Christino Tamon

Curriculum Vitae

Department of Computer Science		Phone:	(315) 268-6521
Clarkson University		Fax:	(315) 268-2371
8 Clarkson Avenue		Email:	`ctamon@clarkson.edu`
Potsdam, NY 13699-5815		Homepage:	`http://people.clarkson.edu/~ctamon`

Academic Interests

Research areas: quantum computing, machine learning (theoretical computer science).

Teaching: machine learning, cryptography, algorithms, compilers, programming languages.

Education

PhD Computer Science, University of Calgary, 1993-1996.
Thesis: *Computational Complexity Applications in Machine Learning*.
Advisor: Nader H. Bshouty (Technion).

MSc Computer Science, University of Toronto, 1990-1992.
Thesis: *A Survey on Some Techniques To Reduce Randomness*.
Advisor: Charles Rackoff.

BSc Computer Science and Applied Mathematics, University of Calgary, 1986-1990.
Undergraduate thesis project: A Fortran to C Translator (advisor: James Parker).
Summer project: A PRAM Compiler (advisor: Lisa Higham).

Employment

Faculty member, Department of Computer Science, Clarkson University, 1996–.

Current rank: Professor.

Visiting Positions

Visiting Researcher, Centre de Recherches Mathématiques, Université de Montréal, Canada.

Visiting Professor, Centre Émile Borel, Institut Henri Poincaré, Paris, France.

Visiting Researcher, Dept. Combinatorics and Optimization, University of Waterloo, Canada.

Adjunct Associate Professor, Dept. Computer Science, Harvey Mudd College, California.

Visiting Researcher, Dept. Computer Science, Meiji University, Japan.

Honors

Clarkson University, Distinguished Teaching award, 2009.

Clarkson University, New Teacher award, 2000.

Grants

External

National Science Foundation grant OSI-2427020
Quantum Walk Advantage in Algorithm and Protocol Design
PI: C. Tamon, coPI: G. Li (UPenn). Duration: 2024-2027. Amount: $800,000.00

National Science Foundation grant DMS-2212755
Support for US Participation in Centre de Recherches Mathématiques (CRM) workshop on Graph Theory, Algebraic Combinatorics, and Mathematical Physics
PI: C. Tamon. Duration: 2022-2023. Amount: $30,000.00

National Science Foundation grant 2113901
IUCRC Planning Grant Clarkson University: Center for Electric, Connected and Autonomous Technologies for Mobility (eCAT)
PI: C. Liu, coPI: T. Ortmeyer, J. Skufca, C. Tamon. Duration: 2021-2022. Amount: $20,000.00

Air Force Research Laboratory grant FA8750-18-1-01014
Quantum Optimization Methods in Machine Learning
PI: C. Tamon, coPI: C. Liu, J. Skufca. Duration: 2018-2019. Amount: $230,732.00.

National Security Agency grant H98230-15-1-0044
Summer Research Experience for Undergraduates in Mathematics
PI: C. Tamon, coPI: J. Foisy (SUNY Potsdam). Duration: 2015-2016. Amount: $43,881.00.

National Security Agency grant H98230-14-1-0141
Summer Research Experience for Undergraduates in Mathematics
PI: C. Tamon, coPI: J. Foisy (SUNY Potsdam). Duration: 2014-2015. Amount: $41,825.00.

National Science Foundation grant DMS-1262737
Mathematics Research Experience for Undergraduates
PI: J. Foisy (SUNY Potsdam), coPI: C. Tamon. Duration: 2013-2017. Amount: $314,604.00.

National Security Agency grant H98230-11-1-0206
Summer Research Experience for Undergraduates in Mathematics
PI: C. Tamon, coPI: J. Foisy (SUNY Potsdam). Duration: 2011-2013. Amount: $60,493.00.

National Science Foundation grant DMS-1004531
Mathematics Research Experience for Undergraduates
PI: J. Foisy (SUNY Potsdam), coPI: C. Tamon. Duration: 2010-2013. Amount: $211,203.00.

National Security Agency grant H98230-09-1-0098
Summer Research Experience for Undergraduates in Mathematics
PI: J. Foisy (SUNY Potsdam), coPI: C. Tamon. Duration: 2009-2011. Amount: $18,137.00.

