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**CITIZENSHIP:** US

**EDUCATION:**

Ph.D. Clemson University, Computer Science, 5/1994  
M.S., Clemson University, Computer Science, 12/1991  
M.S., Bob Jones University, Educational Administration, 8/1988  
B.S., Bob Jones University, Mathematics, Minor: Physics, 5/1986

**EMPLOYMENT:**

	Department of Computer Science and Engineering, University of Nevada, Reno, Nevada 89557
7/2007 - present	Professor
7/2000 - 6/2007	Associate Professor
8/1994 - 6/2000	Assistant Professor
1/2019 - present	Nevada State EPSCoR Director
10/2018 - present	Project Director, Nevada NSF EPSCoR
	Desert Research Institute, Reno, Nevada 89512
3/2015-12/2015	Affiliated Faculty, Division of Earth and Ecosystem Sciences
9/2009-6/2011	Affiliated Faculty, Division of Hydrologic Sciences
7/2007-9/2008	Interim Senior Director, Center for Advanced Visualization, Computation, and Modeling (CAVCaM)
7/2004-9/2009	Affiliated Faculty, Division of Atmospheric Sciences
8/1988 - 5/1994:	Department of Computer Science, Clemson University, Clemson, South Carolina 29634 Graduate Student Teaching Assistantship, CCCS Research Assistantship NASA Research Assistantship Department of Defense Research Assistantship
8/1986 - 5/1988:	Department of Computer Science, Bob Jones University, Greenville, South Carolina 29614 Graduate Student Teaching Assistantship

**PUBLICATIONS:****Books Edited:**

- B 12. Frederick C Harris, Jr., Sergiu M. Dascalu, Sharad Sharma, and Rui Wu (eds) *Proceedings of the 28th International Conference on Software Engineering and Data Engineering*, **SEDE 2019**, EPIC Series in Computing, Vol 64, ([https://easychair.org/publications/volume/SEDE\\_2019](https://easychair.org/publications/volume/SEDE_2019)), San Diego, CA, USA, Sept 30-Oct 2, 2019.
- B 11. Shahram Latifi (editor), Glauco Carneiro, Luiz Alberto Vieira Dias, Fred Harris, Ray Hashemi, Thomas Jell, Atsushi Kawaguchi, Teruya Minamoto, and Fangyan Shen (assoc editors). *Advances in Intelligent Systems and Computing*, Volume 800. *Proceedings of the 16th International Conference on Information Technology: New Generations*, **ITNG 2019**, Las Vegas, NV, April 1-3, 2019.
- B 10. Frederick C Harris, Jr., Sergiu M. Dascalu, and Sharad Sharma (eds) *Proceedings of the 27th International Conference on Software Engineering and Data Engineering*, **SEDE 2018**, New Orleans, LA, USA, Oct 8-10, 2018.
- B 09. Frederick C Harris, Jr., Sergiu M. Dascalu, and Sharad Sharma (eds) *Proceedings of the 26th International Conference on Software Engineering and Data Engineering*, **SEDE 2017**, San Diego, CA, USA, Oct 2-4, 2017.
- B 08. Frederick C Harris, Jr., Sergiu M. Dascalu, and Yan Shi (eds) *Proceedings of the 25th International Conference on Software Engineering and Data Engineering*, **SEDE 2016**, Denver, CO, USA, Sept 26-28, 2016.
- B 07. Frederick C Harris, Jr., Yan Shi and Wenying Feng (eds) *Proceedings of the 24th International Conference on Software Engineering and Data Engineering*, **SEDE 2015**, San Diego, CA, USA, Oct 12-24, 2015.
- B 06. Frederick C Harris, Jr. (ed) *Proceedings of ISCA's 2nd International Conference on Advanced Computing and Communication*, **ACC 2012**, Los Angeles, CA, USA, June 27-29, 2012.
- B 05. Frederick C. Harris, Jr. (ed) *Proceedings of ISCA's 23rd International Conference on Computer Applications in Industry and Engineering*, **CAINE 10**, Las Vegas, NV, USA, November 12-14, 2010.
- B 04. Frederick C. Harris, Jr. (ed) *Proceedings of ISCA's 21st International Conference on Computer Applications in Industry and Engineering*, **CAINE 08**, Honolulu, Hawaii, USA, November 12-14, 2008,
- B 03. Hamid R. Arabnia, Hassan Reza (ed), Lawrence Chung, Juan J Cuadrado-Gallego, Sergiu Dascalu, Frederick C. Harris, Jr., Michael Hinchey, Deborah Kobza, Youngsong Mun, Roy Steritt, Nary Subramanian (assoc eds.) *Proceedings of the 2005 International Conference on Software Engineering Research and Practice*, **SERP '05**, Las Vegas, NV, USA, June 27-30, 2005.
- B 02. Hamid R. Arabnia, Hassan Reza (ed), Lawrence Chung, Sergiu Dascalu, Emanuel Grant, Volker Gruhn, Frederick C. Harris, Jr., Youngsong Mun, Srinivas Ramaswamy, Jorge Luis Risco Becerra, Nary Subramanian, Pierre F. Tiako, Heitor Augustus Xavier Costa (assoc eds) *Proceedings of the 2004 International Conference on Software Engineering Research and Practice*, **SERP '04**, Las Vegas, NV, USA, June 21-24, 2004.
- B 01. Frederick C. Harris, Jr. (ed) *Proceedings of ISCA's 5th International Conference on Intelligent Systems*, **IS 96**, Reno, NV, USA, June 19-21, 1996.

**Book Chapters:**

- Chap 03. Frederick C Harris, Jr. and Rakhi Motwani, "Steiner Minimum Trees: An Introduction, Parallel Computation, and Future Work," In Panos M. Pardalos, Ding-Zhu Du and Ronald L. Graham, editors, *Handbook of Combinatorial Optimization 2nd Edition* Springer. July 2013.
- Chap 02. Sara Nasser, Adrienne Breland, Frederick C. Harris Jr., Monica Nicolescu, and Gregory L. Vert "Fuzzy Genome Sequence Assembly for Single and Environmental Genomes," in Yaochu Jin and Lipo Wang, editors, *Fuzzy Systems in Bioinformatics and Computational Biology Series: Studies in Fuzziness and Soft Computing*, Vol. 242, March 2009.
- Chap 01. Frederick C. Harris, Jr., "Steiner Minimal Trees: An Introduction, Parallel Computation, and Future Work," In Ding-Zhu Du and Panos Pardalos, editors, *Handbook of Combinatorial Optimization* Kluwer Academic Publishers. Vol II. Dec 1998.

**Journal Publications:**

- J 73. Steven J. Anbro, Alison J. Szarko, Ramona A. Houmanfar, Amber M. Maraccini, Laura H. Crosswell, Frederick C. Harris, Michelle Rebaleati, and Luka Starmer "Using Virtual Simulations to Assess Situational Awareness and Communication in Medical and Nursing Education: A Technical Feasibility Study," *Journal of Organizational Behavior Management*, Vol 40, No 1-2, pg 129-139, 2020, <https://doi.org/10.1080/01608061.2020.1746474>
- J 72. Terri Heglar, Andrew Penrose, Austin Yount, Kristine Galek, Yantao Shen, Sergiu M. Dascalu, and Frederick C. Harris, Jr. "A Hardware and Software Prototype of the CTAR All-Star." *International Journal of Computers and Their Applications* Vol 27, No 1, pg 45-55, March 2020
- J 71. Frederick C. Harris, Jr., Sergiu M. Dascalu, Sharad Sharma, Rui Wu "Guest Editorial: Special Issue from ISCA Fall - 2019 SEDE Conference," *International Journal of Computers and Their Applications* Vol 27, No 1, pg 2-3, March 2020.
- J 70. Angela Gregory, Chao Chen, Rui Wu, Sarah Miller, Sajjad Ahmad, John W Anderson, Hays Barret, Karl Benedict, Dan Cadol, Sergiu M Dascalu, Donna Delparte, John Erickson, Lynn Fenstermaker, Sarah E Godsey, Frederick C Harris, Jr., James P McNamara, John Savickas, Luke Sheneman, Mark Stone and Matthew A Turner "Efficient Model-data Integration for Flexible Modeling, Parameter Analysis & Visualization, and Data Management" *Frontiers in Water*, 2020. doi: 10.3389/frwa.2020.00002
- J 69. Rui Wu, Lei Yang, Chao Chen, Sajjad Ahmad, Sergiu M. Dascalu, Frederick C Harris, Jr. "MELPF Version 1: Modeling Error Learning based Post-Processor Framework for Hydrologic Models Accuracy Improvement," *Geoscientific Model Development Discussions*, Vol 12, Issue 9, pg 4115-4131, Sept 2019. DOI: 10.5194/gmd-12-4115-2019
- J 68. Alex Redei, Sergiu Dascalu, and Frederick C. Harris, Jr "A Framework for Virtualizing Joystick Controls in a Flight Simulator Training Environment," *International Journal of Computers and Their Applications* Vol 26, No 1, pg 20-29, March 2019.
- J 67. Pattaphol Jirasessakul, Zachary Waller, Paul Marquis, Connor Scully-Allison, Vinh Le, Scotty Strachan, Frederick C. Harris, Jr., Sergiu M. Dascalu, "Simplifying Data Visualization Pipelines with the NRDC-CHORDS Interface," *International Journal of Computers and Their Applications* Vol 26, No 1, pg 10-19, March 2019.

- J 66. Frederick C. Harris, Jr., Sergiu M. Dascalu, Sharad Sharma, "Guest Editorial: Special Issue from ISCA Fall - 2018 SEDE Conference," *International Journal of Computers and Their Applications* Vol 26, No 1, pg 2-3, March 2019.
- J 65. Frederick C. Harris, Jr., Gordon Lee, "Editor's Note: March 2019," *International Journal of Computers and Their Applications* Vol 26, No 1, pg 1, March 2019.
- J 64. Rui Wu, Connor Scully-Allison, Moinul Hossain Rifat, Jose Painumkal, Sergiu Dascalu, Frederick C Harris, Jr, "Virtual Watershed System: A Web-Service-Based Software Package For Environmental Modeling," *Advances in Science, Technology and Engineering Systems Journal* Vol. 3, No. 5, 382-393 (2018).
- J 63. Connor Scully-Allison, Vinh Le, Eric Fritzing, Scotty Strachan, Frederick C. Harris, Jr., and Sergiu M. Dascalu "Near Real-time Autonomous Quality Control for Streaming Environmental Sensor Data," *Procedia Computer Science*, Vol 126, pg 1656-1665, 2018.
- J 62. Connor Scully-Allison, Hannah Munoz, Vinh Le, Scotty Strachan, Eric Fritzing, Frederick C. Harris, Jr., and Sergiu Dascalu "Advancing Quality Assurance Through Metadata Management: Design and Development of a Mobile Application for the NRDC," *International Journal of Computers and Their Applications*, Vol 25, No 1, pg 20-29, March 2018.
- J 61. Frederick C. Harris, Jr., Sergiu M. Dascalu, Sharad Sharma "Guest Editorial: Special Issue from ISCA Fall - 2017 SEDE Conference," *International Journal of Computers and Their Applications*, Vol 25, No 1, pg 2-3, March 2018.
- J 60. Frederick C. Harris, Jr. "Editor's Note: March 2018", *International Journal of Computers and Their Applications*, Vol 24, No 1, pg 1, March 2017.
- J 59. Chase D. Carthen, Vinh Le, Richard Kelley, Tomasz J. Kozubowski, Frederick C. Harris, Jr. "Rewind: An Automatic Music Transcription Web Application" *International Journal of Computers and Their Applications* Vol 24, No 1, pg 20-30, January 2017.
- J 58. Frederick C. Harris, Jr., Sergiu M. Dascalu, Yan Shi "Guest Editorial: Special Issue from ISCA Fall - 2016 SEDE Conference," *International Journal of Computers and Their Applications*, Vol 24, No 1, pg 2-3, March 2017.
- J 57. Frederick C. Harris, Jr. "Editor's Note: March 2017", *International Journal of Computers and Their Applications*, Vol 24, No 1, pg 1, March 2017.
- J 56. Rui Wu, Muhanna Muhanna, Sergiu M. Dascalu, Lee Barford, Frederick C. Harris, Jr "Data Lossless Compression Using Improved GFC Algorithm With Multiple GPUs" *International Journal of Computers and Their Applications* Vol 23, No 4, pg X, December 2016.
- J 55. Scotty Strachan, Eric P. Kelsey, Rene F. Brown, Sergiu Dascalu, Fred Harris, Graham Kent, Bradley Lyles, Gregory McCurdy, David Slater, and Kenneth Smith "Filling the Data Gaps in Mountain Climate Observatories Through Advanced Technology, Refined Instrument Siting, and a Focus on Gradients" *Mountain Research and Development* Vol 36, No 4, pages 518-527. November 2016
- J 54. Chase Carthen, Thomas J. Rushton, Nolan P. Burfield, Christine M. Johnson, Aaron Hesson, Daniel Nielson, Bryan Worrell, Donna Delparte, Tucker Chapman, W. Joel Johansen, Roger Lew, Nicholas R. Wood, Mathew Ziegler, John W. Anderson, Sergiu M Dascalu, Frederick C. Harris, Jr "Virtual Watershed Visualization for the WC-WAVE Project" *International Journal of Computers and Their Applications* Vol 23, No 3, pg 195, September 2016.

- J 53. Juli Petereit, Sebastian Smith, Frederick C. Harris Jr., and Karen A. Schlauch “petal: Co-expression network modelling in R” *BMC Systems Biology* Vol 10 (Suppl 2), paper 51 (15 pages) DOI 10.1186/s12918-016-0298-8
- J 52. Gareth B. Ferneyhough, Corey M. Thibeault, Sergiu M. Dascalu and Frederick C. Harris Jr. “ModFossa: A library for modeling ion channels using Python” *Journal of Bioinformatics and Computational Biology*, Vol. 14, No. 3 (2016)
- J 51. Damien Ennis, Sergiu M. Dascalu, Frederick C. Harris, Jr. “Leveraging Clustering Techniques to Facilitate Metagenomic Analysis,” *Intelligent Automation and Soft Computing (Autosoft)*, Vol 22, No 1, (2016) pp 153-165. DOI:10.1080/10798587.2015.1073887.
- J 50. Gongzhu Hu, Takaaki Goto, Frederick C Harris, Jr., Yan Shi, Wenying Feng “Guest Editorial: Special Issue from ISCA Fall-2015 Conferences,” *International Journal of Computers and Their Applications*, Vol 23, No 1, pg 2-3, March 2016.
- J 49. Frederick C. Harris, Jr. “Editor’s Note: March 2016”, *International Journal of Computers and Their Applications*, Vol 23, No 1, pg 1, March 2016.
- J 48. E. Michael Nussbaum, Marissa C. Owens, Gale M. Sinatra, Abeera P. Rehmat, Jacqueline Cordova, Sajjad Ahmad, Frederick C. Harris, Jr., and Sergiu M. Dascalu “Losing the Lake: Simulations to Promote Gains in Student Knowledge & Interest About Climate Change,” *International Journal of Environmental and Science Education*, Vol 10, No 6, pg 789-811, December 2015.
- J 47. Ivan Gibbs, Frederick C. Harris, Jr, and Sergiu M. Dascalu “A Separation-Based UI Architecture with a DSL for Role Specialization,” *Journal of Systems and Software*, Vol 101 pp 69-85, March 2015.
- J 46. Frederick C. Harris, Jr. “Editor’s Note: March 2015”, *International Journal of Computers and Their Applications*, Vol 22, No 1, pg 1, March 2015.
- J 45. Benjamin J. Lucchesi, Dwight D. Egbert, and Frederick C. Harris, Jr, “A Parallel Linear Octree Collision Detection Algorithm,” *International Journal of Computers and Their Applications* Vol 21, No 4, pg 230-243, December 2014.
- J 44. Beifang Yi, Xusheng Wang, Frederick C. Harris, Jr, and Sergiu M. Dascalu “sEditor: a Prototype for a Sign Language Interfacing System”, *IEEE Transactions on Human-Machine Systems*, Vol 44, No 4, PP 499-510, August 2014.
- J 43. Corey M. Thibeault, Frederick C Harris, Jr., and Narayan Srinivasa, “Using Games to Embody Spiking Neural Networks for Neuromorphic Hardware”, *International Journal of Computers and Their Applications*, Vol 21, No 1, March 2014.
- J 42. Frederick C. Harris, Jr. “Editor’s Note: March 2014”, *International Journal of Computers and Their Applications*, Vol 21, No 1, pg 1, March 2014.
- J 41. Roger V. Hoang, Devyani Tanna, Laurence C. Jayet Bray, Sergiu M. Dascalu, and Frederick C. Harris, Jr. “A Novel CPU/GPU Simulation Environment for Large-Scale Biologically Realistic Neural Modeling”, *Frontiers in Neuroinformatics*, Vol 7, No 19, October 2013.
- J 40. Damien Ennis, Ann Medaille, Theodore Lambert, Richard Kelley, and Frederick C. Harris, Jr. “A Comparison of Academic Libraries: An Analysis Using a Self-Organizing Map”, *Performance Measurement and Metrics*, Vol 14, No 2, pp 118-131.

