conference 2013**, Pittsburgh, PA, May 14-16, 2013; and published in the **Proceedings of the Great Lakes Bioinformatics Conference 2013**, 2013.

- *Detecting Cryptic Splice Sites in Genes*, A. Bortolazzo and S. Khuri; presented at the **25th Annual CSU Biotechnology Symposium**, Los Angeles, January 5-7, 2013; and published in the **Proceedings of the 25th Annual CSU Biotechnology Symposium**, 2013.

- *Building Compound-Target Interaction Networks*, Y. Newton, N. Khuri and S. Khuri; presented at the **23rd Annual CSU Biotechnology Symposium**, Los Angeles, January 7-8, 2011; and published in the **Proceedings of the 23rd Annual CSU Biotechnology Symposium**, 2011.

- *Identifying Human miRNA Targets with a Genetic Algorithm*, K. Karhu, S. Khuri and J. Tarhio; presented at the **International Symposium on Biocomputing**, Calicut, Kerala, India, February 15-17, 2010; and published in the **Proceedings of the International Symposium on Biocomputing**, ACM Press, February 2010.

- *PMSGA: A Fast DNA Fragment Assembler*, J. Mäkinen, S. Khuri and J. Tarhio; presented at the **Bioinformatics 2010: International Conference on Bioinformatics**, Valencia, Spain, January 20-23, 2010; and published in the **Proceedings of Bioinformatics 2010: International Conference on Bioinformatics**, pp. 77-82, 2010.

- *Introducing Bioinformatics Algorithms in Computer Science Courses*, S. Khuri; workshop given at the 40th **ACM SIGCSE Technical Symposium**, Chattanooga, Tennessee, March 4 - March 7, 2009; and abstract published in the **Proceedings of the 40th SIGCSE Technical Symposium on Computer Science Education**, ACM Press, 2009.

- *Inferring Phylogenetic Relationships between Organisms for Y-Family Polymerases Using HMMER 2.0 and the Neighbor-Joining Method*, W. Lee, N. Fong, M. Franco, R. Fowler, S. Khuri; abstract published in the **Proceedings of the 2008 IEEE Computational Systems Bioinformatics Conference**, Stanford University, IEEE Computer Society, August 2008.

- *Detection of Remote Protein Homology by Comparing Profile Hidden Markov Models for the Y-Family Polymerase Family*, W. Lee, N. Fong, M. Franco, S. Khuri, R. Fowler; abstract published in the **Proceedings of the 2008 IEEE Computational Systems Bioinformatics Conference**, Stanford University, IEEE Computer Society, August 2008.

- *A Bioinformatics Track in Computer Science*, S. Khuri; presented at the 39th **ACM SIGCSE Technical Symposium**, Portland, Oregon, March 12 - March 15, 2008; and published in the **Proceedings of the 39th SIGCSE Technical Symposium on Computer Science Education**, ACM Press, 2008.

- *Introducing Bioinformatics Algorithms in Computer Science Courses*, S. Khuri; workshop given at the 39th **ACM SIGCSE Technical Symposium**, Portland, Oregon, March 12 - March 15, 2008; and abstract published in the **Proceedings of the 39th SIGCSE Technical Symposium on Computer Science Education**, ACM Press, 2008.

- *Parallel Euler Algorithms for DNA Fragment Assembly*, C.C. Li and S. Khuri; presented at the **20th Annual CSU Biotechnology Symposium**, Oakland, January 11-13, 2008; and published in the **Proceedings of the 20th Annual CSU Biotechnology Symposium**, 2008.

- *A Web-driven Database of Beta Globin Mutations leading to Beta Thalassemia*, K. Callenberg and S. Khuri; presented at the **20th Annual CSU Biotechnology Symposium**, Oakland, January 11-13, 2008; and published in the **Proceedings of the 20th Annual CSU Biotechnology Symposium**, 2008.

- *Assembling DNA Fragments with Parallel Algorithms*, E. Alba, G. Luque, S. Khuri; published in the **Proceedings of the IEEE Congress on Evolutionary Computation** , Edinburgh, UK, September 2005, pp. 57-65.