National Security Agency grant H98230-07-1-0085
Research Experience for Undergraduates in Mathematics
PI: J. Foisy (SUNY Potsdam), coPI: C. Tamon. Duration: 2007-2009. Amount: $25,853.00.

National Science Foundation grant DMS-0646847
Mathematics Research Experience for Undergraduates
PI: J. Foisy (SUNY Potsdam), coPI: C. Tamon. Duration: 2006-2010. Amount: $58,402.00.

National Science Foundation grant DMS-0353050
Undergraduate Mathematics Summer Research Institute
PI: J. Foisy (SUNY Potsdam), coPI: C. Tamon. Duration: 2003-2006. Amount: $163,922.00.

National Science Foundation grant DMR-0121146
Center for Modeling of Quantum Dynamics, Relaxation and Decoherence in Solid-state Physics for Information-technology Applications
PI: V. Privman, co-PIs: M.-C. Cheng, M.L. Glasser, D. Mozyrsky, C. Tamon. Duration: 2001-2006. Amount: $1,054,000.00.

National Science Foundation grant DMS-0097113
Undergraduate Mathematics Summer Research Institute
PI: K. Mahdavi (SUNY Potsdam), coPI: C. Tamon (former: D. Powers). Duration: 2000-2003. Amount: $162,039.00.

Travel

National Science Foundation Travel Grant (PI: M. Ruskai), participant
Nordita/Mittag-Leffler *International Conference on Quantum Information and Computation*, Stockholm, Sweden, 4-8 October, 2010.

Publications

* names indicate undergraduate student co-authors.
† names indicate graduate student co-authors.

Survey and Book Chapter

V. Kendon, C. Tamon, "Perfect state transfer in quantum walks on graphs," *Journal of Computational and Theoretical Nanoscience*, **8**(3):422-433, 2011.

C. Tamon, "Learning with the Aid of an Oracle," *Encyclopedia of Algorithms*, second edition, M.-Y. Kao, editor, Springer, 2016.

Journal Articles (Peer Reviewed)

W. Xie†, A. Kay, C. Tamon, "Breaking the Speed Limit for Perfect Quantum State Transfer," *Physical Review A* **108**:012408, 2023.

W. Xie†, C. Tamon, "Optimality of Spatial Search in Graphs with Infinite Tail," *Physical Review A* **107**:032416, 2023.

A. Chan, G. Coutinho, W. Drazen†, O. Eisenberg*, C. Godsil, M. Kempton, G. Lippner, C. Tamon, H. Zhan, " Fundamentals of Fractional Revival in Graphs," *Linear Algebra and Its Applications* **655**:129-158, 2022.

A. Chan, C. Godsil, C. Tamon, W. Xie†, " Of Shadows and Gaps in Spatial Search," *Quantum Information and Computation* **22**(13&14):1110-1131, 2022.

A. Chan, G. Coutinho, C. Tamon, L. Vinet, H. Zhan, "Fractional Revival and Association Schemes," *Discrete Mathematics* **343**:112018, 2020.

A. Chan, G. Coutinho, C. Tamon, L. Vinet, H. Zhan†, "Quantum Fractional Revival on Graphs," *Discrete Applied Mathematics* **268**:86-98, 2019.

P.-A. Bernard⋆, A. Chan, É. Loranger⋆, C. Tamon, L. Vinet, "A graph with fractional revival," *Physics Letters A* **382**(5):259-264, 2018.

E. Connelly⋆, N. Grammel⋆, M. Kraut⋆, L. Serazo⋆, C. Tamon, "Universality in Perfect State Transfer," *Linear Algebra and Its Applications* **531**:516-532, 2017.

E. Ackelsberg⋆, Z. Brehm⋆, A. Chan, J. Mundinger⋆, C. Tamon, "Quantum State Transfer in Coronas," *Electronic Journal of Combinatorics* **24**(2), P24, 2017.

E. Ackelsberg⋆, Z. Brehm⋆, A. Chan, J. Mundinger⋆, C. Tamon, "Laplacian State Transfer in Coronas," *Linear Algebra and Its Applications* **506**:154-167, 2016.

R. Alvir⋆, S. Dever⋆, B. Lovitz⋆, J. Myer⋆, C. Tamon, Y. Xu†, H. Zhan†, "Perfect State Transfer in Laplacian Quantum Walk," *Journal of Algebraic Combinatorics* **43**(4):801-826, 2016.
(This appeared in a special issue dedicated to Chris Godsil.)

