PhD Dissertations

In 1970, the department awarded its first PhD to William Haver, under the supervision of Professor Louis F. McAuley. Since then, the department has regularly awarded PhD degrees. To date, 225 PhDs have been conferred, with an average of approximately 5 dissertations added per year in recent times. Below is a list of PhD dissertations completed in our program.

Year	Author	Title	Advisor(s)
1970	William Haver	Cellular Mappings on Manifolds	Louis F. McAuley
1971	John Baildon	Open Maps and Maps Onto Two-Manifolds	Louis F. McAuley
1971	Myra Reed	Decomposition Spaces and Separation Properties	Louis F. McAuley
1971	Edythe Woodruff	Concerning the Condition that a Disk in E3/G be the Image of a Disk in E3	Louis F. McAuley
1972	Carl Pixley	Selection Theory for Infinite Dimensional Spaces and Continuous Single- Valued Approximations to Upper Semi-Continuous Multivalued Mappings	Prabir Roy
1972	Robert Reed	Foundations of Vietoris Homology Theory with Applications to Non- Compact Spaces	Louis F. McAuley
1973	John Ying	Relations Between Subgroups and Quotient Groups of Finite Groups	Wolfgang Kappe
1974	Michael Boyd	Properties of Ultraproduct Spaces	William Transue
1974	John Walsh	Monotone, Monotone Open, and Light Open Mappings of Manifolds	Louis F. McAuley
1975	Ronald Fintushel	Orbit Maps of Local S1-Actions on Manifolds of Dimension Less Than Five	Louis F. McAuley
1975	Richard Gustafson	Construction Algorithms for Knot Spaces Which Contain Incompressible Surfaces of Arbitrarily High Genus	Prabir Roy
1975	Eric Robinson	Characterizations and Properties of Some Light-Open Mappings	Louis F. McAuley
1976	Diane Schmidt	The Bing Sphere Characterization and Applications of Brick Partitionings	Dick Wick Hall
1977	Steve Dibner	Heegaard Splittings for an Infinite Family of Closed Orientable Three- Manifolds	Louis F. McAuley
1977	Hari Mukerjee	Stochastic Approximations Using Isotonic Regression	David Hanson
1977	Patricia Woodworth	An Analytic Approach to Problems Connected with Plane Tree Enumeration	David Klarner
1978	Gerald Jungck	Local Homeomorphisms	Louis F. McAuley
1979	William Cody	On the Structure of the Hughes Subgroup	Wolfgang Kappe
1979	Michael Mihalik	Ends of Fundamental Groups in Shape and Proper Homotopy	Ross Geoghegan
1980	Alan Coppola	On p-Adic Transformation Groups	Louis F. McAuley
1980	Ralph Russo	A Stochastic Approximation Procedure	David Hanson
1981	Richard Barshinger	Uniform Asymsptotic Expansions for Solutions to Electrostatic, Ideal Flow, and Stokes Flow Problems Exterior to Thin Oblate Body of Revolution	James Geer
1981	Deborah Brigham	Discrete Discriminant Analysis Using Log-Linear Models	Eugene Klimko
1981	Timothy Masters	Automated Classification of Aerial Photographs	Eugene Klimko
1981	David Mauro	Consistency of Kaplan Meier Least Squares Estimators	Eugene Klimko
1981	Gary O'Brien	The Missing Boundary Problem for Smooth Manifolds of Dimension Greater Than or Equal to Six	Ross Geoghegan
1981	Gene Sprechini	Testing for Robustness of Certain F-Tests in the General Linear Model	Eugene Klimko
1982	John Kavanagh	Extensions of Homeomorphisms and Generalizations	Louis F. McAuley
1983	Donco Dimovski	Non-Simply Connected Casson Handles	Ross Geoghegan
1983	Seyedkazem Mahdavianary	Groups with many subgroups two-subnormal	Luise-Charlotte Kappe
1983	Ronald Menton	A Population Model for Linear Calibration	John Orban
1984	L. Brian Lawrence	General Product Spaces	Prabir Roy

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1997	Tom Plavchak	A Polyhedral Transversality Theorem For One-Parameter Fixed Point Theory	Ross Geoghegan
1997	Patrick Ratchford	On Centralizer-like Subgroups	Luise-Charlotte Kappe
1997	Shashidhar Upadhyay	Bounding Questions for Almost Flat Manifolds	Thomas Farrell
1997	Xiaodong Wang	Contribution to Dynamical Systems	Shelemyahu Zacks
1998	Steve Pagano	Separability and Representability of Bias Matroids of Signed Graphs	Thomas Zaslavsky
1998	Denise Reboli	On Generalized Hamiltonian Groups	Luise-Charlotte Kappe