- *A Fast Shotgun Assembly Heuristic*, C. Wilks, S. Khuri; poster abstract published in the **Proceedings of the 2005 IEEE Computational Systems Bioinformatics Conference**, Stanford University, IEEE Computer Society, August 2005, pp. 122-23.

- *Assembling DNA Fragments Using Probes and Interprobe Distances*, S. Khuri, L. Li; published in the **Proceedings of the 2005 International Conference on Research Trends in Science and Technology**, Beirut, Lebanon, March, 2005.

- *Introduction to Bioinformatics*, S. Khuri, workshop given at the **2005 International Conference on Research Trends in Science and Technology**, Lebanese American University, Byblos, Lebanon, March 2005; and abstract published in the **Proceedings of the 2005 International Conference on Research Trends in Science and Technology**, Beirut, Lebanon, 2005.

- *A Comparison of DNA Fragment Assembly Algorithms*, L. Li, S. Khuri; published in the **Proceedings of the 2004 International Conference on Mathematics and Engineering Techniques in Medicine and Biological Sciences**, Las Vegas, June 2004, pp. 329-335.

- *PTC: An Interactive Tool for Phylogenetic Tree Construction*, C. Yang, S. Khuri; poster abstract published in the **Proceedings of the IEEE Computer Society Conference on Bioinformatics**, Stanford University, IEEE Computer Socity, August 2003, pp. 476-7.

- *Exact and Heuristic Algorithms for the DNA Fragment Assembly Problem*, Y. Jing, S. Khuri; poster abstract published in the **Proceedings of the IEEE Computer Society Conference on Bioinformatics**, Stanford University, IEEE Computer Society, August 2003, pp. 581-2.

- *EVEGA: An Educational Visualization Environment for Graph Algorithms*, S. Khuri, K. Holzapfel; published in the **Proceedings of the 6th Annual Conference on Innovation and Technology in Computer Science Education**, Canterbury, UK, ACM Press, June 2001, pp. 101-104.

- *Applying Evolutionary Algorithms to Combinatorial Optimization Problems*, E. Alba Torres, S. Khuri; presented at the **2001 International Conference on Computational Science**, San Francisco, USA, May 2001 and published in the **Proceedings of the International Conference on Computational Science - Part II**, Springer-Verlag, pp. 689-700.

- *Interactive Packages for Learning Image Compression Algorithms*, S. Khuri, H. Hsu; presented at the **5th Annual Conference on Innovation and Technology in Computer Science Education**, July 2000, Helsinki, Finland; and published in the **Proceedings of ITiCSE'2000**, ACM Press, July 2000, pp. 73-76.

- *Interacting with Java-Based Algorithm Visualizations*, S. Khuri, T. Naps; workshop given at the **5th Annual Conference on Innovation and Technology in Computer Science Education**, July 2000, Helsinki, Finland; and abstract published in the **Proceedings of ITiCSE'2000**, ACM Press, July 2000.

- *Designing Effective Algorithm Visualizations*, S. Khuri; invited lecture at the Program Visualization Workshop organized by the University of Joensuu, Porvoo, Finland, July 7 - 8, 2000; published in the **Proceedings of the First Program Visualization Workshop**, 2001, pp. 1-12.

- *A Grouping Genetic Algorithm for Coloring the Edges of Graphs*, S. Khuri, T. Walters and Y. Sugono; presented at the **2000 ACM Symposium on Applied Computing, Evolutionary Computation and Optimization Track**, March 2000 in Como, Italy; and published in the **Proceedings of the 2000 ACM Symposium on Applied Computing**, ACM Press, March 2000, pp. 422-427.

- *Tools for Visualizing Text Compression Algorithms*, S. Khuri, H. Hsu; presented at the **2000 ACM Symposium on Applied Computing, Computer Uses in Education Track**, March 2000 in Como, Italy; and published in the **Proceedings of the 2000 ACM Symposium on Applied Computing**, ACM Press, March 2000, pp. 119-123.

- *Genetic Algorithms for Solving Open Shop Scheduling Problems*, S. Khuri, S. Miryala; presented at the 9th **Portuguese Conference on Artificial Intelligence, EPIA'99**, September 1999 in Évora, Portugal, and published in the **Proceedings of the 9th Portuguese Conference on Artificial Intelligence: Progress in Artificial Intelligence**, Springer-Verlag, pp. 357-368.