S. Cameron⋆, S. Fehrenbach⋆, L. Granger⋆, O. Hennigh⋆, S. Shrestha⋆, C. Tamon, "Universal State Transfer on Graphs," *Linear Algebra and Its Applications* **455**:115-142, 2014.

D. Mallory⋆, A. Raz⋆, C. Tamon, T. Zaslavsky, "Which Exterior Powers are Balanced?" *Electronic Journal of Combinatorics* **20**, Issue 2, P43, 2013.

M. Brazell†, N. Li†, C. Navasca, C. Tamon, "Solving Multilinear Systems via Tensor Inversion," *SIAM Journal on Matrix Analysis and Applications* **34**(2):542-570, 2013.

J. Brown⋆, C. Godsil, D. Mallory⋆, A. Raz⋆, C. Tamon, "Perfect State Transfer on Signed Graphs," *Quantum Information and Computation* **13**(5&6):511:530, 2013.

R. Bachman⋆, E. Fredette⋆, J. Fuller⋆, M. Landry⋆, M. Opperman†, C. Tamon, A. Tollefson⋆, "Perfect state transfer on quotient graphs," *Quantum Information and Computation* **12**(3&4):293-313, 2012.

E. Foreman†, P. Habitz, M.-C. Cheng, C. Tamon, "Inclusion of Chemical-Mechanical Polishing Variation in Statistical Static Timing Analysis," *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems* **30**(11):1758-1762, 2011.

Y. Ge⋆, B. Greenberg⋆, O. Perez⋆, C. Tamon, "Perfect state transfer, graph products and equitable partitions," *International Journal of Quantum Information* **9**(3):823-842, 2011.

R. Angeles-Canul⋆, R. Norton⋆, M. Opperman†, C. Paribello⋆, M. Russell⋆, C. Tamon, "Perfect state transfer, integral circulants, and join of graphs," *Quantum Information and Computation* **10**(3&4):325-342, 2010.

R. Angeles-Canul⋆, R. Norton⋆, M. Opperman†, C. Paribello⋆, M. Russell⋆, C. Tamon, "Quantum perfect state transfer in weighted join graphs," *International Journal of Quantum Information* **7**(8):1429-1445, 2009.

A. Best⋆, M. Kliegl⋆, S. Mead-Gluchacki⋆, C. Tamon, "Mixing of quantum walks on generalized hypercubes," *International Journal of Quantum Information* **6**(6):1135-1148, 2008.

W. Adamczak⋆, K. Andrew⋆, L. Bergen⋆, D. Ethier⋆, P. Hernberg⋆, J. Lin⋆, C. Tamon, "Non-uniform mixing of quantum walk on cycles," *International Journal of Quantum Information* **5**(6):781-793, 2007.

W. Carlson⋆, A. Ford⋆, E. Harris⋆, J. Rosen⋆, C. Tamon, K. Wrobel⋆, "Universal Mixing for Quantum Walk on Graphs," *Quantum Information and Computation* **7**(8):738-751, 2007.

P. Lo*, S. Rajaram*, D. Schepens*, D. Sullivan*, C. Tamon, J. Ward*, "Mixing of Quantum Walk on Circulant Bunkbeds," *Quantum Information and Computation* **6**(4&5):370-381, 2006.

L. Fedichkin, D. Solenov†, C. Tamon, "Mixing and Decoherence in Continuous-Time Quantum Walks on Cycles," *Quantum Information and Computation* **6**(3):263-276, 2006.

N. Bshouty, J. Jackson, C. Tamon, "Exploring learnability between exact and PAC," *Journal of Computer and System Sciences* **70**(4):471-484, 2005.

D. ben-Avraham, E. Bollt, C. Tamon, "One-dimensional continuous-time quantum walks," *Quantum Information Processing* **3**(1-5):295-308, 2004.

N. Bshouty, J. Jackson, C. Tamon, "More Efficient PAC-learning of DNF with Membership Queries under the Uniform Distribution," *Journal of Computer and System Sciences* **68**(1):205-234, 2004.