- J 39. Alexander Jones, Justin Cardoza, Denver J. Liu, Laurence C. Jayet Bray, Bobby Bryant, Sergiu M. Dascalu, Sushil J. Louis, and Frederick C. Harris, Jr. “A Software Package for Visualizing Complex, Distributed Neural Networks”, *BMC Neuroscience*, 2013, 14(Suppl 1):158.
- J 38. Corey Michael Thibeault, Kirill Minkovich, Michael John O’Brien, Frederick C Harris, Jr., and Narayan Srinivasa “Efficiently passing messages in distributed spiking neural network simulation”, *Frontiers in Computational Neuroscience*, Vol 7, Article 77, June 2013.
- J 37. Laurence C Jayet Bray, Gareth B Ferneyhough, Corey M Thibeault, Devyani Tanna, Emily R Barker, and Frederick C Harris, Jr. “Reward-Based Learning for Virtual Neuro-robotics Through Emotional Speech Processing”, *Frontiers in Neurorobotics*, Vol 7, No 8, April 2013.
- J 36. Frederick C. Harris, Jr. “Editor’s Note”, *International Journal of Computers and Their Applications*, Vol 20, No 1, pg 1, March 2013.
- J 35. Frederick C. Harris, Jr., Jeffrey L. Krichmar, Hava T. Siegelmann, Hiroaki Wagatsuma “Guest Editorial: Biologically Inspired Human-Robot Interactions-Developing More Natural Ways to Communicate with our Machines”, *IEEE Transactions on Autonomous Mental Development*, Vol 4, No 3, pp 190-191, September 2012.
- J 34. Laurence C Jayet Bray, Emily R Barker, Gareth B Ferneyhough, Roger V Hoang, Bobby D Bryant, Sergiu M Dascalu, and Frederick C Harris Jr. “Goal-related navigation of a neuromorphic virtual robot”, *BMC Neuroscience*, 2012, 13(Suppl 2):O3
- J 33. Laurence C. Jayet Bray, Sridhar R. Anumandla, Corey M. Thibeault, Roger V. Hoang, Philip H. Goodman, Sergiu M. Dascalu, Bobby D. Bryant, and Frederick C. Harris, Jr. “Real-time human-robot interaction underlying neurobotic trust and intent recognition.”, *Neural Networks*, Vol 32, pages 130-137, 2012.
- J 32. William E. Brandstetter III, Joseph D. Mahsman, Cody J. White, Sergiu M. Dascalu, and Frederick C. Harris, Jr. “Multi-Resolution Deformation in Out-of-Core Terrain Rendering”, *International Journal of Computers and Their Applications* Vol 18, issue 4, pages 263-272, December, 2011.
- J 31. R.C. Motwani, M.C. Motwani, and F.C. Harris, Jr. “Watermarking of Space Curves using Wavelet Decomposition”, *International Journal of Computers and Their Applications* Vol 18, issue 4, pages 234-242, December, 2011.
- J 30. Gordon Lee, Fei Hu, and Frederick C. Harris, Jr. “Guest Editor’s Notes,” *International Journal of Computers and Their Applications* Vol 18, issue 4, pages 234-242, December, 2011.
- J 29. Bei Yuan, Eelke Folmer, Frederick C. Harris, Jr. “Game Accessibility: a Survey”, *Universal Access in the Information Society* Vol 10, issue 1, March, 2011.
- J 28. Roger V Hoang, Matthew R Sgambati, Timothy J Brown, Daniel S Coming, Frederick C Harris, Jr. “VFire: Immersive Wildfire Simulation and Visualization”, *Computers and Graphics*, Special Issue on Serious Games, December 2010, Vol 34, No 6.
- J 27. Laurence C Bray Jayet, Mathias Quoy, Philip H Goodman, Frederick C Harris “A Circuit-Level Model of Hippocampal Place Field Dynamics Modulated by Entorhinal Grid and Suppression-Generating Cells”, *Frontiers in Neural Circuits* Vol 4, Article 122, November 2010
- J 26. Mukesh Motwani, Rakhi Motwani, and Frederick C. Harris, Jr., “Fragile Watermarking of 3D Models using Genetic Algorithms”, *Journal of Electronic Science and Technology (JEST)*

Vol 8, No 3, September 2010, pp 244-250.

- J 25. Rakhi Motwani, Mukesh Motwani, Frederick C Harris, Jr., and Sergiu M Dascalu "An Eigen-Normal Approach For 3D Mesh Watermarking Using Support Vector Machines", *Journal of Electronic Science and Technology (JEST)* Vol 8, No 3, September 2010, pp 237-243.
- J 24. Mukesh Motwani, Rakhi Motwani, and Frederick C Harris, Jr. "Parametric Evaluation of Video Motion Tracking Data Sets", *Journal of Electronic Science and Technology (JEST)* Vol 8, No 3, September 2010, pp 215-222.
- J 23. Corey M. Thibeault, Frederick C Harris, Jr., Philip H Goodman "Breaking the virtual barrier: real-time interactions with spiking neural models" *BMC Neuroscience* Vol 11, Supp 1, pp 73-74.
- J 22. Joshua M. Hegie, Andrew S. Kimmel, Kelvin H. Parian, Sergiu M. Dascalu, Frederick C. Harris, Jr. "WiELD-CAVE: Wireless Ergonomic Lightweight Device for use in the CAVE", *Journal of Computational Methods in Science and Engineering (JCMSE)* Vol 10, Supp 2, 2010, pp 177-186.
- J 21. David T. Brown, Roger V. Hoang, Matthew R. Sgambati Timothy J. Brown, Sergiu M. Dascalu, Frederick C. Harris, Jr. "An Application for Tree Detection Using Satellite Imagery and Vegetation Data", *Journal of Computational Methods in Science and Engineering (JCMSE)* Vol 10, Supp 1, 2010, pp 13-25.
- J 20. Adrienne Breland, Sara Nasser, Karen Schlauch, Monica Nicolescu, Frederick C. Harris, Jr. "Efficient Influenza A Virus Origin Detection" *Journal of Electronics and Computer Science* Vol. 10, No 2, December, 2008.
- J 19. Romain Brette, Michelle Rudolph, Ted Carnevale, Michael Hines, David Beeman, James M. Bower, Markus Diesmann, Abigail Morrison, Philip H. Goodman, Frederick C. Harris, Jr., Milind Zirpe, Thomas Natschlager, Dejan Pecevski, Bard Ermentrout, Mikael Djurfeldt, Anders Lansner, Olivier Rochel, Thierry Vieville, Eilif Muller, Andrew P. Davison, Sami El Boustani and Alain Destexhe "Simulation of networks of spiking neurons: A review of tools and strategies" *Journal of Computational Neuroscience* December 2007 (Vol 23), pp 349-398.
- J 18. Bill Sherman, Simon Su, Phil McDonald, Yi Mu, Fred Harris "Open-source Tools for Immersive Environmental Visualization" *IEEE Computer Graphics and Applications* March/April 2007 (Vol. 27, No. 2), pp 88-91.
- J 17. Greg Vert, Fred Harris, Sara Nasser, "Spatial Data Authentication Using Mathematical Visualization" *International Journal of Computer Science and Network Security* vol 7, no 1, pp 267-274. Jan. 2007.
- J 16. Greg Vert, Fred Harris, Sara Nasser, "Modeling State Changes in Computer Systems for Security" *International Journal of Computer Science and Network Security* vol 7, no 1, pp. 293-295. January 2007.
- J 15. Beifang Yi, Frederick C. Harris, Jr., Sergiu M. Dascalu, and Ali Erol, "User Interface Aspects of a Human-Hand Simulation System," *Journal of Systemics, Cybernetics and Informatics*, vol. 3 no. 5, 2006
- J 14. Beifang Yi, Frederick C. Harris, Jr., Ling Wang, and Yusong Yan "Generating Natural Hand Gestures in Real Time." *IEEE Computing in Science and Engineering*, **7**, (3), May/June 2005, pp. 92-97.

- J 13. Ripplinger MC, Wilson CJ, King JG, J, Drewes R, Harris FC, and Goodman PH, "Computational Model of Interacting Brain Networks," *Journal of Investigative Medicine*, **52**, (1), Jan 2004, pp. S155.
- J 12. Bei Yuan, Sean C. Martin, Judith R. Fredrickson, and Frederick C. Harris, Jr., "A Generic Queuing System for Computationally Intensive Problems." *Congr. Numer.*, **171**, (2004) pp. 193–206.
- J 11. Judith R. Fredrickson, Bei Yuan, and Frederick C. Harris, Jr., "A Time Saving Region Restriction for Calculating the Crossing Number." *Congr. Numer.*, **168**, (2004) pp. 145–158.
- J 10. Brian T. Westphal, Frederick C. Harris, Jr., and Sergiu M. Dascalu, "Snippets: Support for Drag-and-Drop Programming in the Redwood Environment." *Journal of Universal Computer Science*, **10**(7), 2004, pp 859-871.
- J 09. Brian T. Westphal, Frederick C. Harris, Jr., and Sergiu M. Dascalu, "Redwood: A Visual Environment for Software Design and Implementation." *WSEAS Transactions on Computers*, **3**(2), April 2004 pp 380-386.
- J 08. Juan Carlos Macera Rios, Philip H. Goodman, Rich Drewes, and Frederick C. Harris, Jr., "Remote-Neocortex Control of Robotic Search and Threat Identification" *Robotics and Autonomous Systems*, **46**(2), February 2004, pp 97-110.
- J 07. Pingyan Tan and Frederick C. Harris, Jr., "A Low-Cost Algorithm for Multicast Routing in Computer Networks," *Congr. Numer.*, **145**, (2000) pp. 81–96.
- J 06. Frederick C. Harris, Jr., "Steiner Minimal Trees: Their Computational Past, Present, and Future," *J. of Combin. Math. Combin. Comput.*, (**30**), (1999), pp. 195-220.
- J 05. John T. Thorpe, and Frederick C. Harris, Jr., "A Parallel Stochastic Optimization Algorithm for Finding Mappings of the Rectilinear Minimal Crossing Problem," *Ars Comb.*, **43**, (1996), pp. 135 – 148.
- J 04. Frederick C. Harris, Jr., "An Introduction to Steiner Minimal Trees on Grids," *Congr. Numer.*, **111**, (1995) pp. 3–17.
- J 03. Jean E. Dunbar, Frederick C. Harris, Jr., Sandra M. Hedetniemi, Stephen T. Hedetniemi, Alice A. McRae, and Renu C. Laskar, "Nearly Perfect Sets in Graphs," *Discrete Math.* **138**(1995), pp. 229-246.
- J 02. Frederick C. Harris, Jr., "A Stochastic Optimization Algorithm for Steiner Minimal Trees," *Congr. Numer.*, **105**, (1994) pp. 54 – 64.
- J 01. Robert Geist, A. Jefferson Offutt, and Frederick C. Harris, Jr., "Estimation and Enhancement of Real-Time Software Reliability through Mutation Analysis," *IEEE Trans. on Comp., Special Issue on Fault-Tolerant Computing*, **41**(5)(1992), pp. 550-558.

**Refereed Conference Papers:**

- C 208. Janelle Blankenburg, Richard Kelley, David Feil-Seifer, Rui Wu, Lee Barford, Frederick C Harris, Jr. “Towards GPU-Accelerated PRM for Autonomous Navigation,” *Advances in Intelligent Systems and Computing*, Volume 1134, Chapter 74, pp XX-XX. Proceedings of the 17th International Conference on Information Technology: New Generations (ITNG 2020) April 6-8, Las Vegas, NV.
- C 207. Jordan Blocher, Frederick C. Harris, Jr. “An Optimization Algorithm for the Sale of OverageData in Hong Kongs Mobile Data Exchange Market,” *Advances in Intelligent Systems and Computing*, Volume 1134, Chapter 73, pp XX-XX. Proceedings of the 17th International Conference on Information Technology: New Generations (ITNG 2020) April 6-8, Las Vegas, NV. [https://doi.org/10.1007/978-3-030-43020-7\\_73](https://doi.org/10.1007/978-3-030-43020-7_73)
- C 206. Kurt Andersen, Simone Jose Gaab, Javad Sattarvand, Frederick C Harris, Jr. “METS VR: Mining Evacuation Training Simulatorin Virtual Reality for Underground Mines,” *Advances in Intelligent Systems and Computing*, Volume 1134, Chapter 43, pp XX-XX. Proceedings of the 17th International Conference on Information Technology: New Generations (ITNG 2020) April 6-8, Las Vegas, NV. [https://doi.org/10.1007/978-3-030-43020-7\\_43](https://doi.org/10.1007/978-3-030-43020-7_43)
- C 205. Kurt Andersen, Lucas Calabrese, Andrew Flangas, Sergiu Dascalu, Frederick C. Harris, Jr. “A Comparison Between a Natural and an Inorganic Locomotion Technique,” *Advances in Intelligent Systems and Computing*, Volume 1134, Chapter 42, pp XX-XX. Proceedings of the 17th International Conference on Information Technology: New Generations (ITNG 2020) April 6-8, Las Vegas, NV. [https://doi.org/10.1007/978-3-030-43020-7\\_42](https://doi.org/10.1007/978-3-030-43020-7_42)
- C 204. Author Christopher Lewis, Ronn Siedrik Quijada, Frederick C Harris, Jr. “vFireVI: 3D Virtual Interface for vFire,” *Advances in Intelligent Systems and Computing*, Volume 1134, Chapter 41, pp XX-XX. Proceedings of the 17th International Conference on Information Technology: New Generations (ITNG 2020) April 6-8, Las Vegas, NV. [https://doi.org/10.1007/978-3-030-43020-7\\_41](https://doi.org/10.1007/978-3-030-43020-7_41)
- C 203. Andrew E. Munoz, Zach Young, Sergiu Dascalu, Fredrick C. Harris, Jr. “TDVR: Tower Defense in Virtual Reality A Multiplayer Strategy Simulation,” “A Comparison Between a Natural and an Inorganic Locomotion Technique,” *Advances in Intelligent Systems and Computing*, Volume 1134, Chapter 40, pp XX-XX. Proceedings of the 17th International Conference on Information Technology: New Generations (ITNG 2020) April 6-8, Las Vegas, NV. [https://doi.org/10.1007/978-3-030-43020-7\\_40](https://doi.org/10.1007/978-3-030-43020-7_40)
- C 202. Lucas Calabrese, Andrew Flangas, Frederick C. Harris, Jr. “Multi-User VR Cooperative Puzzle Game,” *Advances in Intelligent Systems and Computing*, Volume 1134, Chapter 39, pp XX-XX. Proceedings of the 17th International Conference on Information Technology: New Generations (ITNG 2020) April 6-8, Las Vegas, NV. [https://doi.org/10.1007/978-3-030-43020-7\\_39](https://doi.org/10.1007/978-3-030-43020-7_39)
- C 201. Andrew Muoz, Frederick C. Harris, Jr. and Sergiu M. Dascalu, “NRDC Data Visualization Web Suite,” in *Proceedings of the 35th Conference on Computers and Their Applications. (CATA 2020)*, EPiC Series in Computing Vol 69, pp 32-39 March 23-25, 2020, San Francisco, CA. <https://doi.org/10.29007/rkQh>,
- C 200. Alexander Novotny, Rowan Gudmundsson, Frederick C Harris, Jr. “A Unity Framework for Multi-User VR Experiences,” in *Proceedings of the 35th Conference on Computers and Their Applications. (CATA 2020)*, EPiC Series in Computing Vol 69, pp 13-21 March 23-25, 2020, San Francisco, CA. <https://doi.org/10.29007/r1q2>,