- *Lossless and Lossy Data Compression*, S. Khuri; workshop given at the 30th **ACM SIGCSE Technical Symposium**, New Orleans, LA, March 24 - March 28, 1999; and abstract published in the **Proceedings of the 30th SIGCSE Technical Symposium on Computer Science Education**, ACM Press, 1999.

- *Visualizing the CPU Scheduler and Page Replacement Algorithms*, S. Khuri, H. Hsu; presented at the **1999 SIGCSE Technical Symposium**, March 1999 in New Orleans, Louisiana; and published in the **Proceedings of the 30th ACM/SIGCSE Technical Symposium**, ACM Press, March 1999, pp. 227–231.

- *Adding Breadth to CS1 and CS2 Courses Through Visual and Interactive Programming Projects*, R. Jiménez-Peris, S. Khuri, M. Patiño-Martinez; published in the **Proceedings of the 30th ACM/SIGCSE Technical Symposium**, ACM Press, March 1999, pp. 252–256.

- *Code Assignments in CDMA Networks: Distributed Algorithms and Genetic Algorithm Heuristics*, S. Khuri, M. Moh, F. Chung; published in the **Proceedings of the IEEE International Conference on Networks**, Singapore, July 1998, pp. 91-105.

- *Animating Parsing Algorithms*, S. Khuri, Y. Sugono; presented at the **1998 SIGCSE Technical Symposium**, March 1998 in Atlanta, Georgia; and published in the **Bulletin of the ACM/SIGCSE**, vol. 30, number 1, ACM Press, March 1998, pp. 232-236.

- *Applying Genetic Algorithms to Scheduling Problems*, S. Khuri; presented at the 6th **INFORMS Computer Science and Operations Research: Recent Advances in the Interface**, Monterey, CA, January 7 - 9, 1998; and abstract published in the **Proceedings of the 6th INFORMS Computer Science and Operations Research**, January 1998, p. 18.

- *Genetic Algorithms*, S. Khuri; workshop given at the **ACM/SIGCSE Technical Symposium**, San José, CA, February 28 - March 1, 1997; and abstract published in the **Proceedings of the 28th SIGCSE Technical Symposium on Computer Science Education**, ACM Press, 1997, p. 400.

- *Heuristic Algorithms for the Terminal Assignment Problem*, S. Khuri, T. Chiu; presented at the **ACM Symposium on Applied Computing: Genetic Algorithm Track**, San José, CA, February 28 - March 2, 1997; and published in the **Proceedings of the 1997 ACM Symposium on Applied Computing**, ACM Press, 1997, pp. 247-251.

- *Computing with Haar Functions*, S. Khuri; presented at the **ACM Symposium on Applied Computing: Genetic Algorithm Track**, San José, CA, February 28 -

March 2, 1997; and published in the **Proceedings of the 1997 ACM Symposium on Applied Computing**, ACM Press, 1997, pp. 223-227.

- *Randomness of Finite Strings: A Reconstructive Approach*, S. Khuri, F. Stern, T. Chiu; presented at the **ACM Symposium on Applied Computing: Scientific Computing Track**, San José, CA, February 28 - March 2, 1997; and published in the **Proceedings of the 1997 ACM Symposium on Applied Computing**, ACM Press, 1997, pp. 527-531.

- *An Overview of Visualization: Its Use and Design*, J. Bergin, K. Brodlie, M. Patiño-Martinez, M. McNally, T. Naps, S. Rodger, J. Wilson, M. Goldweber, S. Khuri, R. Jiménez-Peris; published in the **ACM SIGCSE Bulletin**, volume 28, ACM Press, 1996, pp. 192-200.

- *Neuralis: A Neural Network Package*, S. Khuri, J. Williams; presented at the **Integrating Technology in Computer Science Education** conference; Barcelona, Spain, June 2-6, 1996; and published in the **ACM SIGCSE Bulletin**, volume 28, ACM Press, 1996, pp. 25-27.