A. Ahmadi*, R. Belk*, C. Tamon, C. Wendler*, "On Mixing in Continuous-Time Quantum Walks on Some Circulant Graphs," *Quantum Information and Computation* **3**(6):611-618, 2003.

N. Bshouty, J. Jackson, C. Tamon, "Uniform-Distribution Attribute Noise Learnability," *Information and Computation* **187**(2):277-290, 2003.

N. Bshouty, C. Tamon, D. Wilson, "Learning Matrix Functions over Rings," *Algorithmica* **22**(1/2):91-111, 1998.

N. Bshouty, C. Tamon, D. Wilson, "On Learning Width Two Branching Programs," *Information Processing Letters* **65**(4):217-222, 1998.

N. Bshouty, C. Tamon, D. Wilson, "On Learning Decision Trees with Large Output Domains," *Algorithmica* **20**(1):77-100, 1998.

N. Bshouty, C. Tamon, "On the Fourier Spectrum of Monotone Functions," *Journal of the Association for Computing Machinery* **43**(4):747-770, 1996.

N. Bshouty, R. Cleve, R. Gavaldà, S. Kannan, C. Tamon, "Oracles and Queries that are Sufficient for Exact Learning," *Journal of Computer and System Sciences* **52**(3):421-433, 1996.

Conference Papers (Peer Reviewed)

J. Jackson, C. Tamon, T. Yamakami, "Quantum DNF Learnability Revisited," *Proceedings of 8th International Conference on Computing and Combinatorics*, O. Ibarra and L. Zhang (eds.), Lecture Notes in Computer Science **2387**, Springer, 595-604, 2002.

N. Bshouty, J. Jackson, C. Tamon, "Exploring learnability between exact and PAC," *Proceedings of the 15th Annual Conference on Computational Learning Theory*, J. Kivinen and R. Sloan (eds.), Lecture Notes in Computer Science **2375**, Springer, 244-254, 2002.

C. Tamon, J. Xiang†, "On the Boosting Pruning problem," *Proceedings of 11th European Conference on Machine Learning*, R. Lopez de Mantaras and E. Plaza (eds.), Lecture Notes in Computer Science **1810**, Springer, 404-412, 2000.

N. Bshouty, J. Jackson, C. Tamon, "More Efficient PAC-Learning of DNF with Membership Queries under the Uniform Distribution," *Proceedings of the 12th Annual Conference on Computational Learning Theory*, ACM Press, 286-295, 1999.

N. Bshouty, J. Jackson, C. Tamon, "Uniform-Distribution Attribute Noise Learnability," *Proceedings of the 12th Annual Conference on Computational Learning Theory*, ACM Press, 75-80, 1999.

F. Bergadano, N. Bshouty, C. Tamon, S. Varricchio, "On Learning Branching Programs and Small Depth Circuits," *Proceedings of 3rd European Conference on Computational Learning Theory*, S. Ben-David (ed.), Lecture Notes in Computer Science **1208**, Springer, 50-161, 1997.

N. Bshouty, C. Tamon, D. Wilson, "Learning Matrix Functions over Rings," *Proceedings of 3rd European Conference on Computational Learning Theory*, S. Ben-David (ed.), Lecture Notes in Computer Science **1208**, Springer, 27-37, 1997.

N. Bshouty, C. Tamon, D. Wilson, "On Learning Width Two Branching Programs," *Proceedings of the 9th Annual Conference on Computational Learning Theory*, ACM Press, 224-227, 1996.

N. Bshouty, C. Tamon, D. Wilson, "On Learning Decision Trees with Large Output Domains," *Proceedings of the 8th Annual Conference on Computational Learning Theory*, ACM Press, 190-197, 1995.

N. Bshouty, C. Tamon, "On the Fourier Spectrum of Monotone Functions," *Proceedings of the 27th Annual ACM Symposium on the Theory of Computing*, ACM Press, 219-228, 1995.

N. Bshouty, R. Cleve, S. Kannan, C. Tamon, "Oracles and Queries that are Sufficient for Exact Learning," *Proceedings of the 7th Annual ACM Conference on Computational Learning Theory*, ACM Press, 130-139, 1994.

Manuscripts

A. Acuaviva*, A. Chan, S. Eldridge*, C. Godsil, M. How*, C. Tamon, E. Wright*, X. Zhang, "State Transfer in Complex Quantum Walks," arxiv:2301.01473 [quant-ph].