- C 199. Terri Heglar, Andrew Penrose, Austin Yount, Kristine Galek, Yantao Shen, Sergiu M. Dascalu, and Frederick C. Harris, Jr. "Design and Development of the CTAR All-Star." in *Proceedings of the ISCA 28th International Conference on Software Engineering and Data Engineering (SEDE 2019)*, pgs 21-30, <https://doi.org/10.29007/h37n>, September 30-October 2, San Diego, CA.
- C 198. Nikkolas J. Irwin, Anthony Bennett, Kevin Carlos, Jalal Kiswani, Cynthia R. Harris, Sergiu M. Dascalu, Frederick C Harris, Jr. "ARIA 3.0: A Modern Approach to Web-based Music Festival Registration Systems." in *Proceedings of the ISCA 28th International Conference on Software Engineering and Data Engineering (SEDE 2019)*, pgs 215-224, <https://doi.org/10.29007/c1rd>, September 30-October 2, San Diego, CA.
- C 197. Andrew E. Munoz, Xiang Li, Bahadir A. Pehlivan, Frederick C. Harris, Jr., and Sergiu Dascalu, "Comparison of University Course Search Interfaces," in *Proceedings of the ISCA 28th International Conference on Software Engineering and Data Engineering (SEDE 2019)*, pgs 1-10, <https://doi.org/10.29007/f1sm>, September 30-October 2, San Diego, CA.
- C 196. Xiang Li, Grant Schissler, Rui Wu, Lee Barford, and Frederick C. Harris, Jr. "A graphical processing unit accelerated NORMal To Anything algorithm for high dimensional multivariate simulation," in *Advances in Intelligent Systems and Computing*, Volume 800, Chapter 46, pp 339-346. *Proceedings of the 16th International Conference on Information Technology : New Generations ITNG 2019*), April 1-3, Las Vegas, NV. **Best PaperAward**
- C 195. Hannah Munoz, Sergiu M. Dascalu, Rui Wu, Lee Barford, and Frederick C. Harris, Jr. "Image Processing Using Multiple GPUs on Webcam Image Streams," in *Advances in Intelligent Systems and Computing*, Volume 800, Chapter 44, pp 325-332. *Proceedings of the 16th International Conference on Information Technology : New Generations ITNG 2019*), April 1-3, Las Vegas, NV.
- C 194. Daniel A. Lopez, Rui Wu, Lee Barford, and Frederick C. Harris, Jr. "A Memory Layout for Dynamically Routed Capsule Layers," in *Advances in Intelligent Systems and Computing*, Volume 800, Chapter 44, pp 317-324. *Proceedings of the 16th International Conference on Information Technology : New Generations ITNG 2019*), April 1-3, Las Vegas, NV.
- C 193. Syed Zawad, Feng Yan, Rui Wu, Lee Barford, and Frederick C. Harris, Jr. "Randomized Benchmarking of Quantum Gates on a GPU," in *Advances in Intelligent Systems and Computing*, Volume 800, Chapter 42, pp 307-316. *Proceedings of the 16th International Conference on Information Technology : New Generations ITNG 2019*), April 1-3, Las Vegas, NV.
- C 192. Connor Scully-Allison Rui Wu, Sergiu M. Dascalu, Lee Barford, and Frederick C. Harris, Jr. "Data Imputation with an Improved Robust and Sparse Fuzzy K-Means Algorithm," in *Advances in Intelligent Systems and Computing*, Volume 800, Chapter 41, pp 299-306. *Proceedings of the 16th International Conference on Information Technology : New Generations ITNG 2019*), April 1-3, Las Vegas, NV.
- C 191. Yan Yan, Tin Nguyen, Bobby Bryant, and Frederick C. Harris, Jr. "Robust Fuzzy Cluster Ensemble on Cancer Gene Expression Data," in *Proceedings of the ISCA 11th International Conference on Bioinformatics and Computational Biology (BICOB 2019)*, pgs 120-128, <https://doi.org/10.29007/38sk>, March 18-20, Honolulu, HI.
- C 190. Samuel Delaney, Dwight Egbert, and Frederick C. Harris, Jr. "RealPi - A Real Time Operating System on the Raspberry Pi," in *Proceedings of the ISCA 34th International Conference on Computers and Their Applications (CATA 2019)*, pgs 8-16, <https://doi.org/>

- 10.29007/p614, March 18-20, Honolulu, HI.
- C 189. Antoine Bossard, Keiichi Kaneko, Frederick C Harris, Jr. “On the Crossing Number of Tori” in *Proceedings of the Fourth International Conference on Electronics and Software Science (ICESS 2018)*, November 5-7, 2018, Takamatsu, Japan
- C 188. Ryan Devaney, Sanya Gupta, Vinh Le Connor Scully-Allison, Frederick C. Harris, Jr., Sergiu Dascalu “Overlay: an Educational Disc Covering Puzzle Game,” in *Proceedings of the ISCA 27th International Conference on Software Engineering and Data Engineering (SEDE 2018)*, October 8-10, New Orleans, LA.
- C 187. Pattaphol Jirasessakul, Zachary Waller, Paul Marquis, Vinh Le, Connor Scully-Allison, Scotty Strachan, Frederick C. Harris, Jr., Sergiu M. Dascalu “Generalized Software Interface for CHORDS,” in *Proceedings of the ISCA 27th International Conference on Software Engineering and Data Engineering (SEDE 2018)*, October 8-10, New Orleans, LA.
- C 186. Alex Hansen, Kurt Andersen, Brittany Sievert Jalal Kiswani, Sergiu M. Dascalu, Frederick C. Harris, Jr. “Let’s VR: A Multiplayer Framework for Virtual Reality,” in *Proceedings of the ISCA 27th International Conference on Software Engineering and Data Engineering (SEDE 2018)* October 8-10, New Orleans, LA.
- C 185. Jalal Kiswani, Sergiu M. Dascalu, Frederick C. Harris, Jr. “Cloud-RA: A Reference Architecture for Cloud Based Information Systems,” in *Proceedings of the 13th International Conference on Software Technologies (ICSOFT 2018)*, July 26-28, 2018, Porto, Portugal.
- C 184. Jalal Kiswani, Sergiu M. Dascalu, Muhanna Muhanna, and Frederick C. Harris, Jr. “Clowiz: A Model-driven Development Platform for Cloud-based Information Systems,” in *Proceedings of the 6th International Conference on Multimedia Computing and Systems (ICMCS 18)* May 10-12, 2018, Rabat, Morocco.
- C 183. Rui Wu Jose Painumkal Sergiu M. Dascalu Frederick C. Harris, Jr. “Budget and User Feedback Control Strategy-based PRMS Scenario Web Application” in *Proceedings of the 15th International Conference on Information Technology : New Generations (ITNG 2018)* April 16-18, 2018, Las Vegas, Nevada.
- C 182. Jeffery A. Stuart, Brian T. Westphal, Bei Yuan, Frederick C. Harris Jr. “A Linear-Time Visualization Algorithm for Drawing Planar Graphs Represented by Regions” in *Proceedings of the ISCA 33rd International Conference on Computers and Their Applications (CATA 2018)* March 19-21, Las Vegas, NV.
- C 181. David A. Mar Jr., Emily Huang, Vladislav B. Savranschi, Renee T. Inuma, Wesley Kepke, Ernest Landrito, Kyle Lee, Cynthia R. Harris, Sergiu M. Dascalu and Frederick C. Harris Jr., “ARIA: Efficient Music Festival Manager” in *Proceedings of the ISCA 26th International Conference on Software Engineering and Data Engineering (SEDE 2017)* October 2-4, San Diego, CA
- C 180. Catherine R. Pollock, Daniel A. Lopez, Gunnar Wambaugh, Luis Almanzar, Amanda Morrissey, Kathryn Krings, Kristine Galek and Frederick C. Harris, Jr. “Avaler’s Adventure: an Open Source Game for Dysphagia Therapy” in *Proceedings of the ISCA 26th International Conference on Software Engineering and Data Engineering (SEDE 2017)* October 2-4, San Diego, CA
- C 179. Jalal Kiswani, Muhanna Muhanna, Sergiu Dascalu and Frederick Harris, Jr. “Software Infrastructure to Reduce the Cost and Time of Building Enterprise Software Applications:

- Practices and Case Studies” in *Proceedings of the ISCA 26th International Conference on Software Engineering and Data Engineering (SEDE 2017)* October 2-4, San Diego, CA
- C 178. Hannah Munoz, Connor Scully-Allsion, Vinh Le, Scotty Strachan, Fredrick C. Harris, Jr. and Sergiu M. Dascalu “A Mobile Quality Assurance Application for the NRDC” in *Proceedings of the ISCA 26th International Conference on Software Engineering and Data Engineering (SEDE 2017)* October 2-4, San Diego, CA
- C 177. Md Moinul Hossain, Rui Wu, Jose T. Painumkal, Mohamed Kettouch, Cristina Luca, Sergiu M. Dascalu, Frederick C. Harris, Jr “Web-Service Framework For Environmental Models” in *Proceedings of the Seventh International Conference on Internet Technologies & Applications (ITA 2017)* September 12-15, 2017, Wrexham, North Wales, UK
- C 176. Rui Wu, Jose Painumkal, Sergiu M. Dascalu, and Frederick C Harris,Jr. “Self-managed Elastic Scale Hybrid Server Using Budget Input and User Feedback” in *Proceedings of the 12th Workshop on Feedback Computing, As part of the Proceedigns of the 14th International Conference on Autonomous Computing* July 17-21, 2017, Columbus, Ohio
- C 175. Rui Wu, Jose T. Painumkal, John M. Volk, Siming Liu, Sushil J. Louis, Scott Tyler, Sergiu M. Dascalu and Frederick C. Harris, Jr. “Parameter Estimation of Nonlinear Nitrate Prediction Model Using Genetic Algorithm” in *Proceedings of the IEEE Congress on Evolutionary Computation 2017 (CEC 2017)* June 5-8, 2017, Donostia - San Sebastin, Spain
- C 174. Moinul Hossain, Hannah Muoz, Rui Wu, Eric Fritzinger, Sergiu M. Dascalu, Frederick C. Harris, Jr. “Becoming DataONE Tier-4 Member Node: Steps taken by the Nevada Research Data Center” in *Proceedings of the Joint 2017 International Conference on Optimization of Electrical and Electronic Equipment (OPTIM 2017) and the 2017 Intl Aegean Conference on Electrical Machines and Power Electronics (ACEMP)* May 25-27, 2017 Brasov, Romania
- C 173. Chase D. Carthen, Cris Ruggieri, Justice Colby, Richard Kelley, Sergiu M. Dascalu, Frederick C Harris, Jr. “MUSE: A Music Conducting Recognition System” in *Proceedings of the 14th International Conference on Information Technology: New Generations (ITNG 2017)* April 10-12, 2017, Las Vegas, NV.
- C 172. Raja H. Singh, Nolan Burfield, Frederick C Harris, Jr. “Data Retrieval and Parsing of Form 4 from the Edgar System using Multiple CPUs” in *Proceedings of the 14th International Conference on Information Technology: New Generations (ITNG 2017)* April 10-12, 2017, Las Vegas, NV.
- C 171. Connor F. Scully-Allison, Hirav Parekh, Frederick C Harris, Jr., Sergiu M. Dascalu “Analysis of User Experience and Performance at Initial Exposure to Novel Keyboard Input Methods” in *Proceedings of the 2017 International Conference on Computers and Their Applications (CATA 2017)* March 20-22, 2017, Waikiki, HI.
- C 170. Erin S. Keith, Richard Kelley, Anna Panorska, Frederick C Harris, Jr. “Optimizing Local Least Squares Regression for Short Term Wind Prediction” in *Proceedings of the 2017 International Conference on Computers and Their Applications (CATA 2017)* March 20-22, 2017, Waikiki, HI.
- C 169. Rui Wu, Jose T. Painumkal, Nimrat Randhawa, Lisa Palathingal, Sage R. Hiibel, Sergiu M. Dascalu, Frederick C. Harris, Jr “A New Workflow to Interact with and Visualize Big Data for Web Applications” in *Proceedings of the 2016 International Conference on Collaboration Technologies and Systems (CTS 2016)* October 31-November 4, Orlando, FL.

- C 168. Lisa Palathingal, Rui Wu, Sergiu Dascalu, Frederick C. Harris, Jr. “Data Processing Toolset for the Virtual Watershed” in *Proceedings of the 2016 International Conference on Collaboration Technologies and Systems (CTS 2016)* October 31-November 4, Orlando, FL.
- C 167. Rui Wu,Chao Chen, Sajjad Ahmad, John M. Volk, Cristina Luca, Frederick C Harris, Jr., Sergiu M. Dascalu “A Real-time Web-based Wildfire Simulation System” in *Proceedings of the 2016 IEEE Industrial Electronics Conference (IECON 2016)* Oct 24-27, 2016, Florence, Italy.
- C 166. Chase Carthen, Vinh Le, Richard Kelley, Tomasz Kozubowski, Frederick C. Harris Jr. “Rewind: A Transcription Method and Website” in *Proceedings of the 25th International Conference on Software Engineering and Data Engineering (SEDE 2016)*, pp 73-78, September 26-28, Denver, CO.
- C 165. Vinh Le, Terence Henriod, Eric Fritzingler, Frederick C. Harris, Jr., Segiu Dascalu “A Web Interface Usability Evaluation of a Public Collaborative Data Portal” in *Proceedings of the 25th International Conference on Software Engineering and Data Engineering (SEDE 2016)*, pp 61-66, September 26-28, Denver, CO.
- C 164. Rui Wu, Sergiu M. Dascalu, Lee Barford, Frederick C. Harris, Jr “Floating-Point Data Compression Using Improved GFC Algorithm” in *Proceedings of the 25th International Conference on Software Engineering and Data Engineering (SEDE 2016)*, pp 35-40, September 26-28, Denver, CO.
- C 163. Jose T. Painumkal,Sankeerth Ankam, Sergiu M. Dascalu Frederick C. Harris, Jr “Comparative Evaluation of NRDC Web Portal Using Automated Tools” in *Proceedings of the 25th International Conference on Software Engineering and Data Engineering (SEDE 2016)*, pp 17-22, September 26-28, Denver, CO.
- C 162. Jessica Smith, Lee Barford, Sergiu M. Dascalu, and Frederick C. Jr. Harris, Jr., “Highly Parallel Implementation of Forest Fire Propagation Models on the GPU” in *Proceedings of the 2016 International Conference on High Performance Computing and Simulations (HPCS 2016)* July 18-22, 2016, Innsbruck, Austria. **Best Paper Finalist**
- C 161. Eric Klukovich, Mehmet Hadi Gunes, Lee Barford, and Frederick C. Jr. Harris, Jr., “Accelerating BFS Shortest Paths Calculations Using CUDA for Internet Topology Measurements” in *Proceedings of the 2016 International Conference on High Performance COmputing and Simulations (HPCS 2016)*, July 18-22, 2016, Innsbruck, Austria.
- C 160. Angela Chan, Alexander Gamino, Frederick C. Jr. Harris, Jr., and Sergiu Dascalu, “Integration of Assistive Technologies into 3D Simulations: An Exploratory Study,” in *Proceedings of the 2016 International Conference on Information Technology: New Generations (ITNG 2016)*, April 18-20, 2016, Las Vegas, NV. **Best Paper Award**
- C 159. Christine Johnson, Lee Barford, Sergiu M. Dascalu, and Frederick C. Jr. Harris, Jr., “CUDA Implementation of Computer Go Game Tree Search,” in *Proceedings of the 2016 International Conference on Information Technology: New Generations (ITNG 2016)*, April 18-20, 2016, Las Vegas, NV.
- C 158. Matthew VanCompernelle, Lee Barford, Frederick C. Jr. Harris, Jr., “Maximum Clique Solver using Bisets on GPUs,” in *Proceedings of the 2016 International Conference on Information Technology: New Generations (ITNG 2016)*, April 18-20, 2016, Las Vegas, NV.
- C 157. Raja H. Singh, Lee Barford, Frederick C. Jr. Harris, Jr., “Accelerating the Critical Line Algorithm for Portfolio Optimization Using GPUs,” in *Proceedings of the 2016 International*

- Conference on Information Technology: New Generations (ITNG 2016)*, April 18-20, 2016, Las Vegas, NV.
- C 156. Andy Olson, Dwight Egbert, Mircea Nicolescu, Harrison Stanton, Raul Rojas, and Frederick C. Jr. Harris, Jr., "Smoke Detection Prescreening in Sequential Images," in *Proceedings of the 2016 ISCA International Conference on Computers and Their Applications (CATA 2016)*, April 4-6, 2016, Las Vegas, DC.
- C 155. Thomas Kelley, Thomas Rushton, Yantao Shen, Sergiu Dascalu, and Frederick C. Jr. Harris, Jr., "Neocortical Virtual Robot," in *Proceedings of the 2016 ISCA International Conference on Computers and Their Applications (CATA 2016)* April 4-6, 2016, Las Vegas, DC.
- C 154. Juli Petereit, Frederick C. Jr. Harris, and Karen Schlauch, "A Novel Co-Expression Network Modeling System," in *Proceedings of the 2015 IEEE International Conference on Bioinformatics and Biomedicine (IEEE BIBM 2015)*, November 9-12, 2015, Washington, DC.
- C 153. Andrew M. Olson, Dwight D. Egbert, Drederick C Harris, Jr., "UNR Sim: A Simulated Computer for Computer Engineering Education," in *Proceedings of the 28th International Conference on Computer Applications in Industry and Engineering (CAINE 2015)* October 12-14, San Diego, CA.
- C 152. Nolan Burfield, Hardy Thrower, Brandon Worl, Sergiu Dascalu, and Frederick Harris, Jr. "Submit: An Online Submission Platform for Computer Science Courses," in *Proceedings of the 28th International Conference on Computer Applications in Industry and Engineering (CAINE 2015)*, October 12-14, San Diego, CA.
- C 151. Likhitha Ravi, Sergiu M. Dascalu, Frederick C. Harris, Jr., "GUI-Enhanced Activity Diagrams with Application to the Design of AVISTED," in *Proceedings of the 24th International Conference on Software Engineering and Data Engineering (SEDE 2015)*, October 12-14, San Diego, CA.
- C 150. Rui Wu, Sergiu M. Dascalu, Frederick C Harirs, Jr., "Environment for Datasets Processing and Visualization Using SciDB," in *Proceedings of the 24th International Conference on Software Engineering and Data Engineering (SEDE 2015)*, October 12-14, San Diego, CA.
- C 149. Moinul Hossain, Sergiu M. Dascalu, Frederick C Harris, Jr., "A Software Environment for Watershed Modeling," in *Proceedings of the 24th International Conference on Software Engineering and Data Engineering (SEDE 2015)*, October 12-14, San Diego, CA.
- C 148. Vinh D. Le, Melanie M. Neff, Royal V. Stewart Richard Kelley, Eric Fritzinger, Sergiu M. Dascalu, Frederick C. Harris, Jr. "Microservice-based Architecture for the NRDC", in *Proceedings of the 13th IEEE International Conference on Industrial Informatics (INDIN 2015)*, July 22-24, Cambridge, UK.
- C 147. Chase D. Carthen, Thomas J. Rushton, Christine M. Johnson, Aaron Hesson, Daniel Nielson, Bryan Worrell, John W. Anderson, Roger Lew, Nicholas R. Wood, Matthew Ziegler Donna M. Delparte, W. Joel Johansen, Sergiu M. Dascalu, and Frederick C. Harris, Jr., "Design of a Virtual Watershed Client for the WC-WAVE Project", in *Proceedings of The 2015 International Conference on Collaboration Technologies and Systems (CTS-2015)*, June 1-5, Atlanta, GA.
- C 146. Torbjorn Loken, Sergiu M. Dascalu, and Frederick C. Harris, Jr., "GPU Based Sound Simulation and Visualization", in *Proceedings of The 2015 International Conference on In-*