- *A Comparative Study of a Penalty Function, a Repair Heuristic, and Stochastic Operators with the Set-Covering Problem*, T. Bäck, M. Schütz, S. Khuri; presented at the **Second European Conference on Artificial Evolution** conference; Brest, France, September 4-6, 1995; and published in the **Proceedings of the Second European Conference on Artificial Evolution**, 1995.

- *An Evolutionary Heuristic for Solving Problems in Coding Theory*, S. Khuri; presented at the **Third European Conference on Artificial Life**, Granada, Spain, June 4-6, 1995; and abstract published in the **Proceedings of the Third European Conference on Artificial Life: Abstracts Book**, 1995, p. 90.

- *Evolutionary Heuristics for the Bin Packing Problem*, S. Khuri, M. Schütz and J. Heitkötter; presented at the **International Conference on Artificial Neural Networks and Genetic Algorithms**, Ecole des Mines d'Alès, France, April 18-21, 1995; and published in the **Proceedings of the ICANNGA**, Springer-Verlag, Vienna, 1994, pp. 285-288.

- *An Evolutionary Heuristic for the Minimum Vertex Cover Problem*, S.Khuri, T. Bäck; abstract published in the **18. Deutsche Jahrestagung für Künstliche Intelligenz: Extended Abstracts**; Saarbrüken, Gesellschaft für Informatik, Bonn, pp. 83-84.

- *An Evolutionary Heuristic for the Maximum Independent Set Problem*, co-author T. Bäck; presented at the **IEEE World Congress on Computational Intelligence**, La Buena Vista, Florida, June 26-July 2, 1994; and published in the **Proceedings of the IEEE World Congress on Computational Intelligence**; IEEE Service Center, Piscataway, N. J., vol. 2, pp. 531-535.

- *Intractability: A Geometric Representation*, S. Khuri; presented at the 25th **ACM SIGCSE Technical Symposium**, Phoenix, Arizona, March 10-12, 1994; and published in the **Bulletin of the ACM/SIGCSE**, vol. 26, number 1, March 1994, pp. 228-232.

- *Understanding the Bottom-Up SLR Parser*, S. Khuri, J. Williams; presented at the 25th **ACM/SIGCSE Technical Symposium**, Phoenix, Arizona, March 10-12, 1994; and published in the **Bulletin of the ACM/SIGCSE**, vol. 26, number 1, March 1994, pp. 339-343.

- *The Zero/One Multiple Knapsack Problem and Genetic Algorithms*, S. Khuri, T. Bäck, J. Heitkötter; presented at the **ACM Symposium on Applied Computing**, Phoenix, Arizona, March 6-8, 1994; and published in the **Proceedings of the 1994 ACM Symposium on Applied Computing**; ACM Press, 1994, pp. 188-193.

- *Walsh and Haar Functions in Genetic Algorithms*, S. Khuri; presented at the **ACM Symposium on Applied Computing**, Phoenix, Arizona, March 6-8, 1994; and published in the **Proceedings of the 1994 ACM Symposium on Applied Computing**, ACM Press, 1994, pp. 201-205.

- *An Evolutionary Approach to Combinatorial Optimization Problems*, S. Khuri, T. Bäck and J. Heitkötter; presented at the 22nd **Annual ACM 1994 Computer Science Conference**, Phoenix, Arizona, March 8-10, 1994; and published in the **Proceedings of the 22nd Annual ACM Computer Science Conference**, ACM Press, 1994, pp. 66-73.

- *Genetic Algorithms and Discrete Optimization*, S. Khuri, A. Batarekh; presented at the **International Conference on Operations Research**, Vienna, Austria, August 28-31, 1990; and published in the **Proceedings of the International Conference on Operations Research**, 1990.

- *Heuristics for the Integer Knapsack Problem*, S. Khuri, A. Batarekh; presented at the **Tenth International Computer Science Conference**, sponsored by the ACM, Santiago, Chile, July 23-27, 1990; and published in the **Proceedings of the Xth International Computer Science Conference**, 1990, pp. 161-172.

- *The Harmonium and Decision Problems*, S. Khuri, A. Batarekh; presented at the **International Joint Conference on Neural Networks**, sponsored by the IEEE and International Network Society; San Diego, California, June 17-21, 1990; and published in the **Proceedings of the IJCNN**, vol. II, 1990, pp. 179-184.