P.-A. Bernard†, C. Tamon, L. Vinet, W. Xie†, "Quantum State Transfer in Graphs with Tails," arxiv:2211.14704 [quant-ph].

A. Kay, W. Xie†, C. Tamon, "A Note on the Speed of Perfect State Transfer," arxiv:1609.01854 [quant-ph].

C. Tamon, W. Xie†, "A Note on Quantum Markov Models," arXiv:1911.01953 [quant-ph].

C. Navasca, M. Opperman†, T. Penderghest†, C. Tamon, "Tensors as Module Homomorphisms," arXiv:1005.1894 [math.NA].

Presentations

Invited talks

"Is Quantum Search Possible on Infinite Graphs?" in International Linear Algebra (ILAS) Special Session on "Graphs and Matrices," Joint Mathematics Meetings (JMM), San Francisco, California, January 3-6, 2024.

"Is Chirality Useful for Quantum Walk on Graphs?" in AMS Special Session on "Numerical Analysis, Spectral Graph Theory, Orthogonal Polynomials, and Quantum Algorithms," Joint Mathematics Meetings (JMM), San Francisco, California, January 3-6, 2024.

"Do Quantum Walks Obey Speed Limits?" in session on Algebraic Graph Theory for Walking on Graphs, Canadian Mathematical Society (CMS) Winter meeting, Montréal, Quebec, Canada, December 2-4, 2023.

"Can Quantum Transport Occur on Infinite Graphs?" in contributed minisymposium on Quantum Information on Graphs, Canadian Discrete and Algorithmic Mathematics (CanaDAM), Winnipeg, Manitoba, Canada, June 5-9, 2023.

"Algorithmic applications of mixing in quantum walks," Workshop on Open Problems in Algebraic Combinatorics (virtual), University of Waterloo, May 2021.

"Is Quantum State Transfer Monogamous?" The Joint Mathematics Meetings, American Mathematical Society special session on *Advances in Quantum Walks, Quantum Simulations, and Related Quantum Theory*, Baltimore, January 2019.

"101 Questions on Quantum Walks," Workshop on *Algebraic Graph Theory and Quantum Walks*, University of Waterloo, April 23, 2018.

"Is Quantum State Transfer Monogamous?" American Mathematical Society special session on *Extremal Graph Theory and Quantum Walks*, Northeastern University, April 22, 2018.

"Quantum State Transfer in Corona Products," The Joint Mathematics Meetings, AMS special session on *Quantum Walks, Quantum Markov Chains, Quantum Computation, and Related Topics*, Seattle, January 8, 2016.

"Which Laplacian Quantum Walk on Graphs?" workshop on *System of Lines*, Worcester Polytechnic Institute, August 10-14, 2015.

"Quantum Walk, State Transfer, and Complex Graphs," conference on *Algebraic Combinatorics: Spectral Graph Theory, Erdös-Ko-Rado Theorems, and Quantum Information Theory* (A Conference in honor of Chris Godsil), University of Waterloo, June 23-27, 2014.

"Perfect State Transfer on Graphs," *Discrete Mathematics Day*, Worcester Polytechnic Institute, April 20, 2013.

Contributed talks

"Is Quantum Search Possible on Infinite Graphs?" in Scientific Session on "Quantum Mathematics for Computation," American Mathematical Society (AMS), Fall Eastern Sectional Meting, University of Albany, Albany, New York, October 19-20, 2024.

"Is Quantum State Transfer Monogamous?" Summer Combo in Vermont, Saint Michael's College, July 22, 2017.

"Perfect State Transfer in Laplacian Quantum Walk," Ontario Combinatorics Workshop & Discrete Mathematics Days, University of Ottawa, May 21-24, 2015.

"State Transfer in Quantum Walk on Graphs," Summer Combo (Discrete Mathematics Day), Saint Michael's College, July 12, 2013.

"Which Exterior Powers are Balanced?," Ottawa-Carleton Discrete Mathematics Days, University of Ottawa, May 10, 2013.

"Universal State Transfer on Graphs," Ottawa-Carleton Discrete Mathematics Days, Carleton University, May 1-2, 2014.

"On Quantum Walks on Graphs," Session on *Nanostructures for Quantum Device Technology*, 79th ACS Colloid and Surface Science Symposium, Clarkson University, June 12-15, 2005.