- formation Technology: New Generations (ITNG 2015)*, pp 692-697, April 13-15, 2015, Las Vegas, NV.
- C 145. Likhitha Ravi, Sergiu M. Dascalu, Frederick C. Harris, Jr., John Mejia, and Nouredine Belkhatir, “VISTED: A Visualization Toolset for Enviromental Data,” in *Proceedings of The 2015 International Conference on Computers and Their Application (CATA 2015)*, pp 335-342, March 9-11, 2015, Honolulu, HI.
- C 144. Angela Chan, Juan Quiroz, Sergiu M. Dascalu, and Frederick C. Harris, Jr. “An Overview of Brain Computer Interfaces”, in *Proceedings of The 2015 International Conference on Computers and Their Application (CATA 2015)*, pp 327-334, March 9-11, 2015, Honolulu, HI.
- C 143. Lisa Palathingal, Sergiu M. Dascalu, Frederick C. Harris, Jr., and Yaakov Varol “A Brief Survey of Data Curation Literature”, in *Proceedings of The 2015 International Conference on Computers and Their Application (CATA 2015)*, pp 419-424, March 9-11, 2015, Honolulu, HI.
- C 142. Rui Wu, Lisa Palathingal, Sergiu M. Dascalu, and Frederick C. Harris, Jr. “Concentration Reminder: Distraction and Drowsiness Detection for Computer Users”, in *Proceedings of The 2015 International Conference on Computers and Their Application (CATA 2015)*, pp 113-118, March 9-11, 2015, Honolulu, HI.
- C 141. C. M. Thibeault, F.C. Harris, Jr., and P.A. Tebbe, “Modeling particle diffusion in laminar tube flow with spectral collocation”, in *Proceedings of The 2015 International Conference on Computers and Their Application (CATA 2015)*, pp 51-56, March 9-11, 2015, Honolulu, HI.
- C 140. Gareth Ferneyhough, Corey Thibeault, Sergiu M. Dascalu, and Frederick C. Harris, Jr. “ModFossa: A Python Library for Ion Channel Modeling”, in *Proceedings of The 2015 International Conference on Bioinformatics and Computational Biology (BICOB 2015)*, pp 111-118, March 9-11, 2015, Honolulu, HI.
- C 139. Mehdi Rahimi, Yudong Luo, Frederick C. Harris, Jr, Sergiu M. Dascalu, and Yantao Shen “Improving Measurement Accuracy of Position Sensitive Detector (PSD) for a New Scanning PSD Microscopy System”, in *Proceedings of the 2014 IEEE International Conference on Robotics and Biomimetics*, pp 1685-1690, December 5-10, 2014, Bali, Indonesia.
- C 138. Edson O. Almachar, Alexander M. Falconi, Katie A. Gilgen, Devyani Tanna, Nathan M. Jordan, Roger V. Hoang, Sergiu M. Dascalu, Laurence C. Jayet Bray, Frederick C Harris, Jr., “Design and Implementation of a Repository Service and Reporting Interface for the NCS”, in *Proceedings of The 2014 International Conference on Software Engineering and Data Engineering (SEDE 2014)*, October 13-15, 2014, New Orleans, LA.
- C 137. Jakub Berlinski Marlon D. Chavez, Cameron Rowe, Nathan M. Jordan, Devyani Tanna, Roger V. Hoang, Sergiu M. Dascalu, Laurence C. Jayet Bray, Frederick C Harris, Jr., “Neo-Cortical Builder: A Web Based Front End for NCS”, in *Proceedings of The 2014 International Conference on Computer Applications in Industry and Engineering (CAINE 2014)*, October 13-15, 2014, New Orleans, LA.
- C 136. Sergiu Dascalu, Frederick C Harris, Jr., Michael McMahon Jr., Eric Fritzinger, Scotty Strachan, Richard Kelley, “An Overview of the Nevada Climate Change Portal”, in *Proceedings of The 7th International Congress on Environmental Modelling and Software (iEMSs 2014)* , June 15-19, 2014, San Diego, CA.

- C 135. Ershad Sharifahmadian, Yoonsuk Choi, Shahram Latifi, Sergiu Dascalu, Frederick C. Harris, “Wavelet-based Compression of Multichannel Climate Data”, in *Proceedings of SPIE Conference on Sensing Technology and its Applications, Part of Satellite Data Compression, Communications, and Processing X*, May, 2014, Baltimore, MD. Vol 9124, pp. B1-B6
- C 134. Corey M. Thibeault, Frederick C. Harris, Jr., Narayan Srinivasa “A Virtual Environment Framework for Embedding Neural Models”, in *Proceedings of The 2014 International Conference on Computer and Their Applications (CATA 2014)*, March 24-26, 2014, Las Vegas, NV.
- C 133. Corey M. Thibeault, Frederick C. Harris, Jr., Narayan Srinivasa “Embodied modeling with spiking neural networks for neuromorphic hardware: a simulation study”, in *Proceedings of The 2013 International Conference on Computer Applications in Industry and Engineering (CAINE 2013)*, pp 3-10, **Best Paper Runner-up**, September 25-27, 2013, Los Angeles, CA.
- C 132. Justin E. Cardoza, Alexander K. Jones, Denver J. Liu, Roger V. Hoang, Devyani Tanna, Laurence C. Jayet Bray, Sergiu M. Dascalu, and Frederick C. Harris, Jr. “Design and Implementation of a Graphical Visualization Tool for NCS”, in *Proceedings of The 2013 International Conference on Software Engineering and Data Engineering (SEDE 2013)*, September 25-27, 2013, Los Angeles, CA.
- C 131. Ivan Gibbs, Eric Fritzing, Sergiu M. Dascalu, Frederick C Harris, Jr., Yantao Shen “A Workflow Job Manager for the Nevada Climate Change Portal”, in *Proceedings of The 2013 International Conference on Collaboration Technologies and Systems (CTS 2013)* May 20-24, 2013, San Diego, CA.
- C 130. Jigarkumar Patel, Sergiu M. Dascalu, Frederick C Harris, Jr. “Runtime Generation of Data Processors on Local User Computers”, in *Proceedings of The 2013 International Conference on Collaboration Technologies and Systems (CTS 2013)* May 20-24, 2013, San Diego, CA.
- C 129. Rakhi Motwani, Mukesh Motwani, Frederick C Harris, Jr. “Uniform and Efficient Exploration of State Space using Kinodynamic Sampling-based Planners” in *Proceedings of The International Workshop on Computational Kinematics 2013 (CK2013)* May 12-15, 2013, Barcelona, Spain.
- C 128. Torbjorn Loken, Lee Barford, Frederick C Harris, Jr. “Massively Parallel Jitter Measurement from Deep Memory Digital Waveforms”, in *Proceedings of the 2013 IEEE International Instrumentation and Measurement Technology Conference (I2MTC)*, May 6-9, 2013, Minneapolis, MN
- C 127. Jigar Patel, Sohei Okamoto, Sergiu M Dascalu, Frederick C Harris, Jr. “A Web-enabled Approach for Generating Data Processors”, in *Proceedings of the 10th International Conference on Information Technology: New Generations (ITNG 2013)* April 15-17, 2013, Las Vegas, NV
- C 126. Ivan Gibbs, Sergiu M Dascalu, Frederick C Harris, Jr. “Web Portal Usability Tests for the Nevada Climate Change Portal”, in *Proceedings of the 10th International Conference on Information Technology: New Generations (ITNG 2013)* April 15-17, 2013, Las Vegas, NV
- C 125. Joseph M Vesco, Frederick C Harris, Jr., Sergiu M Dascalu, Del Jackson, Josh E Baker “Semi-Automated Analysis Software for a Novel Biochemistry Assay”, in *Proceedings of the 10th International Conference on Information Technology: New Generations (ITNG 2013)* April 15-17, 2013, Las Vegas, NV

- C 124. Likhitha Ravi, Qiping Yan, Sergiu M. Dascalu, Frederick C Harris, Jr. “A Survey of Visualization Techniques and Tools for Environmental Data”, *Proceedings of the 2013 International Conference on Computers and Their Applications (CATA 2013)* March 4-6, 2013, Honolulu, Hawaii.
- C 123. Qiping Yan, Michael J. McMahon Jr., Sergiu Dascalu, Frederick C. Harris, Jr., Likhitha Ravi “Community Metadata ISO 19115 Adaptor”, *Proceedings of the 2013 International Conference on Computers and Their Applications (CATA 2013)*, March 4-6, 2013, Honolulu, Hawaii.
- C 122. Eric Fritzing, Sergiu M Dascalau, Daniel P. Ames, Karl Benedict, Ivan Gibbs, Michael J. McMahon, Jr., and Frederick C. Harris, Jr. “The Demeter Framework for Model and Data Interoperability”, in R. Seppelt, A.A. Voinov, S. Lange, and D. Bankamp (eds.) *Proceedings of the 2012 International Congress on Environmental Modeling and Software (iEMSs-2012)*, July 2012, Leizig, Germany. pp. 1535-1543.
- C 121. Jigarkumar Patel, Sohei Okamoto, Sergiu M. Dascalu and Frederick C Harris, Jr., “Web-Enabled Toolkit for Data Interoperability Support”, in *Proceedings of the 2012 ISCA International Conference on Software Engineering and Data Engineering (SEDE 2012)* pp. 161-166, June 27-29, 2012 Los Angeles, CA.
- C 120. Nathan M. Jordan, Kimberly B. Perry, Nitish Narala, Laurence C. Jayet Bray, Sergiu M. Dascalu and Frederick C Harris, Jr., “Design and Implementation of an NCS-NeuroML Translator”, in *Proceedings of the 2012 ISCA International Conference on Software Engineering and Data Engineering (SEDE 2012)* pp. 13-19, June 27-29, 2012 Los Angeles, CA.
- C 119. Chad Feller, Karen Schlauchm and Frederick C Harris, Jr., “An Introduction to Proactive Server Preservation in an HPC Environment”, in *Proceedings of the 2012 ISCA International Conference on Advanced Computing and Communication (ACC 2012)*, pp. 51-57, June 27-29, 2012 Los Angeles, CA.
- C 118. Adrienne Breland, Harpreet Singh, Omid Tutakhil, Mike Needham, Dickson Luong, Grant Hennig, Roger Hoang, Torbjorn Loken, Sergiu M. Dascalu, and Frederick C Harris, Jr., “A GPU Algorithm for Comparing Nucleotide Histograms”, in *Proceedings of the 2012 ISCA International Conference on Advanced Computing and Communication, (ACC 2012)* pp. 13-18, June 27-29, 2012 Los Angeles, CA.
- C 117. Sohei Okamoto, Roger V Hoang, Sergiu M. Dascalu, Frederick C Harris, Jr., and Nouredine Belkhatir “SUNPRISM: An Approach and Software Tools for Collaborative Climate Change Research”, in *Proceedings of the 13th International Conference on Collaboration Technologies and Systems (CTS 2012)*, pp. 583-590, May 21-25, 2012, Denver, CO, USA.
- C 116. Vinitha Khambadkar, Lee Barford, and Frederick C Harris, Jr., “Massively Parallel Localization of Pulsed Signal Transitions Using a GPU”, in *Proceedings of the 2012 IEEE International Instrumentation and Measurement Technology Conference*, pp. 2173-2177, May 13-16, 2012 Graz, Austria.
- C 115. Corey M. Thibeault, Joshua Hegie, Laurence Jayet Bray, and Frederick C Harris, Jr. “Simplifying Neurorobotic Development with NCSTools”, in *Proceedings of the 2012 Conference on Computers and Their Applications, (CATA 2012)* March 12-14, 2012, Las Vegas, NV.
- C 114. Joseph M. Vesco, Katie Gilgen, Anne Paine, Marissa Owens, E. Michael Nussbaum, Gale M. Sinatra, Sajjad Ahmad, Kent J. Crippen, Sergiu M. Dascalu, Frederick C Harris, Jr. “Losing the Lake: Development and Deployment of an Educational Game”, in *Proceedings*

- of the 2012 Conference on Computers and Their Applications, (CATA 2012) March 12-14, 2012, Las Vegas, NV.*
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- C 019. Thoren McDole, Hapin Cua, Chang Huang, Leon Kania, Sergiu Dascalu, Fred Harris, "Software Specification of the GORT Environment for 3D Modeling" in *Proceedings of The 7th World Multiconference on Systemics, Cybernetics and Informatics (SCI 2003)* July 27-30, 2003, Orlando, FL. **Best Paper Award**
- C 018. Lixing Ma and Frederick C. Harris, Jr., "A Parallel Algorithm for Solving a Tridiagonal Linear System with the ADI Method" in W.W. Smari and M. Guizani, editors, *Proceedings of the ISCA's International Conference on Parallel and Distributed Computing Systems (PDCS 2002)*, Louisville, KY, September 19-21, 2002, pp 379-385.
- C 017. Kishor K. Waikul, Lianjun Jiang, E. Courtenay Wilson, Frederick C. Harris, Jr., and Philip H. Goodman, "Design and Implementation of a Web Portal for a NeoCortical Simulator" in R. Gantenbein and S. Shin editors, *Proceedings of Computers and Their Applications (CATA) 2002* San Francisco, CA, April 4-6, 2002, pp. 349-353.
- C 016. E. Courtenay Wilson, Frederick C. Harris, Jr., and Phillip H. Goodman, "A Large-Scale Biologically Realistic Cortical Simulator" in *Proceedings of SC2001* November 12-16, 2001, Denver, Colorado.
- C 015. M. Sami Fadali, L. LaForge, and F. Harris, Jr., "Linear Time Computation of QFT Feasible Regions" in A. Chung, editor, *Proceedings of Computers and their Applications in Industry and Engineering (CAINE '01)*, November 27-29, 2001, Las Vegas, NV, pp. 23-28,
- C 014. Nancy LaTourrette, Yaakov Varol, and Frederick C. Harris, Jr., "Empowerment to Success: The Class Structure in an Honors Engineering Course," in *Proceedings of Frontiers in Education 2001 (FIE 2001)* October 10-13, 2001. Reno, NV,
- C 013. E. Courtenay Wilson, Phillip H. Goodman, and Frederick C. Harris, Jr., "Implementation of a Biologically Realistic Parallel Neocortical-Neural Network Simulator," in *Proceedings of*

*the Tenth SIAM Conf. on Parallel Process. for Sci. Comp.* March 12-14, 2001. Portsmouth, Virginia,

- C 012. Benjamin Lucchesi, Nerissa Oberlander, Frederick C. Harris, Jr., and Pierre Mousset-Jones, "Surface Mine Truck Safety Training: Scenario Setup for a VR Driving Simulator." in Q. Yang, editor, *Proceedings of the 12th International Conference on Computer Applications in Industry and Engineering (CAINE '99)*, November 4-6, 1999, Atlanta, GA, pp. 62-65.
- C 011. Damien Ennis, Benjamin Lucchesi, Nerissa Oberlander, Keith Wesolowski, Frederick C. Harris, Jr., and Pierre Mousset-Jones, "Surface Mine Truck Safety Training: A VR Approach to Pre-Operational Vehicle Inspection," in Kadri Dagelen, editor, *Proceedings of APCOM '99: Computer Applications in the Minerals Industries 28th International Symposium*, Colorado School of Mines, Golden, CO, October 20-22, 1999, pp. 811-818.
- C 010. Jane Niehues-Brooks and Frederick C. Harris, Jr., "Automated Digital Image Analysis of Video Ice Crystal Data." in R. Y. Lee, editor, *Proceedings of the ISCA 14<sup>th</sup> International Conference on Computers and Their Applications*, April 7-9, 1999, Cancun, Mexico, pp. 91-94.
- C 09. Igor Golovkin, Roberto C. Mancini, and Frederick C. Harris, Jr., "Parallelization of Non-Equilibrium Radiation Transport Code." in Bruce Hendrickson, Katherine A. Yelick, Christian H. Bischof, Iain S. Duff, Alan S. Edelman, George A. Geist, Michael T. Heath, Michael A. Heroux, Chuck Koelbel, Robert S. Schrieber, Richard F. Sincovec, and Mary F. Wheeler, editors, *Proceedings of The Ninth SIAM Conf. on Parallel Process. for Sci. Comp.*, San Antonio, TX, March 22-24, 1999.
- C 08. Frederick C. Harris, Jr. and Carl G. Looney, "Strategies for Effective Group Project-Based Courses." in Brendan J. O'Toole, editor, *Proceedings of the 1999 ASEE-PSW Conference*, Las Vegas, NV, March 19-20, 1999. pp 59-66.
- C 07. Frederick C. Harris, Jr. and Cynthia R. Harris, "A Proposed Algorithm for Calculating the Minimum Crossing Number of a Graph," In Yousef Alavi and Ronald L. Graham and Allen J. Schwenk, editors, *Proceedings of the Eighth International Conference on Graph Theory, Combinatorics, Algorithms and Applications*, Western Michigan University, Kalamazoo, MI, June 3-7, 1996. pp 469-478, Vol II. (1998).
- C 06. Umid Tadjiev and Frederick C. Harris, Jr., "Parallel Computation of the Minimum Crossing Number of a Graph", In Michael Heath and Virginia Torczon and Greg Astfalk and Petter E. Bjorstad and Alan H. Karp and Charles H. Koelbel and Vipin Kumar and Robert F. Lucas and Layne T. Watson and David E. Womble, editors, *Proceedings of The Eighth SIAM Conf. on Parallel Process. for Sci. Comp.*, Minneapolis, MN, March 14-17, 1997.
- C 05. Marat Zhaksilikov, and Frederick C. Harris, Jr. "Global Parallelization of Genetic Algorithms: Comparison of Implementations," In F.C. Harris, Jr., editor, *Proceedings of the ISCA, 5<sup>th</sup> International Conference on Intelligent Systems (IS '96)*, Reno, Nevada, June 19-21, 1996, pp. 40 - 44.
- C 04. Joseph Jones, and Frederick C. Harris, Jr. "A Genetic Algorithm for the Steiner Minimal Tree Problem," In F.C. Harris, Jr., editor, *Proceedings of the ISCA, 5<sup>th</sup> International Conference on Intelligent Systems (IS '96)*, Reno, Nevada, June 19-21, 1996, pp. 35 - 39.
- C 03. Jerri Hines, John T. Thorpe, Kenneth B. Winiecki, Jr. and Frederick C. Harris, Jr., "Solving Quadratic Assignment Problems With Parallel Genetic Algorithms," In S. Louis, editor, *Proc. Fourth Golden West International Conference on Intelligent Systems - GWIC-IV*, San Francisco, California, June 12-14, 1995, pp. 11 - 15.