- *Genetic Heuristics in Optimization Problems*, S. Khuri, M. Hoan; presented at the **ACM Eighteenth Annual Computer Science Conference**, Washington, DC, February 22-24, 1990; and abstract published in the **Proceedings of the ACM CSC**, 1990, p. 447.

- *Informatic Crossover in Genetic Algorithms*, S. Khuri; presented at the **IEEE International Symposium on Information Theory**, San Diego, California, January 14-19, 1990; and abstract published in the **ISIT Abstract of Papers**, 1990, p. 62.

- *Efficient Testing Algorithms*, S. Khuri; presented at **Neuroscience Integrative Functions Symposium** honoring Vernon Mountcastle, The Johns Hopkins University School of Medicine, Baltimore, Maryland, October 11-12, 1989.

- *Optimal and Near-Optimal Space Efficient Decision Diagram Algorithms*, S. Khuri; presented at the **ACM Seventeenth Annual Computer Science Conference**, Louisville, Kentucky, February 1989; and abstract published in the **Proceedings of the ACM CSC**, 1989, p. 467.

- *Applying Information Theory to the Construction of Decision Diagrams*, S. Khuri, C. Hartmann, P. Varshney; presented at the **IEEE International Symposium on Information Theory**, Kobe, Japan, June 19-24, 1988; and abstract published in the **ISIT Abstract of Papers**, 1988, p. 132.

- *Counting Nodes in Binary Trees*, S. Khuri; presented at the **17$^\text{th}$ ACM/SIGCSE Technical Symposium**, Cincinnati, Ohio, February 1986; and published in the **Bulletin of the ACM/SIGCSE**, ACM Press, vol. 18, number 1, February 1986, pp. 182-185.

WORK IN PROGRESS

- *Relative Reconstructive Randomness*, co-author F. Stern.

- *Constructing Decision Trees for Identification Problems*, co-authors C. Hartmann and P. Varshney; to be submitted to the **IEEE Transactions on Pattern Analysis & Machine Intelligence** for possible publication.

- *Genetic Heuristics and Combinatorial Optimization Problems*.

AWARDS

- **Technology Pathway Initiative**, $190K for the development of the Minor in Bioinformatics with M. VanHoven. August 2017 - July 2021.

- **California State University Award for Education and Research in Biotechnology**, $15K. August 2016 - July 2017.

- **Research, Scholarship and Creative Activity Award**, August 2015 - July 2016. Conducting Research on using Music to Analyze DNA and Protein Sequences.

- **NSF Major Research Instrumentation Grant - Clustering of Graphical Processing Units**, 2013-2016, with Todd Martinez (Stanford U), Vijay Pande (Stanford U), and Michael Levitt (2013 Nobel laureate in Chemistry, Stanford U)

- **Research, Scholarship and Creative Activity Award**, August 2014 - July 2015. Conducting Research on applications of Hidden Markov Models and Probabilistic Graphical Models in Bioinformatics.

- **Research, Scholarship and Creative Activity Award**, August 2013 - July 2014. Conducting Research on applications of Rough Sets and Probabilistic Graphical Models in Bioinformatics.

- **Preparing Future Professors Program**, August 2012 - present. Selected to train PhD students and Postdocs from Stanford University to be future professors. I am currently a Visiting Scholar at Stanford University.

- **DAAD Research Ambassador**, August 2009 - present. Selected to be a Research Ambassador for the German Scholarship Program: Deutscher Akademischer Austauschdienst.

- **SJSU Research Award**, August 2012 - July 2013. Conducting Research on Cryptic Splice Sites.

- **SJSU Teacher Scholar**, August 2011 - June 2012.

- **NIH Minority Access to Research Careers Award**, with Dr. S. Bros and Dr. D. Matthes of the Biological Sciences Department, SJSU, and Dr. E. Collins of the Chemistry Department, SJSU, June 2004 - May 2005.

- **2002 California State University Award for Education and Research in Biotechnology**, July - December 2002.

- **2001 California State University Award for Education and Research in Biotechnology**, May - August 2001.