1998	Ranja Roy	Integrality Questions for Virtual Signature	Thomas Farrell
1998	Norhaniza Sarmin	On Two-Generator Groups of Nilpotency Class Two and their Nonabelian Tensor Squares	Luise-Charlotte Kappe
1998	Matthew Visscher	On the Nonabelian Tensor Product of Groups	Luise-Charlotte Kappe
1998	Arthur Weinberger	Reducing Fuzzy Algebra to Classical Algebra	Tom Head
1998	Qinhai Zhang	On Abnormal Subgroups of Finite Groups	Benjamin Brewster
1999	James Beuerle	Metacyclic Groups and their Nonabelian Tensor Squares	Luise-Charlotte Kappe
1999	Elizabeth Laun	Constants and Splicing Systems	Tom Head and Dennis Pixton
2000	Sergio Ardanza-Trevijano	Exotic Smooth Structures on Non-Locally Symetric Negatively Curved Manifolds	Thomas Farrell
2000	Joseph Evan	Permutability in Direct Products of Finite Groups	Benjamin Brewster
2000	Daniel Farley	Finiteness and CAT(0) Properties of Diagram Groups	Ross Geoghegan
2000	Daniel Slilaty	Orientations of Biased Graphs and Their Matroids	Thomas Zaslavsky
2000	Joanna Su	Homotopy Theory of Modules	Peter Hilton
2000	Zoran Sunik	On a Class of Periodic Spinal Groups of Intermediate Growth	Fernando Guzman
2000	Shaohua Yu	Consistency of GMLE with Multivariate Mixed IC Data	Qiqing Yu
2001	John Best	On 3/2-Transitive Groups	Benjamin Brewster
2001	Jeffrey Forrester	Efficient Estimation of the Regression Parameter in a Heteroscedastic Regression Model Where Heteroscedasticity is Modeled as a function of the mean response	Anton Schick
2001	Daniel Ghezzi	Estimation of and confidence intervals for the common variance of correlated normal random variables	Shelemyahu Zacks
2001	William Hooper	Efficient Estimation of Transformation Parameters in Nonparametric Regression	Anton Schick
2001	Fred Kluempen	On the power structure of finite p-groups	Luise-Charlotte Kappe
2001	Hanxiang Peng	Efficient Estimation of Linear Functionals of a Bivariate Probability with Equal Marginals	Anton Schick
2001	Dirk Schuetz	Torsion properties of the Novikov complex	Ross Geoghegan
2002	Dan Clouse	A Dual Representation of Boolean Semirings In a Category of Structured Topological Spaces	Fernando Guzman
2002	Gary Greenfield	Variance Estimation After Using the Chow-Robbins Stopping Rule to Determine a Fixed Width Confidence Interval For the Mean of a Normal DistributionFall	Shelemyahu Zacks
2002	Matthew Haner	Random Designs in Factorial Experiments For Estimation And Searching	Shelemyahu Zacks
2002	David H. Rosenthal	Splitting With Continuous Control In Algebraic K-Theory	Erik Kjær Pedersen
2002	Steven Tedford	A Characterization of the Mixed Branching Greedoid	Thomas Zaslavsky
2003	John Donnelly	Properties of Richard Thompson's group F related to amenability	Matthew G. Brin
2003	Ivonne Ortiz	The Lower Algebraic K-theory of Gamma_3	Thomas Farrell
2003	Joe Petrillo	The Cover-Avoidance Property in Finite Groups	Benjamin Brewster
2003	Xueqin Wang	The Properties of the Theil-Sen Estimator	Qiqing Yu
2004	Marlo Brown	Detection of Change-Points in Categorical Data	Shelemyahu Zacks
2004	Nicholas Koban	Controlled Topology Invariants of Translation Actions	Ross Geoghegan
2004	Lori Koban	Two Generalizations of Biased Graph Theory: Circuit Signatures and Modular Triples of Matroids, and Biased Expansions of Biased Graphs	Thomas Zaslavsky

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2004	Omar Saldarriaga	Fusion Algebras, Symmetric Polynomials, Orbits of Elementary N-Groups, and Rank-Level Duality	Alex Feingold
2004	Ron Sperber	Sperber A Comparison of Assembly Maps in Algebraic K-Theory	
2005	Collin Bleak	Solvability in Groups of Piecewise Linear Homeomorphisms of the Unit Interval	
2005	Rigoberto Florez	Four Studies in the Geometry of Biased Graphs	Thomas Zaslavsky
2005	Fanhui Kong	Asymptotic Distributions of Buckley-James Estimator	Qiqing Yu
2005	Joshua Palmatier	M-Zeroids: Structure and Categorical Equivalences	Fernando Guzman
2006	Olga Salazar-Diaz	Thompson's Group V From A Dynamical Viewpoint	Matthew G. Brin
2006	Joseph Smith	Groups whose normalizers form a chain	Benjamin Brewster
2006	Yishi Wang	Some New Tests for Normality	Miguel Arcones