C 02. Frederick C. Harris, Jr., “Parallel Computation of Steiner Minimal Trees,” In David H. Bailey and Petter E. BJORSTAD and John R. Gilbert and Michael V. Mascagni and Robert S. Schreiber and Horst D. Simon and Virginia J. Torczan and Layne T. Watson, editors, *Proc. 7<sup>th</sup> SIAM Conf. on Parallel Process. for Sci. Comput.*, San Francisco, California, February, 1995, pp. 267 – 272.

C 01. Robert Geist, Darrell Suggs, Robert Reynolds, Shardul Divatia, Fred Harris, Evan Foster, and Priyadarshan Kolte, “Disk Performance Enhancement through Markov-based Cylinder Remapping,” In Cherri M. Pancake and Douglas S. Reeves, editors, *Proc. ACM Southeast Regional Conf.*, Raleigh, North Carolina, April, 1992, pp. 23-28. (*Highest-rated Paper*)

### Technical Papers:

- Frederick C. Harris, Jr., “Parallel Computation of Steiner Minimal Trees,” Ph.D. Dissertation, Department of Computer Science, Clemson University, Clemson, SC, May 1994.
- Frederick C. Harris, Jr., “Data Diversity: A Search for Direction,” Master’s Thesis, Department of Computer Science, Clemson University, Clemson, SC, December 1991.

### CONFERENCE PRESENTATIONS:

CP 61. “Towards GPU-Accelerated PRM for Autonomous Navigation,” *The 17th International Conference on Information Technology: New Generations (ITNG 2020)* April 6-8, Las Vegas, NV.

CP 60. “METS VR: Mining Evacuation Training Simulator in Virtual Reality for Underground Mines,” *The 17th International Conference on Information Technology: New Generations (ITNG 2020)* April 6-8, Las Vegas, NV.

CP 59. “vFireVI: 3D Virtual Interface for vFire,” *The 17th International Conference on Information Technology: New Generations (ITNG 2020)* April 6-8, Las Vegas, NV.

CP 58. “Design and Development of the CTAR All-Star.” *The ISCA 28th International Conference on Software Engineering and Data Engineering (SEDE 2019)*, September 30-October 2, San Diego, CA.

CP 57. “ARIA 3.0: A Modern Approach to Web-based Music Festival Registration Systems.” *The ISCA 28th International Conference on Software Engineering and Data Engineering (SEDE 2019)*, September 30-October 2, San Diego, CA.

CP 56. “Image Processing Using Multiple GPUs on Webcam Image Streams,” *The 16th International Conference on Information Technology: New Generations ITNG 2019*, April 1-3, 2019, Las Vegas, NV.

CP 55. “Robust FuzzyCluster Ensemble on Cancer Gene Expression Data,” *The ISCA 11th International Conference on Bioinformatics and Computational Biology (BICOB 2019)*, March 18-20, 2019, Honolulu, HI.

CP 54. “RealPi - A Real Time Operating System on the Raspberry Pi,” *The ISCA 34th International Conference on Computers and Their Applications (CATA 2019)*, March 18-20, 2019, Honolulu, HI.

CP 53. “Cloud-RA: A Reference Architecture for Cloud Based Information Systems,” *The 13th International Conference on Software Technologies (ICSOFTE 2018)*, July 26-28, 2018, Porto, Portugal.

- CP 52. "Clowiz: A Model-driven Development Platform for Cloud-based Information Systems," *The 6th International Conference on Multimedia Computing and Systems (ICMCS 18)* May 10-12, 2018, Rabat, Morocco.
- CP 51. "Budget and User Feedback Control Strategy-based PRMS Scenario Web Application" *The 15th International Conference on Information Technology : New Generations (ITNG 2018)* April 16-18, 2018, Las Vegas, Nevada.
- CP 50. "A Linear-Time Visualization Algorithm for Drawing Planar Graphs Represented by Regions" *The ISCA 33rd International Conference on Computers and Their Applications (CATA 2018)* March 19-21, Las Vegas, NV.
- CP 49. "Optimizing Local Least Squares Regression for Short Term Wind Prediction" *The 2017 International Conference on Computers and Their Applications (CATA 2017)* March 20-22, 2017, Waikiki, HI.
- CP 48. "Accelerating BFS Shortest Paths Calculations Using CUDA for Internet Topology Measurements" *The 2016 International Conference on High Performance Computing and Simulations (HPCS 2016)*, July 18-22, 2016, Innsbruck, Austria.
- CP 47. "CUDA Implementation of Computer Go Game Tree Search", *The 2016 International Conference on Information Technology: New Generations (ITNG 2016)*, April 18-20, 2016, Las Vegas, NV.
- CP 46. "Maximum Clique Solver using Bitsets on GPUs", *The 2016 International Conference on Information Technology: New Generations (ITNG 2016)*, April 18-20, 2016, Las Vegas, NV.
- CP 45. "Accelerating the Critical Line Algorithm for Portfolio Optimization Using GPUs", *The 2016 International Conference on Information Technology: New Generations (ITNG 2016)*, April 18-20, 2016, Las Vegas, NV.
- CP 44. "Smoke Detection Prescreening in Sequential Images", *The 2016 ISCA International Conference on Computers and Their Applications (CATA 2016)*, April 4-6, 2016, Las Vegas, DC.
- CP 43. "Neocortical Virtual Robot", *The 2016 ISCA International Conference on Computers and Their Applications (CATA 2016)*, April 4-6, 2016, Las Vegas, DC.
- CP 42. "GPU Based Sound Simulation and Visualization", *The 2015 International Conference on Information Technology: New Generations (ITNG 2015)*, April 13-15, 2015, Las Vegas, NV.
- CP 41. "Modeling particle diffusion in laminar tube flow with spectral collocation", *The 2015 International Conference on Computers and Their Application (CATA 2015)*, March 9-11, 2015, Honolulu, HI.
- CP 40. "ModFossa: A Python Library for Ion Channel Modeling", *The 2015 International Conference on Bioinformatics and Computational Biology (BICOB 2015)*, March 9-11, 2015, Honolulu, HI.
- CP 39. "Design and Implementation of a Repository Service and Reporting Interface for the NCS", *The 2014 International Conference on Software Engineering and Data Engineering (SEDE 2014)*, October 13-15, 2014, New Orleans, LA.

- CP 38. "NeoCortical Builder: A Web Based Front End for NCS", *The 2014 International Conference on Computer Applications in Industry and Engineering (CAINE 2014)*, October 13-15, 2014, New Orleans, LA.
- CP 37. "A Virtual Environment Framework for Embedding Neural Models", *The 2014 International Conference on Computer and Their Applications (CATA 2014)*, March 24-26, 2014, Las Vegas, NV.
- CP 36. "NCS: A Novel CPU/GPU Simulation Environment for Large-Scale Biologically Realistic Neural Modeling", *Neural Information Processing Systems (NIPS 2013)*, South Shore, Lake Tahoe, CA (December 6, 2013).
- CP 35. "Embodied modeling with spiking neural networks for neuromorphic hardware: a simulation study," *The 2013 International Conference on Computer Applications in Industry and Engineering (CAINE 2013)* September 25-27, 2013, Los Angeles, CA. **Best Paper Runner-up**
- CP 34. "Design and Implementation of a Graphical Visualization Tool for NCS," *The 2013 International Conference on Software Engineering and Data Engineering (SEDE 2013)* September 25-27, 2013, Los Angeles, CA.
- CP 33. "Workflow Job Manager for the Nevada Climate Change Portal," *The 2013 International Conference on Collaboration Technologies and Systems (CTS 2013)* May 20-24, 2013, San Diego, CA.
- CP 32. "Runtime Generation of Data Processors on Local User Computers," *The 2013 International Conference on Collaboration Technologies and Systems (CTS 2013)* May 20-24, 2013, San Diego, CA.
- CP 31. "Semi-Automated Analysis Software for a Novel Biochemistry Assay," *The 10th International Conference on Information Technology: New Generations (ITNG 2013)* April 15-17, 2013, Las Vegas, NV
- CP 30. "An Introduction to Proactive Server Preservation in an HPC Environment," *ISCA's Advanced Computing and Communication (ACC 2012)* June 27-29, 2012 Los Angeles, CA
- CP 29. "A Novel Multi-GPU Neural Simulator," *ISCA's Bioinformatics and Computational Biology (BICoB 2011)* March 23-25, 2011, New Orleans, LA
- CP 28. "A Unique Instrumentation System Design for Measuring Forces on a Rotating Shaft," *ISCA's Computers And Their Applications (CATA 2010)*, March 24-26, 2010, Honolulu, HI. **Best Paper Award.**
- CP 27. "Ringermute: An audio data mining toolkit," *ISCA's Computers And Their Applications (CATA 2010)*, March 24-26, 2010, Honolulu, HI.
- CP 26. "An Inexpensive Terrain Awareness and Warning System for Small Aircraft," *ISCA's Computer Applications in Industry and Engineering (CAINE 2008)*. Honolulu, HI, November 12-14, 2008.
- CP 25. "Managing Data and Computational Complexity for Immersive Wildfire Visualization," *High Performance Computing Systems (HPCS '07)* Prague, Czech, June 4-6, 2007.
- CP 24. "Volumetric Visualization Methods for Atmospheric Model Data in an Immersive Virtual Environment," *High Performance Computing Systems (HPCS '07)* Prague, Czech, June 4-6, 2007.

- CP 23. "DiRT - Dust in Real-Time: The Specification Process," *The 2005 International Conference on Software Engineering Research and Practice (SERP '05)*, June 27-30, 2005, Las Vegas, NV.
- CP 22. "A Framework for Reuse and Parallelization of Large-Scale Scientific Simulation Code," The 4th International Workshop on System/Software Architectures, June 27-30, 2005, Las Vegas, NV.
- CP 21. "A Generic Queuing System for Computationally Intensive Problems." *35<sup>th</sup> Southeastern International Conference on Combinatorics, Graph Theory, and Computing*, March 3-12, 2004, Florida Atlantic University, Boca Raton, FL.
- CP 20. "A Large-Scale Biologically Realistic Cortical Simulator" *SC 2001* November 12-16, 2001, Denver, CO.
- CP 19. "Linear Time Computation of QFT Feasible Regions" *Computers and their Applications in Industry and Engineering (CAINE '01)* November 27-29, 2001, Las Vegas, NV.
- CP 18. "A Low-Cost Algorithm for Multicast Routing in Computer Networks," *31<sup>st</sup> Southeastern International Conference on Combinatorics, Graph Theory, and Computing*, March 13-17, 2000, Florida Atlantic University, Boca Raton, FL.
- CP 17. "Virtual Reality in Mine Safety Training", 1999 Training Resources Applied to Mining Conference (TRAM), October 12-13, 1999, National Mine Health and Safety Academy, Beaver, WV.
- CP 16. "Virtual Reality in Mine Safety Training", 1999 National Mine Instructors Seminar, October 13-14, 1999, National Mine Health and Safety Academy, Beaver, WV.
- CP 15. "Surface Mine Truck Safety Training." *30<sup>th</sup> Institute on Mining, Health, Safety, and Research* August 9-13, 1999, Salt Lake City, UT.
- CP 14. "Virtual Reality and Mine Safety Training." *The 1999 Spring Great Basin Trainers Association Conference*, May 13-14, 1999, Round Mountain, NV.
- CP 13. "Parallelization of Non-Equilibrium Radiation Transport Code." *The Ninth SIAM Conf. on Parallel Process. for Sci. Comp.*, March 22-24, 1999, Adam's Mark San Antonio-Riverwalk Hotel, San Antonio, TX.
- CP 12. "Strategies for Effective Group Project-Based Courses." *The 1999 ASEE-PSW Conference*, March 19-20, 1999, Harrah's, Las Vegas, NV.
- CP 11. "Parallel Computation of the Minimum Crossing Number of a Graph", *The Eighth SIAM Conf. on Parallel Process. for Sci. Comp.*, March 14-17, 1997, Hyatt Regency Minneapolis on Nicollet Mall Hotel, Minneapolis, MN.
- CP 10. "Steiner Minimal Trees: Their Computational Past, Present, and Future," *11<sup>th</sup> Midwestern Conference on Combinatorics, Cryptography, and Computing*, Oct 31 - Nov 2, 1996, The University of Nevada, Las Vegas, Las Vegas, NV.
- CP 09. "A Genetic Algorithm for the Steiner Minimal Tree Problem," *5<sup>th</sup> International Conference on Intelligent Systems (IS '96)*, June 19-21, 1996, The Flamingo Hilton Hotel, Reno, Nevada.
- CP 08. "A Proposed Algorithm for Calculating the Minimum Crossing Number of a Graph," *Eighth Quadrennial International Conference on Graph Theory, Combinatorics, Algorithms and Application*, June 3-7, 1996, Western Michigan University, Kalamazoo, MI.

- CP 07. "Solving Quadratic Assignment Problems Through Parallel Genetic Algorithms," *Golden West International Conference on Intelligent Systems – (GWIC-IV)*, June 12-14, 1995, Sir Francis Drake Hotel, San Francisco, California.
- CP 06. "An Introduction to Steiner Minimal Trees on Grids," 26<sup>th</sup> *Southeastern International Conference on Combinatorics, Graph Theory, and Computing*, March 6-10, 1995, Florida Atlantic University, Boca Raton, FL.
- CP 05. "Parallel Computation of Steiner Minimal Trees," 7<sup>th</sup> *SIAM Conference on Parallel Processing for Scientific Computing*, February 15-17, 1995, The Hotel Nikko, San Francisco, CA.
- CP 04. "An Initial Characterization of Steiner Minimal Trees on Grids," 7<sup>th</sup> *Cumberland Conference on Graph Theory and Computing*, May 10-13, 1994, The University of Alabama in Huntsville, Huntsville, AL.
- CP 03. "A Stochastic Optimization Algorithm for Steiner Minimal Trees," 25<sup>th</sup> *Southeastern International Conference on Combinatorics, Graph Theory, and Computing*, March 7-11, 1994, Florida Atlantic University, Boca Raton, FL.
- CP 02. "Parallel Solutions for Minimizing Network Connection Distances," *CCCS 4<sup>th</sup> Annual Conference*, November 11-12, 1993, Clemson University, Clemson, SC, *Second Place, Paper Competition*.
- CP 01. "New and Improved Results for the Rectilinear Minimal Crossing Problem," 6<sup>th</sup> *Cumberland Conference on Graph Theory and Computing*, May 17-19, 1993, Rhodes College, Memphis, TN.