- **DAAD Award**, August 1999 - July 2000. The German Scholarship: Deutscher Akademischer Austauschdienst.

- **DAAD Award**, August 1994 - August 1995.

- **1994 California State University Summer Research Award**, May - August 1994.

- **Fulbright Award**, January - July 1992.

- **Dana Research Award**, September 1989 - August 1990.

RELATED EXPERIENCE

- Re-elected chair of the Computer Science Department on May 14, 2018, for the next four years: till July 31, 2022.

- Was appointed by the provost to chair the search committee for the Dean of the College of Science.

- Elected chair of the Computer Science Department on April 30, 2014, for a four-year period: August 1, 2014 to July 31, 2018.

- Served and chaired several committees, including the retention, tenure and promotion (Department and College of Science), the executive, the search, the hearing, the curriculum, the research committees, the computer resource, and the advisory and the committee on committees.

- Member of the Organizing and/or Program Committee:

  - Seventh International Conference on Information Technology in Bio and Medical Informatics, Porto, Portugal, September 5-8, 2016. Co-chairperson.
  - Tenth Biology and Mathematics in the Bay Area Conference, San Jose State University, California, October 2015. Organizing Committee.
  - Sixth International Conference on Information Technology in Bio and Medical Informatics, Valencia, Spain, September 3-4, 2015. Co-chairperson.
  - Ninth Biology and Mathematics in the Bay Area Conference, University of California at Davis, California, November 2014. Organizing Committee.
  - Fifth International Conference on Information Technology in Bio and Medical Informatics, Munich, Germany, September 1-5, 2014. Co-chairperson.
  - Fourth International Conference on Information Technology in Bio and Medical Informatics, Prague, Czech Republic, August 26-30, 2013. Co-chairperson.
  - Third International Conference on Information Technology in Bio and Medical Informatics, Vienna, Austria, September 3-7, 2012. Co-chairperson. Second International Conference on Information Technology in Bio and Medical Informatics, Toulouse, France, August 29 - September 2, 2011. Co-chairperson.
  - First International Conference on Information Technology in Bio and Medical Informatics, Bilbao, Spain, August 30 - September 3, 2010. Co-chairperson.
  - The Second International Conference on Communication Software and Networks, Singapore, February 26-28, 2010. Advisory chair
  - International Conference on Bioinformatics, Valencia, Spain, January 20-23, 2010.
  - Ninth Annual International Conference on Computational Systems Bioinformatics (CSB2010), Stanford, August 2010. Organizing Committee.
  - Eighth Annual International Conference on Computational Systems Bioinformatics (CSB2009), Stanford, August 10 -12, 2009. Organizing Committee.
  - Fifth Biology and Mathematics in the Bay Area Conference, University of California at Santa Cruz, California, November 2009. Organizing Committee.
  - Seventh Annual International Conference on Computational Systems Bioinformatics (CSB2008), Stanford, August 25 -29, 2008. Organizing Committee.
  - Second International Conference on Bioinformatics Research and Development (BIRD'08), Technical University of Vienna, Austria, July 7-9, 2008.
  - Workshop on Algorithms in Molecular Biology (ALBIO'08), Vienna, Austria, July 2008.
  - International Conference on Biocomputation, Bioinformatics, and Biomedical Technologies (BIOTECHNO 2008), Bucharest, Romania, June 29 - July 5, 2008.
  - Second International Conference on Bioinformatics and Biomedical Engineering (iCBBE2008), Shanghai, China, May 16-18, 2008.
  - Third Biology and Mathematics in the Bay Area Conference, San José State University, California, November 2007. Organizing Committee.

- Second Biology and Mathematics in the Bay Area Conference, MSRI, Berkeley, California, November 2006. Organizing Committee.
- Symposium on Knowledge Representation in Bioinformatics, Espoo, Finland, June 2005.
- Sixth International Workshop on the Frontiers of Evolutionary Algorithms, Utah, July 2005.
- Third International Workshop on Intelligent Systems Design and Applications, Oklahoma, August 2003.
- Fifth International Workshop on the Frontiers of Evolutionary Algorithms, North Carolina, September 2003.
- Fourth International Workshop on the Frontiers of Evolutionary Algorithms, North Carolina, March 2002.
- Second International Workshop on Intelligent Systems Design and Applications, Atlanta, August 2002.
- Fourth International Conference on Artificial Neural Nets and Genetic Algorithms, Slovenia, April, 1999.
- Third International Conference on Artificial Neural Nets and Genetic Algorithms, Norwich, England, April 1997.
- 12th ACM/SIGAPP Symposium on Applied Computing, San José, California, February-March 1997.