"Quantum DNF Learnability Revisited," 8th International Conference on Computing and Combinatorics (COCOON), Singapore, August 17, 2002.

"Uniform-distribution Attribute Noise Learnability," 12th ACM Conference on Computational Learning Theory (COLT), Santa Cruz, California, 1999.

"On the Fourier Spectrum of Monotone Functions," 27th ACM Symposium on Theory of Computing (STOC), Las Vegas, 1995.

Colloquia

"Speed limit violations in quantum walks," Department of Mathematics, University of Connecticut, April 12, 2024.

"State transfer via chiral quantum walks," Department of Mathematics, Brigham Young University, February 22, 2024.

"Can Quantum Transport Occur on Infinite Graphs?" PIMS 05C50 Online Seminar on Graphs and Matrices, University of Manitoba, March 24, 2023.

"Reverse mixing in quantum walks," Algebraic Graph Theory Seminar (virtual), University of Waterloo, February 14, 2022.

(with S. Lato) "Monogamy violations in perfect state transfer," Algebraic Graph Theory Seminar (virtual), University of Waterloo, November 2, 2020.

"On cloning, teleportation, and monogamy of entanglement: a glimpse of quantum information," Department of Mathematics, Computer Science, and Statistics, Saint Lawrence University, April 29, 2019.

"Of Quantum Walk, Particles, and Quotient Graphs," Centre de Recherches Mathématiques, Université de Montréal, December 12, 2017.

"Quantum Walk, State Transfer and Graph Spectra," Department of Physics, Saint Louis University, March 24, 2017.

"Equitable Partitions and Quantum Walks," Algebraic Graph Theory seminar, Department of Combinatorics and Optimization, University of Waterloo, May 10, 2016.

"Quantum State Transfer, Graph Products, and Equitable Partitions," Discrete Mathematics Seminar, University of Delaware, October 21, 2015.

"Which Exterior Powers are Balanced?," Department of Mathematics and Statistics, York University, October 30, 2014.

"Universal State Transfer on Graphs," Department of Mathematics, State University of New York at Plattsburgh, October 22, 2014.

"Pretty Good State Transfer in Quantum Walks," Department of Physics, Clarkson University, November 15, 2013.

"Quantum walk on graphs," Department of Computer Science, Meiji University, Japan, August 5, 2011.

"Mixing of Quantum Walks on Graphs,"
Carleton-Ottawa Combinatorics and Optimization seminar, Carleton University, October 16, 2009.
Department of Mathematics, Binghamton University, May 5, 2009.

"Non-uniform Mixing in Continuous Quantum Walks," Department of Physics, Clarkson University, November 8, 2002.

"How Fast Can DNF Be Learned?" School of Information Technology and Engineering, University of Ottawa, March 22, 2002.

"Cryptographic Algorithms in Machine Learning," Department of Computer Science, University of Vermont, February 28, 2002.

"Probabilistic Methods in Graph Theory," Department of Mathematics, SUNY Potsdam, July 1999.

"The Kushilevitz-Mansour algorithm revisited," Department of Computer Science, University of Calgary, 1998.

Professional Service

Program Committee Member

Mathematical Foundations of Computer Science (MFCS 2016), Krakow, Poland, 2016.

Algorithmic Learning Theory (ALT 2007), Sendai, Japan, 2007.

Computational Learning Theory (COLT 2006), Pittsburgh, PA, 2006.

Algorithmic Learning Theory (ALT 2003), Sapporo, Japan, 2003.

Algorithmic Learning Theory (ALT 2001), Washington D.C., 2001.

Computational Learning Theory (COLT 2000), Palo Alto, CA, 2000.

Panel/Reviewer

American Association for the Advancement of Science

National Science Foundation

US-Israel Binational Science Foundation.