**INVITED PRESENTATIONS:**

- IP 18. "Forest Fire Simulation and Visualization," *Workshop on Cybersecurity, Cloud Computing and Data Analytics*, Grambling State University, Keynote Address August 29-30, 2019
- IP 17. "Forest Fire Simulation and Visualization," *The 6th International Conference on Multimedia Computing and Systems (ICMCS 18)* Keynote Address, May 10, 2018, Rabat, Morocco.
- IP 16. "Building a Robot's Brain: Decision making in an artificial environment," Neuroscience Retreat, University of Nevada, Reno May 20, 2016
- IP 15. "Building a Robot's Brain: Decision making in an artificial environment," Society for Neuroscience Reno Research Conference, November 14, 2015
- IP 14. "Building a Robot's Brain: Decision making in an artificial environment," Wagner Conference, Reno, NV December 10, 2015
- IP 13. "Forest Fire Simulation and Visualization," University of Idaho, April 17, 2014
- IP 12. "The Future of Computer Science," Utah State University, March 23, 2012
- IP 11. "Computer Applications and the Research they Drive," ICCBALI 2011 Keynote Address, March 3, 2011, Ghaziabad, Uttar Pradesh, India
- IP 10. "Neo Cortical Simulation: Hardware, Software and Future Directions," ITNG 2009 Keynote Address, April 27, 2009, Las Vegas, NV
- IP 09. "Advanced Computation and Visualization," *Nevada KEEP Seminar* February 27, 2007
- IP 08. "Neo Cortical Simulation: Software Design and Future Directions," *INCF Workshop on Large-scale Modeling of the Nervous System* Karolinska Institute, Stockholm, Sweden, December 12, 2006
- IP 07. "Cool Science, Cool Places, Cool Things," *Northern Nevada Math Council: Math and Science Mini-Conference* Reno, NV, October 13, 2006
- IP 06. "Advanced Computation and Immersive Visualization" Junior Science Humanities Symposium for Western Nevada and Northern California. Reno, NV, March 9-11, 2006
- IP 05. "Advanced Computation and Visualization" Honors Program Lecture Series, University of Nevada, Reno, September 28, 2005.
- IP 04. "Advanced Computation and Visualization" Computational Science Workshop Reno, NV, June 19-25, 2005.
- IP 03. "Cool Science, Cool Places, Cool Things," *Nevada KEEP Seminar* March 15, 2005
- IP 02. "Cool Science, Cool Places, Cool Things" *Nevada Regional Science Bowl* Las Vegas, NV February 11-12, 2005.
- IP 01. "Cluster Computing and Beyond" *2002 Government Information Technology Conference* Carson City, NV, October 16, 2002.

**FUNDED PROPOSALS:**

- *RII Track-2 FEC: EPSCoR Research Infrastructure Improvement Program*  
 (Co-PI Nevada) with Xiaogang Ma (PI), Barrie Robinson (Co-PI Idaho), and Xun Shi (Co-PI Dartmoth)  
 NSF, August 1, 2020 - July 31, 2024  
 \$5,830,709
- *The Solar Energy-Water-Environment Nexus in Nevada*  
 PI and UNR CO-PI with Gayle Dana (PI), Sergiu Dascalu (Co-PI-UNR), Jacimaria Batista (Co-PI-UNLV), Markus Berli (Co-PI-DRI), and Robert F Boehm (Co-PI-UNLV)  
 NSF, August 1, 2013 - April 30, 2019  
 \$20,000,000 + \$4,000,000 state match  
 \$802,969 NSF supplemental through - May 31, 2020  
 \$802,969 NSF supplemental through - May 31, 2021
- *Collaborative Research: The Western Consortium for Watershed Analysis, Visualization, and Exploration (WC-WAVE)*  
 Co-PI and Tri-State Visualization Component Lead with Gayle Dana (NV-PI), William Michener (NM-PI), Peter Goodwin (ID-PI), Sajjad Ahmad (NV Co-PI), Thomas Jackman (NV Co-PI)  
 NSF, July 1, 2013 - June 30, 2017,  
 \$6,000,000
- *Project Synapse,*  
 DARPA/HRL,  
 PI with Phillip H. Goodman  
 Phase 0: \$203,086 November 4, 2008 - September 6, 2009  
 Phase 1: \$175,095 September 7, 2009 - March 28, 2011,
- *Cyberinfrastructure Development for the Western Consortium of Idaho, Nevada, and New Mexico,*  
 Tri-State CI Component Lead and UNR PI - with Gayle Dana (PI-NV), William Michner (Co-PI-NM), Greg Bohach (Co-PI-ID),  
 NSF, October 1, 2009 - June 30, 2013,  
 \$6,000,000
- *Cortical Microcircuit Dynamics*  
 PI with Phillip H. Goodman and Sergiu Dascalu  
 ONR, October 1, 2009-March 30, 2013.  
 \$827,466.00.
- *Nevada Infrastructure for Climate Change Science, Education, and Outreach,*  
 Senior Personnel and CI Steering Committee Member with Gayle Dana (PI), Tom Pichote (UNLV Co-PI), Nick Lancaster (DRI Co-PI), Scott Mensing (UNR Co-PI)  
 NSF, September 1, 2008 - August 30, 2013,  
 \$15,000,000 + \$3,000,000 state match
- *Exploring Planetary Surfaces: Earth, Moon, and Mars,*  
 NASA EPSCoR,  
 CO-PI with Chris Fritzen (PI), Wendy Calvin, Nick Lancaster, Henry Sun, Sergiu Dascalu, Scott Bassett,  
 NASA, September 1, 2007 - August 31, 2010,  
 \$1,500,000

- *Parallel Beowulf Computing Phase IV*  
DURIP 2007  
CO-PI with Phillip H. Goodman(PI)  
Office of Naval Research, June 1, 2007 - May 30, 2008  
\$287,000.00
- *Cortical Microcircuit Dynamics*  
CO-PI with Phillip H. Goodman(PI)  
ONR, October 1, 2006-September 30, 2009.  
\$877,000.00.
- *Scientific Visualization*  
PI  
NSF EPSCoR, November 1, 2005 - January 31, 2006  
\$16,110.00
- *Immersive Visualization*  
Senior Personnel at DRI  
DoD-STTC, July 1, 2004 - June 30, 2010  
\$8,200,477.00
- *Development of a Nationally Competitive Program in Computer Vision Technologies for Effective Human-Computer Interaction in Virtual Environments,*  
CO-PI with George Bebis(PI), Angelo Yfantis, and Peter Stubberud  
NASA, September 1, 2004 - August 31, 2006.  
\$520,892.00
- *Modeling the Effect of Mountainous Terrain on Stratospheric/Tropospheric Exchange, Atmospheric Chemistry, Deposition and Water Quality,*  
CO-PI with William Stockwell(PI), Gayle Dana, Vanda Grubisic, Darko Koracin, and John Lewis  
NASA, September 1, 2004 - August 31, 2006.  
\$496,170.00
- Brain Simulation  
PI, Sun Microsystems September 10, 2004  
\$101,189.00
- Parallel Beowulf Computing Phase III  
DURIP 2004  
CO-PI with Phillip H. Goodman(PI)  
Office of Naval Research, June 1, 2004 - May 30, 2005  
\$250,000.00
- *Models of Cortical Microcircuit Dynamics,*  
CO-PI with Phillip H. Goodman(PI)  
ONR, July 1, 2003-June 30, 2006.  
\$660,000.00
- Parallel Beowulf Computing Phase II  
DURIP 2002  
CO-PI with Phillip H. Goodman(PI)  
Office of Naval Research, June 1, 2002 - May 30, 2003  
\$240,952.00

- *Advanced Computing in the Environmental Sciences*,  
CO-PI with Vanda Grubisic(PI), Ania Panorska, David Benson, Doug Boyle, Gayle Dana, Giles Marion, Jichun Li, Joe McConnell, Kelly Redmond, Kenneth McGwire, Peter Barber, Regina Tempel, Lyle Pritchett, Angkul Kongmunvattana, Ahmed Hassan  
NSF, January 1, 2002 - December 31, 2004.  
\$3,500,000.00.
- *Development of a Nationally Competitive Program in Computer Vision Technologies for Effective Human-Computer Interaction in Virtual Environments*,  
CO-PI with George Bebis(PI), Angelo Yfantis, and Peter Stubberud  
NASA, October 1, 2001 - September 30, 2004.  
\$1,148,940
- *Modeling the Effect of Mountainous Terrain on Stratospheric/Tropospheric Exchange, Atmospheric Chemistry, Deposition and Water Quality*,  
CO-PI with William Stockwell(PI), Gayle Dana, Vanda Grubisic, Darko Koracin, and John Lewis  
NASA, October 1, 2001 - September 30, 2004.  
\$1,094,412
- Parallel Beowulf Computing Phase I  
DURIP 2001  
CO-PI with Phillip H. Goodman(PI) and Sushil Louis  
Office of Naval Research, March 1, 2001 - February 28, 2002  
\$265,000.00
- *Cortical Microcircuit Dynamics*  
CO-PI with Phil Goodman(PI), Henrey Markram, and Sushil Louis  
Office of Naval Research, April 1, 2000 - May 31, 2003.  
\$541,325
- *Development of a Mine Truck Driving Simulator Program for Accident prevention*  
CO-PI with Pierre Mousset-Jones(PI)  
Nevada Division of Industrial Relations, Newmont Gold Co., and Echo Bay Minerals Co. Oct 2, 1996 - Set 30, 1998.  
\$19,200
- *Instructional Enhancement Grant*,  
with S. Louis, R. Langsner, and Y. Varol  
Academic Affairs, University of Nevada, Reno, June 1996 - June 1997.  
\$2,472.

**TEACHING EXPERIENCE:**

Introduction to Computer Science  
Computer Applications  
Computer Science I  
Computer Science II  
Introduction to PASCAL Programming  
Introduction to BASIC Programming  
Introduction to C Programming  
Introduction to MODULA-II Programming  
Programming Methodology  
Computer Systems Laboratory: C and Unix  
Data Structures  
Programming Languages  
Compiler Construction  
Parallel Computation  
Computer System Administration  
Computer Graphics  
Topics: Programming Contest  
Topics: Biomedical Computing  
Topics: Programming Languages  
Compilers and Translators  
Parallel and Distributed Processing  
Seminar: Advanced Graphics  
Topics: Advanced Graphics  
Topics: GPU Computing  
Topics: Virtual Reality

**ACADEMIC SUPERVISION:****Ph.D. Degree:****PhD 14. Jalal Hasan Ahmed Al Kiswani**

“Smart-Cloud: A Framework for Cloud Native Applications Development,”

Ph.D., Computer Science and Engineering,

University of Nevada, Reno,

May, 2019.

*Co-Advised with Dr. Sergiu M. Dascalu (UNR CSE)*

**PhD 13. Yan Yan**

“Robust Fuzzy Cluster Ensemble on Cancer Gene Expression Data,”

Ph.D., Computer Science and Engineering,

University of Nevada, Reno,

May, 2019.

**PhD 12. Rui Wu**

“Framework for Large Data Processing under Constrained Resources”,

Ph.D., Computer Science and Engineering,

University of Nevada, Reno,

May, 2018.

*Co-Advised with Dr. Sergiu M. Dascalu (UNR CSE)*

**PhD 11. Damien Ennis**

“Using Pre- and Post-Process Labeling Techniques for Cluster Analysis”,

Ph.D., Computer Science and Engineering,

University of Nevada, Reno,

December, 2014.

**PhD 10. Roger V. Hoang**

“An Extensible Component-based Approach to Simulation Systems on Heterogeneous Clusters”,

Ph.D., Computer Science and Engineering,

University of Nevada, Reno,

May, 2014.

**PhD 09. Corey M. Thibeault**

“Computational Neuroscience: Theory, Development and Applications in Modeling the Basal Ganglia,”

Ph.D. Biomedical Engineering,

University of Nevada, Reno,

December, 2012.

*Co-Advised with Dr. Narayan Srinivasa (HRL)*

**PhD 08. Mukesh Motwani**

“Third Generation 3D Watermarking: Applied Computational Intelligence Techniques,”

Ph.D. Computer Science and Engineering,

University of Nevada, Reno,

August, 2011.

**PhD 07. Adrienne E. Breland**

“A Fast-Graph Approach to Modeling Similarity of Whole Genomes,”

Ph.D. Computer Science and Engineering,

University of Nevada, Reno,

August 2011.

*Co-Advised with Dr. Karen Schlauch (UNR-Bioinformatics)*

**PhD 06. Laurence Christine Jayet Bray**

“A Circuit-Level Model of Hippocampal, Entorhinal and Prefrontal Dynamics Underlying Rodent Maze Navigational Learning,”

Ph.D. Biomedical Engineering Program,

University of Nevada, Reno,

December 2010.

*Co-Advised with Dr. Philip H. Goodman (UNSoM)*

**PhD 05. Rakhi Motwani**

“A Voice-Based Biometric Watermarking Scheme For Digital Rights Management of 3D Mesh Models,”

Ph.D. Computer Science and Engineering,

University of Nevada, Reno,

May 2010

**PhD 04. Bei Yuan**

“Towards Generalized Accessibility of Video Games for the Visually Impaired,”

Ph.D. Computer Science and Engineering,

University of Nevada, Reno,

May 2009.

*Co-Advised with Dr. Eelke Folmer (UNR CSE)*

**PhD 03. Sara Nasser**

“Fuzzy Sequence Classification and Assembly of Environmental Genomes,”

Ph.D. Computer Science and Engineering,

University of Nevada, Reno,

May 2007

**PhD 02. Beifang Yi**

“A Framework for a Sign Language Interfacing System,”

Ph.D. Computer Science and Engineering,

University of Nevada, Reno,

May 2006

**PhD 01. Judith R. Fredrickson**

“On the Crossing Number of Complete Graphs,”

Ph.D. Computer Science and Engineering,

University of Nevada, Reno,

May 2006

**M.S. Degree:****MS 77. Kurt T. Andersen**

“A Comparison of Effectiveness and Immersion of Different Gait Techniques in Virtual Reality,”

MS Computer Science and Engineering University of Nevada, Reno,  
December 2019.

**MS 76. Connor Francis Scully-Allison**

“Keystone: A Streaming Data Management Model for the Environmental Sciences,”

MS Computer Science and Engineering University of Nevada, Reno,  
May 2019.

*Co-Advised with Dr. Sergiu M. Dascalu (UNR CSE)*

**MS 75. Samuel Francis Delaney**

“RealPi - A Real Time Operating System on the Raspberry Pi,”

MS Computer Science and Engineering, University of Nevada, Reno,  
December 2018.

*Co-Advised with Dr. Dwight Egbert (UNR CSE)*

**MS 74. Andy Mario Garcia**

“An Advanced Wildfire Simulator: vFirelib.v2,”

MS Computer Science and Engineering, University of Nevada, Reno,  
December 2018.

**MS 73. Vinh Dac Le**

“Microservice-Based System for Environmental Science Software Applications,”

MS Computer Science and Engineering, University of Nevada, Reno,  
August 2018.

*Co-Advised with Dr. Sergiu M. Dascalu (UNR CSE)*

**MS 72. Hannah Jane Muñoz**

“CSEWIS: Cloud and Snow Estimates from Webcam Image Streams,”

MS Computer Science and Engineering University of Nevada, Reno,  
August 2018.

*Co-Advised with Dr. Sergiu M. Dascalu (UNR CSE)*

**MS 71. Daniel Anthony Lopez**

“Evolving GPU-Accelerated Capsule Networks,”

MS Computer Science and Engineering University of Nevada, Reno,  
August 2018

**MS 70. Aswathi Mohan**

“A Web-Based Application for Automatic Evaluation of Programming Assignments,”

MS Computer Science and Engineering University of Nevada, Reno,  
August 2017.

**MS 69. Jose Thomas Painumkal**

“Solutions for Improving Model Simulation in the Virtual Watershed Platform,”

MS Computer Science and Engineering University of Nevada, Reno,  
August 2017.

*Co-Advised with Sergiu M. Dascalu (UNR CSE)*

**MS 68. Nolan Perry Burfield**

“New Money Data Vending,”

MS Computer Science and Engineering University of Nevada, Reno,  
December 2016.

**MS 67. Cameraon Jason Rowe**

“A Web Based Application for Model Creation and Output Visualization with the NCS Brain Simulator,”

MS Computer Science and Engineering University of Nevada, Reno,  
May 2016.

**MS 66. Marlon Daniel Chavez**

“HeartMate: A Competitive and Motivational Fitness Application for iOS Devices,”

MS Computer Science and Engineering University of Nevada, Reno,  
May 2016.

**MS 65. Chase Dwayne Carthen**

“Rewind: A Music Transcription Method,”

MS Computer Science and Engineering University of Nevada, Reno,  
May 2016.

**MS 64. Jessica Elizabeth Smith**

“vFireLib: A Forest Fire Simulation Library Implemented on the GPU,”

MS Computer Science and Engineering University of Nevada, Reno,  
May 2016.

**MS 63. Rui Wu**

“Environment for Large Data Processing and Visualization Using MongoDB,”

MS Computer Science and Engineering University of Nevada, Reno,  
December 2015.

*Co-Advised with Dr. Sergiu M. Dascalu (UNR CSE)*

**MS 62. Christine Johnson**

“A Centralized Service for Accessing the NCS Brain Simulator Through a Web Interface,”

MS Computer Science and Engineering University of Nevada, Reno,  
December 2015.

