JENNIFER CHUBB

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EDUCATION

2009	Ph.D. in Mathematics George Washington University, Washington, D.C.
2003	Master of Science in Applied Mathematics George Mason University, Fairfax, VA.
1999	Bachelor of Science in Physics and Mathematics George Mason University, Fairfax, VA.

PROFESSIONAL EXPERIENCE

2017—present	Associate Professor of Mathematics *University of San Francisco*
2017—2018	Visiting Scholar *George Washington University*
2009—2017	Assistant Professor of Mathematics *University of San Francisco*
2011—2012	Visiting Assistant Professor of Mathematics *Pennsylvania State University, University Park*
2006 summer	Adjunct faculty member *Department of Mathematics and Department of Philosophy* *George Washington University*
2008—2009	Math Immersion Instructor DC Teaching Fellows, Washington, D.C.
1999—2006	Adjunct faculty member *Department of Mathematics and Dept. of Physics & Astronomy* *George Mason University*
2001 summer	High School Math Teacher *Fairfax County Public Schools, Fairfax, VA*
1996—1999	Research Assistant Tillinghast—Towers Perrin, Arlington, VA

RESEARCH INTERESTS

Computable structure theory, ordered structures, combinatorial group theory, and what, in mathematics, is or is not *algorithmically* accessible.

PUBLICATIONS

Model completeness and decidability, with Russell Miller and Reed Solomon. (To appear in *Archive for Mathematical Logic*).

Detecting properties from descriptions of groups, with I. Bilanovic and S. Roven, *Archive for Mathematical Logic* (2019).

Groups with orderings of arbitrary algorithmic complexity, with M. Dabkowski and V. Harizanov, *Singapore Program on Sets and Computations*, IMS Lecture Notes series, World Scientific Press (2017).

Lecture Notes in Logic: Logic and Algebraic Structures in Quantum Computing, co-edited with A. Eskandarian and V. Harizanov. Cambridge University Press (2016).

A (very) brief introduction to quantum mechanics & category theory, with V. Harizanov, in *Lecture Notes in Logic: Logic and Algebraic Structures in Quantum Computing,* J. Chubb, A. Eskandarian and V. Harizanov (eds). Cambridge University Press (2016) 1—22.

Approximating functions and measuring distance on a graph, with W. Calvert and R. Miller. *Proceedings of the 12th Asian Logic Conference,* 2013, World Scientific, 24—52.

Reverse mathematics, computability, and partitions of trees, with J. Hirst and T. McNicholl. *Journal of Symbolic Logic*. 74 (2009) 201—215.

Degree spectra of the successor relation in computably linear orderings, with A. Frolov and V. Harizanov. *Archive for Mathematical Logic* 48 (2009) 7—13.

Partial automorphism semigroups, with V. Harizanov, A. Morozov, S. Pingrey, and E. Ufferman. *Annals of Pure and Applied Logic* 156 (2008) 245—258.

Strong degree spectra and Π^0_1 classes, with J. Chisholm, V. Harizanov, D. Hirschfeldt, C. Jockusch, T. McNicholl, and S. Pingrey. *Journal of Symbolic Logic* 72 (2007) 1003—1018.

The breakdown of synchronization in systems of non-identical chaotic oscillators: theory and experiment, with E. Barretto, P. So, and B. Gluckman. *International Journal of Bifurcation and Chaos.* Vol. 10, No. 11 (2001) 2705—2713.

WORK IN PREPARATION

Nested equivalence relations and finitely branching trees, with Leah Marshall and Valentina Harizanov. (In prep.)

Detecting properties in relational structures, with Iva Bilanovic. (In prep.)

Index sets of computable magmas, with Trang Ha, Valentina Harizanov, and Dario Verta. (In prep.)

Trees of orders of algebraic structures, algorithmic and topological properties. (In prep.)

SELECTED INVITED RESEARCH TALKS (SINCE 2009)

New England Recursion and Definability Seminar, University of Connecticut, April 2018.

Detection problems in group theory, *George Washington University Mathematics Colloquium,* March 2018.

Detecting properties of groups, *George Mason Mathematics Colloquium,* December 2018.

Decision problems in recursively presented groups, *CUNY Logic Workshop*, November 2017.

Trees of orderings (in 3 parts), *George Washington University Seminar: Logic Across Disciplines*, October, December 2017, and January 2018.

Orderings of Algebraic Structures, *George Washington University Logic Seminar*, October 2017.

Distance functions on computable graphs, *Bay Area Discrete Math Day*, St. Mary's University of California, October 2017.

Detecting properties of groups, *Special session on Computable Structure Theory, ASL North American Annual Meeting*, Boise, ID, March 2017.

Complexity of the distance function on computable graphs, *George Mason University Mathematics Colloquium*, November 2015.

Spectra of describable relations, *Special session on Computable Structure Theory, AMS Eastern Sectional Meeting,* Georgetown University, March, 2015.

Algorithmic complexity of orderings of groups, *Conference on Knot Theory and its Applications to Physics and Quantum Computing*, University of Texas, Dallas, January, 2015.