Reviewer

Journals: ACM Transactions on Quantum Computing, American Mathematical Monthly, Combinatorica, Computational Complexity, Discrete Mathematics, Discussiones Mathematicae Graph Theory, Electronic Journal of Combinatorics, Electronic Journal of Linear Algebra, Graphs and Combinatorics, Information and Computation, Information Processing Letters, International Journal of Quantum Information, Journal of Combinatorial Theory Series B, Journal of Computer and System Sciences, Journal of Machine Learning Research, Journal of Mathematical Physics, Linear Algebra and Its Applications, Machine Learning, New Journal of Physics, Physical Review A, Physica Scripta, Quantum Information and Computation, Quantum Information Processing, SIAM Journal on Computing, SIAM Journal on Discrete Mathematics, The Australasian Journal on Combinatorics, Theoretical Computer Science, Theory of Computing

Conferences: ACM Conference on Computational Learning Theory (COLT 2000), International Conference on Algorithmic Learning Theory (ALT 2001), Conference on Computational Learning Theory (COLT 2003), International Conference on Algorithmic Learning Theory (ALT 2003), ACM Symposium on Theory of Computing (STOC 2004), International Conference on Algorithmic Learning Theory (ALT 2007), ACM Symposium on Theory of Computing (STOC 2009), International Conference on Algorithmic Learning Theory (ALT 2009), Conference on Artificial Intelligence (AAAI 2011), Mathematical Foundations of Computer Science (MFCS 2016), Conference on Computational Learning Theory (COLT 2017).

Organizer

Scientific Session on "Quantum Mathematics for Computation," American Mathematical Society (AMS), Fall Eastern Sectional Meeting, University of Albany, October 19-20, 2024.
Organizers: H. Zhan, C. Tamon.

(Virtual) Workshop "Godsil75," University of Waterloo, March 15-17, 2024.
Organizers: S. Árnadóttir, A. Chan, Q. Chen, S. Lato, M. Sobchuk, C. Tamon.

Workshop on "Graph Theory, Algebraic Combinatorics, and Mathematical Physics," Centre de Recherches Mathématiques, Montréal, July 25 - August 19, 2022.
Organizers: A. Chan, G. Coutinho, C. Tamon, P. Terwilliger, L. Velazquez.

Workshop on "Algebraic Graph Theory and Quantum Information," Fields Institute, Toronto, May 4-8, 2020.
Organizers: A. Chan, G. Coutinho, K. Guo, C. Tamon, L. Vinet, H. Zhan.

Scientific Session on "Quantum Information on Graphs," Canadian Mathematical Society (CMS), Winter Meeting, Toronto, December 6-8, 2019.
Organizers: A. Chan, C. Tamon, H. Zhan.

"Summer Combo in Vermont," Saint Michael's College, July 14, 2018.
Organizers: A. Barghi, M. Brown, J. Ellis-Monaghan, G. Pangborn, C. Tamon.

Workshop on "Algebraic Graph Theory for Quantum Computing," Canadian Discrete and Algorithmic Mathematics (CanaDAM), Ryerson University, Toronto, June 12-15, 2017.
Organizers: A. Chan, C. Godsil, K. Guo, C. Tamon.

"Summer Combo in Vermont," Saint Michael's College, Summers, 2015-2017.
Organizers: M. Brown, J. Ellis-Monaghan, G. Pangborn, C. Tamon.

"Summer Mathematics Combo," Clarkson University, July 18, 2014.
Organizers: J. Foisy, C. Tamon.

Workshop on "Tensor Computation and Applications," SIAM Annual Meeting, Pittsburgh, July 12-13, 2010. Organizers: C. Navasca, C. Tamon.

Tutorial on "Fourier Analysis in Machine Learning," 10th ACM Conference on Computational Learning Theory (COLT 1997) and 14th International Conference on Machine Learning (ICML 1997), Vanderbilt University, 1997. Organizers: J. Jackson, C. Tamon.

Academic Service

Clarkson University, Award committee (4 yrs; chair for 1 yr).

Clarkson University, Senate CAP committee (2 yrs).

School of Arts and Science, David A. Walsh Seminar Series committee (7 yrs; chair for 1 yr).

School of Arts and Science, Undergraduate Programs committee.

School of Arts and Science, Outreach Activities committee.

School of Science, Reorganization committee.

Department of Mathematics and Computer Science, Interdisciplinary Master of Computer Science Graduate committee (chair, 1-yr). Joint with Department of Electrical and Computer Engineering.

Departments of Mathematics and/or Computer Science, Colloquium committee (chair).

Department of Mathematics and Computer Science, Library committee (co-chair).

Department of Mathematics and Computer Science, Student Liaison committee (co-chair).