- Reviewer for **Interdisciplinary Sciences: Computational Life Sciences**.

- Reviewer for **International Journal of Computers and Applications**.

- Reviewer for **International Journal of Bioinformatics Research and Applications**.

- Reviewer for **Information Sciences** Journal.

- Reviewer for **International Journal of Bioinformatics Research and Applications** .

- Reviewer for **IEEE Transactions on Circuits and Systems**.

- Reviewer for **Genetic Programming and Evolvable Machines**.

- Reviewer for **IEEE Transactions on Neural Networks**, 2006.

- Reviewer for **NWO: Nederlandse Organisatie voor Wetenschappelijk Onderzoek** which is The Netherlands Organization for Scientific Research, 2006.

- Reviewer for **International Journal of Fundamentals of Computer Science**.

- Reviewer for **International Journal of Systems Science**, 2006.

- Reviewer for **Advances in Intelligent Systems** by Springer-Verlag, 2002.

- Reviewer for **National Science Foundation**, 2002.

- Reviewer for **Knowledge Extraction and Incorporation in Evolutionary Computation**, a special issue of "IEEE Transactions on System, Man, and Cybernetics", 2002.

- Reviewer for **Journal of Combinatorial Optimization**, 2003.

- Reviewer for:

  - IEEE/CEC Congress on Evolutionary Computation, 2010.
  - ACM/SIGAPP Symposium on Applied Computing, 2001-7, 1994-7.
  - ACM/SIGCSE Technical Symposium, 2000-17, 1994-5, 1990, 1988-9.
  - International Workshop on Intelligent Systems Design and Applications, 2000-4.
  - Computer Science Education Journal; Special Issue in Computer Graphics, Visualization and Geometric Computing, 2002.
  - International Conference on Hybrid Intelligent Systems, 2002, 2001.
  - International Workshop on the Frontiers of Evolutionary Algorithms, 2002-5.
  - 3rd International Workshop on Rough Sets and Soft Computing, 1994.

- Session Chair:

  - Evolutionary Computing and Optimization session at the ACM Symposium on Applied Computing in Como, Italy, March 2000.
  - Opening session on Genetic Algorithms at the International Conference on Artificial Neural Networks and Genetic Algorithms, in Alès, France, April, 1995.
  - Programming Languages session at the 22th ACM Computer Science Conference in Phoenix, Arizona, March, 1994.

INVITED LECTURES

- *Biomedical Informatics: Foundations and Research Directions*, Lebanese American University, Beirut, Lebanon, July 5-10, 2011. Keynote Speaker.

- *International Conference on Computers and Electrical Engineering*, Dubai, United Arab Emirates, December 28-30, 2009. Keynote Speaker.

- *Computational Methods in Bioinformatics*, **Workshop on Bioinformatics and Biosignal Processing**, Santa Clara University, California, August 30, 2008.

- *The Human Genome Project and Bioinformatics*, **Science Fest, 2007**, Joensuu, Finland, March 24, 2007.

- *Future Aspects of Science and Technology in Education*, **Science Fest, 2007**, Joensuu, Finland, March 22, 2007.

- *Predicting Genes with Hidden Markov Models*, **Carnegie Institution of Washington, DPB**, Stanford, California, April 6, 2005.

- *Bioinformatics*, **Silicon Valley Chinese Engineers Forum**, Santa Clara, California, April 23, 2005.

- *Bioinformatics Challenges*, **Santa Clara Valley Chapter of the IEEE Computer Society**, San José, California, February 25, 2005.

- *Introduction to Bioinformatics*, **University of Joensuu**, Joensuu, Finland, May 10 - 14, 2004.

- *Challenges of Bioinformatics*, **Rolf Nevanlinnna Institute**, Helsinki, Finland, March 31, 2004.