**MS 61. Joshua Hegie**

“A Parallel Application for Tree Selection in the Steiner Minimal Tree Problem,”

MS Computer Science and Engineering University of Nevada, Reno,  
August 2015.

**MS 60. Erin S. Keith**

“Optimizing Local Least Squares Regression for Short Term Wind Prediction,”

MS Computer Science and Engineering University of Nevada, Reno,  
August 2015.

**MS 59. Thomas J. Kelly**

“Neocortical Virtual Robot: A Framwork to Allow Simulated Brains to Interact With a Virtual Reality Environment,”

MS Computer Science and Engineering University of Nevada, Reno,  
May 2015

**MS 58. William C. Kurt**

“Talks in Maths: Visualizing Repetition in Text and the Fractal Nature of Lyrical Verse,”

MS Computer Science and Engineering University of Nevada, Reno,  
August 2014

**MS 57. Devyani Tanna**

“NCS: Neuron Models, User Interface, and Modeling,”  
MS Computer Science and Engineering University of Nevada, Reno,  
August 2014

**MS 56. Nathan Michael Jordan**

“HTTP-based Solutions to The Extension of the NCS Brain Simulator,”  
MS Computer Science and Engineering University of Nevada, Reno,  
May 2014

**MS 55. Torbjorn Loken**

“A Comparison of Massively Parallel Programming Models Through Applications in Sound Propagation and Jitter Measurement,”  
MS Computer Science and Engineering University of Nevada, Reno,  
May 2014

**MS 54. Derek Eiler**

“The Cooperative Defense Overlay Network: A Collaborative Automated Threat Information Sharing Framework for a Safer Internet,”  
MS Computer Science and Engineering University of Nevada, Reno,  
May 2014

**MS 53. Gareth B. Ferneyhough**

“A Python Library for Ion Channel Modeling,”  
MS Computer Science and Engineering University of Nevada, Reno,  
May 2013.

**MS 52. Corey M Thibeault**

“Applications in Neurorobotics,”  
MS Computer Engineering University of Nevada, Reno,  
December 2012.

**MS 51. Aarti K. Dhone**

“A Video Library Management Software Toolkit for the Nevada Climate Change Portal,”  
MS Computer Science University of Nevada, Reno,  
August 2012.  
*Co-Advised with Dr. Sergiu M. Dascalu (UNR CSE)*

**MS 50. Chad E. Feller**

“Beyond Monitoring: Proactive Server Preservation in an HPC Environment,”  
MS Computer Science University of Nevada, Reno,  
May 2012.

**MS 49. Joseph M. Vesco**

“Semi-Automated Analysis Software for a Novel Biochemistry Assay,”  
MS Computer Science University of Nevada, Reno,  
December 2011.

**MS 48. Victor Ivanov**

“VIVA: A Survey management Toolkit,”  
MS Computer Science University of Nevada, Reno,  
August 2011.  
*Co-Advised with Dr. Sergiu M. Dascalu (UNR CSE)*

**MS 47. Cody J. White**

“Out-of-Core Data Management for Planetary Terrain,”

MS Computer Science University of Nevada, Reno,  
May 2011.

**MS 46. Joseph D. Mahsman**

“Projective Grid Mapping for Planetary Terrain,”  
MS Computer Science University of Nevada, Reno,  
December 2010.

**MS 45. Michael E. Levrington**

“The Five Step Programming Process,”  
MS Computer Science, University of Nevada, Reno,  
December 2010.

**MS 44. Eugene O. Essa**

“ACAT: ABET Course Assessment Tool,”  
MS Computer Science, University of Nevada, Reno,  
May 2010.

*Co-Advised with Dr. Sergiu M. Dascalu (UNR CSE)*

**MS 43. Matthew Sgambati**

“Immersive Visualization and Analysis of Ground Penetrating Radar Data,”  
MS Computer Science, University of Nevada, Reno,  
May 2010.

*Co-Advised with Dr. Daniel S. Coming (UNR CSE)*

**MS 42. Roger V. Hoang**

“Wildfire Simulation on the GPU,”  
MS Computer Science, University of Nevada, Reno,  
December 2008

**MS 41. David T. Brown**

“Identification of Tree Locations in Geographic Images,”  
MS Computer Engineering, University of Nevada, Reno,  
December 2008

**MS 40. Jeremy W. Murray**

“Conversion of Thin Surface Solids to BSP Solid Sets: with Visualization and Simulation Applications,”  
MS Computer Science, University of Nevada, Reno,  
August 2008.

**MS 39. Michael J. Smith**

“Sandstorm: A Dynamic Multi-contextual GPU-based Particle System using Vector Fields for Particle Propagation,”  
MS Computer Science, University of Nevada, Reno,  
May 2008

**MS 38. John R. Kearney**

“A Unique Instrumentation System Design for Measuring Forces on a Rotating Shaft,”  
MS Computer Engineering, University of Nevada, Reno,  
May 2008

**MS 37. Jesse D. Phillips**

“Scripted Artificially Intelligent Basic Online Tactical Simulation,”  
MS Computer Science, University of Nevada, Reno,  
May 2008

**MS 36. Adrienne E. Breland**

“A Supervised Strain Classifier,”  
MS Computer Science, University of Nevada, Reno,  
May 2008

**MS 35. John L. Kenyon**

“CHIMP The C/C++ Hybrid Imperative Meta-Programmer,”  
MS Computer Science, University of Nevada, Reno,  
May 2008

**MS 34. Milind A. Zirpe**

“RAIN and NCS5 Benchmarks,”  
MS Computer Science, University of Nevada, Reno,  
December 2007.

**MS 33. Michael P. Dye**

“Vesuvius: Interactive Atmospheric Visualization in a Virtual Environment,”  
MS Computer Science, University of Nevada, Reno,  
December 2007.

**MS 32. William E. Brandstetter III**

“Multi-Resolution Deformation in Out-of-Core Terrain Rendering,”  
MS Computer Science, University of Nevada, Reno,  
December 2007.

**MS 31. Michael A. Penick**

“VFIRE: Virtual Fire in Realistic Environments A Framework for Wildfire Visualization in Immersive Environments,”  
MS Computer Science, University of Nevada, Reno,  
May 2007.

**MS 30. Linda Humphrey**

“Efficient Generation of Minimal Graphs Using Independent Path Analysis,”  
MS Computer Engineering, University of Nevada, Reno,  
December 2006.

**MS 29. Qunming Peng**

“Brainstem: A NeoCortical Simulator Interface for Robotic Studies,”  
MS Computer Science, University of Nevada, Reno,  
December 2006.

**MS 28. Joseph Richard Jaquish**

“Terrain Analyzing in a Virtual Environment with Real-Time Native Shape Creation,”  
MS Computer Science, University of Nevada, Reno,  
December 2005.

**MS 27. Marcel Andrew Levy**

“Ringermute: An audio data mining toolkit,”  
MS Computer Science, University of Nevada, Reno,  
August 2005.

**MS 26. Jeffery Alan Stuart**

“A Unified Approach for Cross-Platform Software Development,”  
MS Computer Science, University of Nevada, Reno,  
August 2005.

**MS 25. James G. King**

“Brain Communication Server: A Dynamic Data Transferal System for A Parallel Brain Simulator,”

MS Computer Science, University of Nevada, Reno,  
May 2005.

**MS 24. Rich Drewes**

“Brainlab: a toolkit to aid in the design, simulation, and analysis of spiking neural networks with the NCS environment,”

MS Computer Science, University of Nevada, Reno,  
May 2005.

**MS 23. Scott Crow**

“Evolution of the Graphical Processing Unit,”

MS Computer Science, University of Nevada, Reno,  
May 2005.

**MS 22. Bei Yuan**

“A Generic Queuing System and Time Saving Region Restrictions for Calculating the Crossing Number of  $K_n$ ,”

MS Computer Science, University of Nevada, Reno,  
August 2004.

**MS 21. Brian Westphal**

“The Redwood Programming Environment,”

MS Computer Science, University of Nevada, Reno,  
August 2004.

**MS 20. James Frye**

“Parallel Optimization of a NeoCortical Simulation Program,”

MS Computer Science, University of Nevada, Reno,  
December 2003.

**MS 19. Sean Martin**

“A Parallel Queuing System for Computationally Intensive Problems on Medium to Large Beowulf Clusters,”

MS Computer Engineering, University of Nevada, Reno,  
December 2003.

**MS 18. Juan Carlos Macera**

“Design and Implementation of a Hierarchical Robotic System: a Platform for Artificial Intelligence Investigation,”

MS Computer Engineering, University of Nevada, Reno,  
December 2003.

**MS 17. Beifang Yi**

“Virtual Hand: a HCI Testbed for Computer Vision Research on the Human Hand,”

MS Computer Engineering, University of Nevada, Reno,  
August 2003.

**MS 16. Wenwu Chen**

“Parallel Computation, Pattern Recognition, and Scientific Visualization,”

MS Computer Engineering, University of Nevada, Reno,  
August 2003.

**MS 15. Kishor Waikul**

“Implementation of the Integrated Courseware Manager for Computer Science,”  
MS Computer Science, University of Nevada, Reno,  
May 2003.

**MS 14. Alina Solovyova-Vincent**

“Parallel Implementation of the Inversion of Polynomial Matrices,”  
MS Computer Science, University of Nevada, Reno,  
May 2003.

**MS 13. Mukesh Motwani**

“Robust 3D Head Pose Classification using Wavelets,”  
MS Computer Engineering, University of Nevada, Reno,  
May 2003.

**MS 12. Benjamin J. Lucchesi**

“A Parallel Linear Octree Collision Detection Algorithm,”  
MS Computer Science, University of Nevada, Reno,  
May 2002.

**MS 11. E. Courtenay Wilson**

“Parallel Implementation of a Biologically Correct Neo-Cortical Neural Network Simulator,”  
MS Computer Engineering, University of Nevada, Reno,  
August 2001.

**MS 10. Mohammed Islam**

“Implementation of Interactive Course Web Site,”  
MS Computer Science, University of Nevada, Reno,  
August 2000.

**MS 09. Lu-Chun Liao**

“Large Scale Software Transitions: A Case Study of the Second Half of MFIRE,”  
MS Computer Science, University of Nevada, Reno,  
August 2000.

**MS 08. Lingjiang Cheng**

“Large Scale Software Transitions: A Case Study of the First Half of MFIRE,”  
MS Computer Science, University of Nevada, Reno,  
May 2000.

**MS 07. Damien Ennis**

“A Computer Analysis of Hit Frequency for a Complex Video Gaming Machine,”  
MS Computer Science, University of Nevada, Reno,  
May 2000.

**MS 06. Ulvi Cetin**

“A Foundation for On-Line Course Ware,”  
MS Computer Science, University of Nevada, Reno,  
May 2000.

**MS 05. Umid Tadjiev**

“Parallel computation and graphical visualization of the minimum crossing number of a graph,”  
MS Computer Science, University of Nevada, Reno,  
August 1998.

**MS 04. Guo-Liang Sun**

“Image Maker,”  
MS Computer Science, University of Nevada, Reno,  
May 1998.

**MS 03. Jane A. Niehues-Brooks**

“Automated Digital Image Analysis of Video Ice Crystal Data,”  
MS Computer Science, University of Nevada, Reno,  
December 1997.

**MS 02. Marat Zhaksilikov**

“Parallel Genetic Algorithms: A Survey and Comparative Study,”  
MS Computer Science, University of Nevada, Reno,  
May 1997.

**MS 01. Pingyan Tan**

“A Lowcost Algorithm for Dynamic Multicast Routing in Computer Networks,”  
MS Computer Science, University of Nevada, Reno,  
December 1995.

**Post Doctoral Scholar Supervision:****PD 05. Riad Belkhatir**

High Performance Computation and Visualization Lab:  
January 2016 - May 2016  
*Co-Supervised with Dr. Sergiu Dascalu*

**PD 04. Sohei Okamoto**

High Performance Computation and Visualization Lab:  
January 2012 - October 2012  
*Co-Supervised with Dr. Sergiu Dascalu*

**PD 03. Laurence Jayet Bray**

Brain Computation Lab:  
January 2011 - June 2013

**PD 02. Adrienne Breland**

High Performance Computation and Visualization Lab:  
August 2011 - June 2012  
*Co-Supervised with Dr. Sergiu Dascalu*

**PD 01. Rakhi Motwani**

High Performance Computation and Visualization Lab:  
May 2010 - December 2010  
*Co-Supervised with Dr. Sergiu Dascalu*

**AWARDS:****Teaching Awards:**

- May 2020 Honors Program Convocation, Graduate Mentor, University of Nevada, Reno
- May 2018 Senior Scholar Mentor, College of Engineering, University of Nevada, Reno
- December 2017 Honors Program Convocation, Graduate Mentor, University of Nevada, Reno
- May 2017 Honors Program Convocation, Graduate Mentor, University of Nevada, Reno
- May 2017 Honors Program Convocation, Graduate Mentor, University of Nevada, Reno
- May 2016 Senior Scholar Mentor, College of Engineering, University of Nevada, Reno
- May 2016 Honors Program Convocation, Graduate Mentor, University of Nevada, Reno
- December 2015 Senior Scholar Mentor, College of Engineering, University of Nevada, Reno
- December 2014 Honors Program Convocation, Graduate Mentor, University of Nevada, Reno
- May 2013 Senior Scholar Mentor, College of Engineering, University of Nevada, Reno
- May 2013 Honors Program Convocation, Graduate Mentor, University of Nevada, Reno
- May 2007 Honors Program Cording Ceremony, Graduate Mentor, University of Nevada, Reno
- May 2006 Honors Program Cording Ceremony, Graduate Mentor, University of Nevada, Reno
- Nominee, Nevada Regents Distinguished Teaching Award, 2005
- Fall 2005 Honors Program Cording Ceremony, Graduate Mentor, University of Nevada, Reno
- F. Donald Tibbitts University Distinguished Teacher Award, University of Nevada, Reno, May 11, 2005
- Who's Who Among America's Teachers, 9th edition, 2005.
- Runner-up, F. Donald Tibbitts University Distinguished Teacher Award, University of Nevada, Reno, May 12, 2004
- Fall 2003 Senior Scholar Mentor, College of Engineering, University of Nevada, Reno
- Who's Who Among America's Teachers, 7th edition, 2002.
- Who's Who Among America's Teachers, 6th edition, 2000.
- Runner-up, F. Donald Tibbitts University Distinguished Teacher Award, University of Nevada, Reno, May 12, 1999
- Nominee, Nevada Regents Academic Advising Award, 1999.
- Who's Who Among America's Teachers, 5th edition, 1998.

- Who's Who Among America's Teachers, 4th edition, 1996.
- Outstanding Graduate Teaching Assistant, College of Sciences, Clemson University, April 3, 1993
- Outstanding Graduate Teaching Assistant, Department of Computer Science, Clemson University, April 3, 1993

**Research Awards:**

- Best Paper Finalist, 35th International Conference on Computers and Their Applications, (CATA-2020), San Francisco, CA, March 2020.
- Best Paper Award, The 16th International Conference on Information Technology : New Generations (ITNG 2019), April 1-3, Las Vegas, NV.
- Best Paper Award, The 13th International Conference on Information Technology : New Generations (ITNG 2016), April 1-3, Las Vegas, NV.
- Best Paper Award Runner-Up, 26th International Conference on Computers and Their Applications in Industry and Engineering, (CAINE-2013), Los Angeles, CA, March 2013.
- Best Paper Award, 25th International Conference on Computers and Their Applications, (CATA-2010), New Orleans, LA, March 2010.
- Best Paper Award, 21st International Conference on Computers and Their Applications in Industry and Engineering, (CAINE-2008), Honolulu, HI, March 2008.
- Best Paper Award, 21st International Conference on Computers and Their Applications, (CATA-2006), Seattle, WA, March 2006.
- Best Paper Award, Information Systems Development Session, The 7th World Multi-conference on Systemics, Cybernetics and Informatics (SCI 2003) Orlando, FL, July, 2003.
- Second Place, Paper Competition, *CCCS 4<sup>th</sup> Annual Conference*, Clemson University, Clemson, SC, Nov 11-12, 1993
- CCCS Research Assistantship, Clemson University, August 1993
- Highest rated paper, ACM 30th Southeast Conference, North Carolina State University, Raleigh, NC April 8-10, 1992
- NASA Research Assistantship, Clemson University, August 1989
- Dept. of Defense Research Assistantship, Clemson University, May 1989

**Other Awards:**

- Donald W. Reynolds, Nevada Governor's Cup Award, May 2014 (2nd place)
- Senior Member, ISCA, 2013.
- Senior Member, ACM, 2011.
- Sabbatical, University of Nevada, Reno, July 2007 - June 2008.
- Nevada Honor Court Inductee University of Nevada, Reno, June 23, 2005
- Upsilon Pi Epsilon membership, Computer Science Honor Society, Clemson University, November 1990
- Graduate Assistant Excellence Award, Bob Jones University, April 1988

- Bank of America Achievement Award in Science and Mathematics, August 1982
- Who's Who Among American High School Students, 1982
- Who's Who Among American High School Students, 1981

#### **OTHER PROFESSIONAL ACTIVITIES:**

##### **Editor in Chief:**

- International Journal of Computers and Their Applications  
January 2013–December 2018

##### **Board of Directors:**

- International Society for Computers and Their Applications  
January 2010-December 2019  
Vice President: January 2010-December 2013

##### **Special Issue Guest Editor:**

- International Journal of Computers and Their Applications,  
Vol 27, No 1, March 2020.
- International Journal of Computers and Their Applications,  
Vol 26, No 1, March 2019.
- International Journal of Computers and Their Applications,  
Vol 25, No 1, March 2018.
- International Journal of Computers and Their Applications,  
Vol 24, No 1, March 2017.
- International Journal of Computers and Their Applications,  
Vol 23, No 1, March 2016.
- IEEE Transactions on Autonomous Mental Development  
Vol 4, No 3, September 2012.  
With Jeffrey L. Krichmar, Hava T. Siegelmann, and Hiroaki Wagatsuma
- International Journal of Computers and Their Applications,  
Vol 18, No 4, December 2011.