Advising

Doctoral students

Weichen Xie, PhD Mathematics. "Quantum transport via continuous-time quantum walk," 2023. (current: Epic, Wisconsin.)

Michael Opperman, Jr., PhD Mathematics, "Graphs with Perfect State Transfer in Quantum Walks," 2013. (current: faculty, Champlain College, Vermont.)

Master students

William Dunklin, MSc Computer Science, "Plasticity in ML," expected 2024. (current: Kitware Inc.)

Jacob Torrey, MSc Computer Science, "x86 TLB-splitting for Dynamic Application Verification," 2015.

Timothy Penderghest, MSc Computer Science (co-advisor J. Matthews), "Model Based Intrusion Detection System for SCADA Systems," 2012.

Jeremy Bongio, MSc Computer Science, "On Methods for Computing Correlated Equilibria in Graphical Games," 2010.

Lin Zhang, MSc Computer Science, "A Survey of Exponential Tail Bounds," 2005.

Thai Giang, MSc Computer Science, "Using Batch to Improve RSA," 2004.

Brendan Johnson, MSc Computer Science, "Simulating Quantum Computation," 2004.

Ming-Chih Chen, MSc Computer Science, "On Reducing Randomness in Levin's Algorithm," 2001.

Wei Wei, MSc Computer Science, "Experiments with Boosting for Collaborative Filtering," 2000.

Anthony Moores, MSc Computer Science, "Boosting and Genetic Algorithms," 2000.

Xiaolin Yang, MSc Computer Science, "Boosting for Text Categorization with Liguistic Knowledge," 1999.

Jie Xiang, MSc Computer Science, "A New Pruning Algorithm for Boosting C4.5," 1999.

Undergraduate research students

Jacob Melite, Honors, "Corruption Correction using Variable Order Markov Models," 2018.

Jeffrey M. Ward, Honors, "The Theory of Lattices and Computational Learning," 2008.

Rouslan Solomakhin, Honors, "Learning Shifting Automata," 2007.

Michael Chavoustie, Honors, "Simplifying Quantum Searches," 2005.

Srabonti Ganguly, Honors, "Quantum Error-Correcting Codes," 2004.

Min Shi, McNair, "Wave propagation on paths," 2003.

Amarda Shehu, Honors, "On the Complexity of Graph Dimensions," 2002.

Pedro Tejada, McNair, "Quantum walk on graphs," 2002.

Gary Picher, Jr., Honors, "Boosting decision trees," 2001.

Jeffrey Baumes, Honors, "The Maximum Average Degree of Graphs," 2000.

Teaching

Clarkson University

CS141 Introductory Computer Science (1 semester).

CS250 Symbolic Computation (7 semesters).

CS241 Computer Organization (4 semesters).

HP300 Honors (Cryptography) (1 semester).

CS341 Programming Languages (12 semesters).

CS344 Algorithms and Data Structures (3 semesters).

CS345 Automata Theory and Formal Languages (2 semesters).

CS445/545 Compiler Construction (16 semesters).

CS447/547 Computer Algorithms (9 semesters).

CS449/549 Computational Learning (6 semesters).

CS451/551 Artificial Intelligence (1 semester, co-taught with C. Lynch).

CS456/556 Cryptography (23 semesters).

CS469/569 Quantum Information and Computation (2 semesters).

CS607 Topics in Quantum Computation (1 semester).

CS647 Topics in Algorithms (3 semesters).

CS656 Topics in Cryptography (3 semesters).

Harvey Mudd College

CS81 Computability and Logic

CS181A Topics: Cryptography

Extra-Curriculars and Outreach

SOAR lecturer (SUNY Potsdam), "Cryptography through the Ages", Fall 2010, 2015
A set of 3 lectures in a continuing education program for retired members of the community.

Project Challenge instructor (Clarkson), "Cryptography through the Ages", 2009-2011, 2013, 2015
A 5-weekend program for high-school students in the North Country.

Science Cafe talk, "The Rise and Fall of Cryptography", February 3, 2010
Part of a series of lectures on science for the general public.

Faculty advisor, Clarkson Chess Club, 2004-2009, 2013-2016, 2018-2019.

Board member, Cinema 10, 2003-2006
An independent, non-profit organization for alternative and independent films in the North Country.

Last updated: August 31, 2024