- *Designing Effective Algorithm Visualizations*, **Program Visualization Workshop**, Porvoo, Finland, July 7 - 8, 2000.

COLLOQUIA PRESENTATIONS

- *The Long and Bumpy Road from the Human Genome Project to Personalized Medicine*, Breakfast Club Series, **San José State University**, March 14, 2013.

- *Bioinformatics Challenges*, Department of Computer Science, **Helsinki University of Technology**, February 23, 2004.

- *Bioinformatics*, Department of Mathematics, **SJSU**, October 2002.

- *Genetic Algorithms*, Department of Biological Sciences, **SJSU**, September 2002.

- *Bioinformatics*, Department of Computer Science, **Helsinki University of Technology**, August 2002.

- *An Introduction to Genetic Algorithms*, lecture for the PhD students, Department of Computer Science, **University of Málaga**, Spain, December 13, 2000.

- *Genetic Algorithms: Some Theory*, Department of Computer Science, **Technische Universität München**, Germany, July 3, 1996.

- *Genetic Algorithms: Applications*, Department of Computer Science, **Technische Universität München**, Germany, June 26, 1996.

- *Evolutionary Programming and Its Applications*, Department of Computer Engineering, **Santa Clara University**, Santa Clara, California, April 14, 1994.

- *Haar Functions in Evolution Strategies*, Department of Computer Science, **University of Dortmund**, Dortmund, Germany, July 16,1993.

- *Evolutionary-Based Optimization Algorithms*, Institute of Mathematics, **The Bulgarian Academy of Sciences**, Sofia, Bulgaria, April 21, 1992.

- *Testing Algorithms*, presented at the **Biomedical Engineering Twenty Fifth Anniversary Symposium**, The Johns Hopkins University School of Medicine, Baltimore, Maryland, April 17-19, 1990.

- *Conversion Algorithms for Binary Decision Diagrams and Their Efficiency*, Invited speaker at the **Logic and Computer-Aided Design Seminar**, Syracuse University, Syracuse, New York, April 25, 1986.

OTHER PRESENTATIONS

- *A web-driven database of beta globin mutations leading to beta thalassemia*, poster presentation with Keith Callenberg (SJSU undergraduate) at the 20th Annual CSU Biotechnology Symposium, Oakland, January 11-12, 2008.

- *Parallel Euler Algorithms for DNA Fragment Assembly*, poster presentation with Ching Chia Li (SJSU graduate) at the 20th Annual CSU Biotechnology Symposium, Oakland, January 11-12, 2008.

- *Introduction To Bioinformatics* presented at CTVC, Syracuse, New York, June 2005.

- *Introduction To Data Compression* presented at CTVC, Syracuse, New York, January 12, 2001.

1992-2001: Various presentations at **San José State University** in Mathematics and Computer Science. Among them:

- *Bioinformatics*, Mathematics Seminar, October 4, 2002.

- *Omar Khayyam: the Persian Poet and Mathematician*, Mathematics and Computer Science Club, May 4, 1994.

- *Evolutionary Based Heuristics to Combinatorial Optimization Problems*, Computer Science Seminar, January 31, 1994.

- *Genetic Heuristics for the Maximum Cut, and the Minimum Tardy Task Problems*, Computer Science Seminar, December 7, 1993.

- *Genetic Algorithms and Their Applications*, Mathematics and Computer Science Colloquium, April 22, 1993.

- *Decision Diagrams*, Computer Science Seminar, February 20, 1993.

- *Applications of Neural Networks in Speech Recognition*, Computer Science Seminar, November 30, 1992.

- *Crossover Operators in Genetic Algorithms*, Fourth Annual Science Review, Department of Engineering, October 1992.

1977-1985: Various presentations at **Syracuse University** and **Utica College of Syracuse University** in Mathematics and Computer Science. Among them:

- *A necessary and sufficient condition for unambiguous prefix-free codes*

- *Applying generating functions for solving linear recurrence relations*

- *Applications of group actions*

- *Applications of information theory*

- *Omar Khayyam's analytical geometry*

- *Applying graph theory to the construction of combinatorial circuits*