Orders of algebraic structures, *AMS Special Session on Computability in Geometry and Topology* at the Joint Mathematics Meetings, Baltimore, January 2014.

Natural relations & functions on computable structures, *Stanford University Seminar in Logic and the Foundations of Mathematics*, May, 2013.

Distance functions on computable graphs, and their cousins, at the *University of Connecticut Logic Seminar*, April, 2013.

Ordering algebraic structures and trees, at *Special Session on Computable Mathematics, In honor of Alan Turing* at the American Mathematical Society Eastern Sectional Meeting, George Washington University, March, 2012.

Effective properties of approximable functions, at the *Special Session on Computability & Complexity* at the AMS Spring Western Sectional Meeting, University of Hawai'i, March, 2012.

Limit-wise decreasing functions and distance on graphs, *Special Session on Algebraic Structures and Computability* at the Asian Logic Conference, Victoria University of Wellington, December, 2011.

Degree spectra of relations, *Pennsylvania State University Logic Seminar*, State College, PA, March, 2011.

Algorithmic properties of orderings on groups, *Workshop in Computability Theory*, Ponta Delgada, Portugal, July, 2010.

Computability and ordered groups, *South Eastern Atlantic Logic Symposium*, University of Florida, Gainesville, March, 2010.

Degree spectra of relations, *Berkeley Logic Colloquium*, February, 2010.

Computability, topology, and ordered groups, *University of Texas—Dallas Mathematics Colloquium*, October, 2009.

Recursive model theory and degree spectra of relations, *UC—Berkeley Recursion Theory Seminar*, September 28 and October, 2009.

Computable partitions of trees, *ASL Logic Colloquium*, July, 2009 in Sofia, Bulgaria.

SELECTED COURSES & INDEPENDENT STUDIES

Business Statistics (in development for Summer 202, fully online)

Linear Algebra & Probability (for computer science majors, online, Spring 2020)

Quantum Algorithms (Spring 2019)

Computability and Algorithmic Learning Theory (Fall 2018)

Logic and Model Theory (Fall 2018)

MATH 395 Special Topics: Quantum Computing

Combinatorial Group Theory (Fall 2016)

Reverse Mathematics & Second Order Arithmetic (Fall 2016)

SPECIAL PROGRAMS & COMMITTEES

2020	2020 Summer Online Core Course Initiative
2018—2019	Computer Science hiring committee
2016—2017	Computer Science hiring committee (one term and one tenure-line)
2014—2016	Course Coordinator for Math 106 Business Statistics.
2010—2017	Learning Technologies Committee, member
2015	Center for Teaching Excellence Teaching Café on Flipped Classrooms
2014—2015	Math & Statistics hiring committee (two tenure lines in statistics)
2014	Redesigned Math 106 *Business Statistics,* with support from Provost Jennifer Turpin's office ($4500).
2014	Mathematics hiring committee (term)

2013—2014	Mathematics hiring committee (tenure-line)
2013	Muscat Scholars Program *Preparing incoming first-generation college students for their first semester in college*.

SELECTED PROFESSIONAL ACTIVITIES (SINCE 2009)

2018—2019	Organizing American Mathematical Society Special Session on *Recent Advances and Trends in Computable Structure Theory*, for the 2019 Joint Mathematics Meetings in Baltimore, MD.
2016	Wrote entry on Quantum Computing for the *World Book Encyclopedia.*
2011	Organized Workshop in Computability Theory, University of San Francisco.
2010—2011	Consultant for The New Teacher Project
2010	Co-organized the *North American Annual Meeting of the Association of Symbolic* and the co-located *Quantum Computing Week* in Washington, D.C.
	Member of the following professional organizations. - *American Mathematical Society,* - *Association for Symbolic Logic,* - *Association for Women in Mathematics,* - *Association for Computability in Europe*.

INVITED EXPOSITORY LECTURES & COURSES (SELECTED)

The Internet is Too Big, Hofstra University, October 2020.

Introduction to algorithmic learning theory, George Washington University, March 2018.

Quantum algorithms, *USF Mathematics Colloquium*, October, 2016.

Survey of quantum computation & applications, *Sonoma State University Computer Science Colloquium*, February, 2016.

Algorithmic Learning Theory, two-week intensive course at *Two weeks at Waterloo*, University of Waterloo, Ontario, August, 2014.

Impossible questions about simple structures, *USF Faculty Seminar Series*, April, 2014.

Math, Physics, & Logic, guest lecture in philosophy course (PHIL 319) at USF, November, 2013.

Crash course in computable model theory, guest lecture in Topics in Logic course, George Washington University, September, 2013.

Easy groups with no easy orderings, at the *George Washington University Logic Seminar*, March, 2013.

Unsolvability in Mathematics, *USF Mathematics Colloquium*, March, 2010.

Unsolvability in mathematics, Sonoma State University Math Colloquium, November, 2009.

Computing fractals, guest lecture at School Without Walls High School, D.C. Public Schools, December 2008.

Solvability and tractability, Dean's Seminar for freshmen at George Washington University, April, 2007.