##### **Referee for journals:**

- Computer Engineering Research
- Computers and Graphics
- Discrete Mathematics
- Frontiers in Computational Neuroscience
- IBM Journal of Research and Development
- IEEE Computer
- IEEE Transactions on Education
- IEEE Transactions on Evolutionary Computation
- IEEE Transactions on Reliability
- IEEE Transactions on Software Engineering and Methodology
- IEEE Transactions on Visualization and Computer Graphics

- Information Processing Letters
- Intelligent Automation and Soft Computing
- International Journal of Computers and Their Applications
- Iranian Journal of Electrical and Computer Engineering
- ISRN Computer Graphics
- Neural Networks
- Networks
- PLoS ONE
- Science of Computer Programming
- Supercomputing
- Systems and Software
- Visual Communication and Image Representation

**Program Committee member for annual conferences:**

- 35<sup>th</sup> International Conference on Computers and Their Applications (CATA-2020),
- The Eighth International Conference on Internet Technologies and Applications 2017 (ITA 2017)
- 32<sup>nd</sup> International Conference on Computers and Their Applications (CATA-2017),
- The Seventh International Conference on Internet Technologies and Applications 2016 (ITA 2016)
- 31<sup>st</sup> International Conference on Computers and Their Applications (CATA-2016),
- The Sixth International Conference on Internet Technologies and Applications 2015 (ITA 2015)
- 30<sup>th</sup> International Conference on Computers and Their Applications (CATA-2015),
- The Third International Conference on Communications, Computation, Networks and Technologies (INNOV 2015)
- 29<sup>th</sup> International Conference on Computers and Their Applications (CATA-2014),
- 23<sup>rd</sup> International Conference on Software Engineering and Data Engineering (SEDE 2014),
- The Third International Conference on Communications, Computation, Networks and Technologies (INNOV 2014)
- ISCA's 3<sup>rd</sup> International Conference on Advanced Computing and Communication, (ACC 2013)
- 28<sup>th</sup> International Conference on Computers and Their Applications (CATA-2013),
- The Second International Conference on Communications, Computation, Networks and Technologies (INNOV 2013)
- Workshop on Collaboration in Virtual Environments (CoVE-2013) at CTS-2013 (Co-Organizer with Dr. Sergiu Dascalu)
- 22<sup>nd</sup> International Conference on Software Engineering and Data Engineering (SEDE 2013),
- The First International Conference on Communications, Computation, Networks and Technologies (INNOV 2012)

- Workshop on Collaboration in Virtual Environments (CoVE-2012) at CTS-2012 (Co-Organizer with Dr. Sergiu Dascalu)
- The 11th International Workshop on System/Software Architectures (IWSSA 2012)
- 21<sup>st</sup> International Conference on Software Engineering and Data Engineering (SEDE 2012),
- 27<sup>th</sup> International Conference on Computers and Their Applications (CATA-2012),
- The 10th International Workshop on System/Software Architectures (IWSSA 2011)
- Sixth International Conference on Software Engineering Advances (ICSEA 2011),
- 20<sup>th</sup> International Conference on Software Engineering and Data Engineering (SEDE 2011),
- 26<sup>th</sup> International Conference on Computers and Their Applications (CATA-2011),
- Fourth International Conference on Internet Technologies and Applications (ITA 11),
- International Conference on Business Applications and Legal Issues (ICBALI-2011)
- The Fourth International Conference on Advances in Computer-Human Interaction, (ACHI 2011),
- The Third International Conference on Advances in Computer-Human Interaction, (ACHI 2010),
- 25<sup>th</sup> International Conference on Computers and Their Applications (CATA-2010),
- 19<sup>th</sup> International Conference on Software Engineering and Data Engineering (SEDE 2010),
- Visual Environments, Languages, and Tools for Software Engineering (VELT-SE)
- International Workshop on Visual Languages and Computing (VLC 2009): Special Session on Visual Languages and Environments in Software Engineering (VLE-SE)
- 18<sup>th</sup> International Conference on Software Engineering and Data Engineering (SEDE 2009),
- The Second International Conference on Advances in Computer-Human Interaction, (ACHI 2009),
- 24<sup>th</sup> International Conference on Computers and Their Applications (CATA-2009),
- Information Technology: New Generations, ITNG 2009: Special Session on Human Computer Interaction
- Information Technology: New Generations, ITNG 2009: Special Session on Software Engineering
- Internet Technologies and Applications 2009 (ITA 2009)
- 17<sup>th</sup> International Conference on Software Engineering and Data Engineering (SEDE 2008), June 30 - July 2, 2008, Omni Hotel, Los Angeles.
- The First International Conference on Advances in Computer-Human Interaction, (ACHI 2008), February 10-15, 2008 - St. Luce, Martinique
- The Third International Conference on Internet and Web Applications and Services (ICIW 2008), June 8-13, 2008 - Athens, Greece
- 23<sup>rd</sup> International Conference on Computers and Their Applications (CATA-2008), April 9-11, 2008, Hyatt Regency Cancun, Cancun, Mexico.
- Workshop on Software Specification and Modeling (ITNG-2008), Las Vegas, NV, April 7-9, 2008

- IEEE Virtual Reality (IEEE VR 2008), March 8-14, 2008, Reno, NV. Local Arrangements Co-Chair.
- 6<sup>th</sup> International Workshop on System/Software Architectures (IWSSA 2007)
- 17<sup>th</sup> International Conference on Software Engineering and Data Engineering (SEDE 2007), Las Vegas, July 2007
- Workshop on Software Specification and Modeling (ITNG-2007), Las Vegas, NV, April 2-4, 2007
- ISCA's 19<sup>th</sup> Computer Applications in Industry and Engineering (CAINE '06)
- 5<sup>th</sup> International Workshop on System/Software Architectures (IWSSA 2006)
- International Conference on Entertainment Systems and Applications (ENSYS-2006)
- ISCA's 18<sup>th</sup> Computer Applications in Industry and Engineering (CAINE '05) November 9-11, 2005.
- 4<sup>th</sup> International Workshop on System/Software Architectures (IWSSA '05)
- Software Engineering Research and Practice (SERP '05)
- Software Engineering Research and Practice (SERP '04)
- Golden West International Conference on Intelligent Systems (GWIC IV) June 12 - 14, 1995. Sir Francis Drake Hotel, San Francisco, CA

**Special Session Organizer:**

- Virtual Reality Applications, Part of the 17th International Conference on Information Technology: New Generations, ITNG 2020, April 1-3, 2020, Las Vegas, Nevada, USA
- GPU Computing, Part of the 16th International Conference on Information Technology: New Generations, ITNG 2019, April 1-3, 2019, Las Vegas, Nevada, USA
- From Neuroscience to Robotics and Human-Computer Interfaces, A Special Session in memory of Philip Goodman, Part of the 2011 International Joint Conference on Neural Networks (IJCNN) July 31-Aug 5, 2011, San Jose, CA. With Jeffrey L. Krichmar, and Hava T. Siegelmann
- High Performance Information Retrieval and Visualization: Algorithms and Applications, part of The 2007 High Performance Computing & Simulation (HPCS'07) Conference, June 4 - 6, 2007, Prague, Czech Republic

**Conference General Chair and Proceedings Editor:**

- 28<sup>th</sup> International Conference on Software Engineering and Data Engineering (SEDE 2019), San Diego, CA, USA, Sept. 30 - Oct 2, 2019.
- 27<sup>th</sup> International Conference on Software Engineering and Data Engineering (SEDE 2018), New Orleans, LA, USA, Oct 8-10, 2018.
- 26<sup>th</sup> International Conference on Software Engineering and Data Engineering (SEDE 2017), San Diego, CA, USA, Oct 2-4, 2017.
- 25<sup>th</sup> International Conference on Software Engineering and Data Engineering (SEDE 2016), Denver, CO, USA, Sept 26-28, 2016.
- 24<sup>th</sup> International Conference on Software Engineering and Data Engineering (SEDE 2015), San Diego, CA, USA, Oct 12-24, 2015.

**Program Chair and Proceedings Editor:**

- ISCA's 2<sup>nd</sup> International Conference on Advanced Computing and Communication, (ACC 2012) June 27-29, 2012, Omni, Los Angeles, CA
- ISCA's 23<sup>rd</sup> International Conference on Computer Applications in Industry and Engineering, (CAINE '10) November 12-14, 2010, Imperial Palace, Las Vegas, NV.
- ISCA's 21<sup>st</sup> International Conference on Computer Applications in Industry and Engineering, (CAINE '08) November 12-14, 2008, Sheraton Beachcomber, Honolulu, Hawaii.
- ISCA's 5<sup>th</sup> International Conference on Intelligent Systems (IS '96), June 19-21, 1996. Flamingo Hilton Hotel, Reno, Nevada.

**Proceedings Associate Editor:**

- Information Technology: New Generations (ITNG 2019)  
April 1-3, 2019. Tuscany Suites, Las Vegas, NV
- Software Engineering Research and Practice (SERP '05)  
June 27-30, 2005. Monte Carlo Resort, Las Vegas, NV
- Software Engineering Research and Practice (SERP '04)  
June 21-24, 2004. Monte Carlo Resort, Las Vegas, NV

**Referee, annual conferences:**

- 9<sup>th</sup> International Conference on Industrial Informatics (IEEE INDIN 2011)
- IEEE Virtual Reality 2011
- IEEE Virtual Reality 2010
- International Conference on Internet and Web Applications and Services (ICIW'06)
- International Conference on Computational Intelligence for Modeling, Control and Automation (CIMCA 2005)
- International Conference on Computers and Their Applications (CATA '05)
- The Fifth International Conference on Computer Science and Informatics, February 27 - March 3, 2000.
- 1999 Annual Meeting of the ASEE Pacific Southwest Section.

**Reviewer for book publishers:**

- Addison Wesley Longman.
- Prentice Hall, Simon & Schuster Education Group.
- Computer Science Press, an imprint of W.H. Freeman and Company.
- DC Heath Publishing Co.
- Scott Jones, Inc. Publishers

**Consultant to industry:**

- IGT, Reno, NV, 1995-96
- Micro Pro International, Redwood City, CA, 1986-1992

**Other:**

- **Member, EPSCoR/IDeA Foundation Board**  
2019-2021
- **Member, NSF EPSCoR Project Director Executive Committee**  
At Large Member 2019-2020
- **Member, Board of Trustees**  
Northwest Baptist Seminary, Tacoma, WA, 1998-2002  
Secretary of the Board 1999-2002

**Academic Service, Current**

- **Member, Department of Computer Science and Engineering Personnel Committee**  
University of Nevada, Reno, 2007-present
- **Member, Department of Computer Science and Engineering Accreditation Committee**  
University of Nevada, Reno, 2015-2020
- **Member, University Promotion and Tenure Committee**  
University of Nevada, Reno, 2018-present
- **ABET, Computing Accreditation Commission**  
Program Evaluator 2011-2017  
Team Chair 2017-present  
Commissioner 2017-present

**Academic Service, Past**

- Departmental:
  - **Member, Department of Computer Science and Engineering Faculty Evaluation/Merit Committee**  
University of Nevada, Reno, 1996-1998, 1999-2001, 2005-2007, 2015-2016
  - **Member, Department of Computer Science and Engineering Web Committee**  
University of Nevada, Reno, 2013-2014  
**Chair** 2013-2014
  - **Member, Department of Computer Science and Engineering Facilities Committee**  
University of Nevada, Reno, 1995-1997, 2002-2007
  - **Member, Department of Computer Science and Engineering Graduate Committee**  
University of Nevada, Reno, 2008-2009
  - **Coordinator, Computer Science Colloquium Series**  
University of Nevada, Reno, 1994-95
  - **Member, Department of Computer Science and Engineering Undergraduate Committee**  
University of Nevada, Reno, 1996-2007, 2008-2010, 2011-2013  
**Chair** 1997-2007, 2011-2013
  - **Member, Department of Computer Science and Engineering Space Committee**  
University of Nevada, Reno, 2014-2015

- **Member, Department of Computer Science and Engineering Faculty Search Committee**  
University of Nevada, Reno, 1999, 2000, 2000, 2001, 2002, 2002, 2003, 2003, 2006, 2013, 2013, 2013, 2014, 2014, 2015, 2015  
**Chair** 1999, 2000, 2000, 2001, 2002, 2002, 2003, 2003, 2006,
- College:
  - **Member, College of Engineering Personnel Committee**  
University of Nevada, Reno, 2003-2006, 2009-2012, 2014-2016  
**Chair** 2009-2012, 2015-2016
  - **Member, CoE Differential Fees Committee**  
University of Nevada, Reno, 2013-2014, 2017-2018      **Chair** 2017-2018
  - **Member, College of Engineering Bylaws Committee**  
University of Nevada, Reno, 2010-2012  
**Chair** 2010-2012
  - **Member, College of Engineering Building Committee**  
University of Nevada, Reno, 2009-2010
  - **Member, College of Engineering Curriculum Committee**  
University of Nevada, Reno, 1997-2004, 2006-2007
  - **Member, College of Engineering Banquet Committee**  
University of Nevada, Reno, 1994-2001
  - **Chair, College of Engineering Search Committee**  
University of Nevada, Reno, 2000, 2012,
  - **Member, College of Engineering Committee for the Engineering Center for Secondary Learning**  
University of Nevada, Reno, 1996-1997
  - **Member, College of Engineering Space Committee**  
University of Nevada, Reno, 1995-1997
  - **Member, Faculty Library Committee**  
University of Nevada, Reno, 1995-96
  - **Member of the College of Engineering Computer Systems Advisory Board**  
University of Nevada, Reno, 1994-95
- University:
  - **Member, Salary and Benefits Committee**  
University of Nevada, Reno, 2018-2019  
**Chair** 2018-2019
  - **Member, Faculty Senate**  
University of Nevada, Reno, 2000-2003, 2014-2018  
**Chair Elect:** 2015-2016  
**Chair:** 2016-2017  
**Past-Chair:** 2017-2018
  - **Member, Research and Grants Committee**  
University of Nevada, Reno, 2015-2018
  - **Academic Leadership Council**  
University of Nevada, Reno, 2015-2016
  - **Member, Campus Affairs Committee**  
University of Nevada, Reno, 2015-2016
  - **Member, Facilitates Resources Committee**  
University of Nevada, Reno, 2015-2016

- **Member, Program Review Committee**  
University of Nevada, Reno, 2015-2016
- **Member, Proposed UNCE, CABNR, AES Administrative Consolidation Review Committee**  
University of Nevada, Reno, 2015-2016
- **Member, Research Affairs Council**  
University of Nevada, Reno, 2014-2015
- **Member, CIO Search Committee**  
University of Nevada, Reno, 2013, 2015
- **Member, Research Grid Steering Committee**  
University of Nevada, Reno, 2006-2013  
**Chair** 2006-2013
- **Member, Morale Task Force**  
University of Nevada, Reno, 2005-2006
- **Member, Excellence in Teaching Program Advisory Board**  
University of Nevada, Reno, 1999-2003
- **Member, Faculty Senate Nominating Committee**  
University of Nevada, Reno, 2001, 2002, 2003.
- **Member, Distinguished Teaching Assistant Award Committee**  
University of Nevada, Reno, 2005-2010
- **Member, President’s Council**  
University of Nevada, Reno, 2016-2017
- **Member, Neuroscience Program Graduate Committee**  
University of Nevada, Reno, 2014-2017
- **Member, Building Security and Access Committee**  
University of Nevada, Reno, 2016-2017
- **Member, Student Fee Review Committee**  
University of Nevada, Reno, 2016-2017
- **Member, Workday Change Network**  
University of Nevada, Reno, 2016-2017
- **Member, Task Force on Work and Family**  
University of Nevada, Reno, 1997
- System:
  - **Member, INBRE Bioinformatics Steering Committee**  
Nevada System of Higher Education, 2006-2009  
**Chair** 2006-2009
  - **Member, UCCSN Advisory Board for Advanced Computing in the Environmental Sciences**  
2002-2006
  - **Member, Chancellor Search Committee Advisory Board**  
Nevada System of Higher Education, 2016-2017
  - **Member, NSHE Committee of Faculty Senate Chairs**  
Nevada System of Higher Education, 2016-2017

**Member: ACM (Lifetime) (Senior Member), ISCA (Senior Member)**