2007	Risto Atanasov	Groups of Geometric Dimension 2	Ross Geoghegan
2007	Cuixian Chen	Asymptotic Properties of the Buckley-James Estimator for a Bivariate Interval Censorship Regression Model	Qiqing Yu
2007	Jichang Du	Covariate-matched estimator of the error variance in nonparametric regression	Anton Schick
2007	Tom Klein	Filtered ends of pairs of groups	Ross Geoghegan
2007	John Loftus	Powers of Words in Language Families	Tom Head
2007	Gabriela Mendoza	On some minimality conditions involving elements of prime order in a group G	Luise-Charlotte Kappe
2008	Leandro Junes	Duality of Higher Order Non-Euclidean Property for Oriented Matroids	Laura Anderson
2008	Silvia Millan-Vossler	The Whitehead Group and the Lower Algebraic K-Theory of Braid Groups on S2 and RP2	
2008	Seshendra Pallekonda	Bounded Category of an Exact Category	Erik Kjær Pedersen
2008	Peggy Sullivan	DNA Computing with Cutting, Pasting, Filtering and Washing	Dennis Pixton
2008	Nigar Tuncer	Globalization Theorems in Topology	Patricia McAuley
2008	Bronlyn Wassink	Subgroups of R. Thompson's Group F that are Isomorphic to F	Matthew G. Brin
2009	Garry Bowlin	Maximum Frustration of Bipartite Signed Graphs	Thomas Zaslavsky
2009	Ilir Snopce	Lie Methods on Pro-p Groups	Marcin Mazur
2009	Jiaping Wang	The Generalized MLE with the Censored and Masked Competing Risks Data	Qiqing Yu
2010	Keith Jones	Controlled Connectivity for Cocompact Isometric Actions on Simplicial Trees	Ross Geoghegan
2010	Gina Kucinski	Duality for the Algebra of Conditional Logic	Fernando Guzman
2010	Lucas Rusnak	Oriented Hypergraphs	Thomas Zaslavsky
2010	Viji Thomas	The Box-Tensor Product: A Generlization of the Nonabelian Tensor Product	Fernando Guzman and Luise- Charlotte Kappe
2010	Elizabeth Wilcox	Complete Finite Frobenius Groups and Wreath Products	Benjamin Brewster
2010	Peng Zhang	Prediction in heteroskedastic autoregressive models	Anton Schick
2011	Yu-Ting Hsu	Statistical Analysis of Firm Interdependence Using Duration Data	Qiqing Yu
2011	Dandrielle Lewis	Containment of subgroups in a direct product of groups	Benjamin Brewster
2011	Xiao Xiao	Invariants of F-crystals	Adrian Vasiu
2012	Adriano DeOliveira	A Geometric Version of the Twisted Nil-Groups	Pedro Ontaneda
2012	Dina Haner	On Two-Stage and Three-Stage Sampling Procedures for Fixed-Width Interval Estimation of the Common Variance of Correlated Normal Random Variables	Shelemyahu Zacks
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2012	Martha Kilpack	The Lattice of Closure Operators and the Algebraic Lattice of Algebraic Closure Operators	Fernando Guzman
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2012	Nathan Reff	Gain Graphs, Group-Oriented Hypergraphs, and Matrices	Thomas Zaslavsky
	Cristina Salviano	The Index Space of a Geodesic	Pedro Ontaneda
	Fatima Jaafari	Adaptive Method for Estimating The Mean of a Finite Population	Shelemyahu Zacks
	Jackie Kaminski	Classification of Factored Gain-Graphic Hyperplane Arrangements	Thomas Zaslavsky
2013	Jackie Kaminski		THOMAS Zasiavsky
2013	Christopher Mauriello	Branching Rule Decomposition of Irreducible Level-1 $\rm E_6^{(1)}$ -modules with respect to $\rm F_4^{(1)}$	Alex Feingold
2013	Barry Minemyer	Isometric Embeddings of Polyhedra	Pedro Ontaneda
2013	Adam Perry	Modular subgroups and related transitive algebraic relations in direct products of finite groups.	Benjamin Brewster
2013	Amanda Ruiz	Realization Spaces of Phased Matroids	Laura Anderson
2013	Yifan Xu	On First Crossing Times of Mixed Compound Poisson Processes Under Various Boundary Conditions with Applications in Queuing and Risk Theories	Shelemyahu Zacks
2013	Can Zhang	Two-Stage and Sequential Procedures for the Behrens-Fisher Problem	Shelemyahu Zacks
2014	Ryan McCulloch	The Chermak-Delgado Lattice of Finite Groups	Benjamin Brewster
2014	Slobodan Tanusevski	Generalized Thompson Groups	Marcin Mazur
2014	Xiaolei Wu	Farrell-Jones Conjecture for the Solvable Baumslag-Solitar Groups	Thomas Farrell
2015	Ding Ding	Canonical Barsotti - Tate Groups of Level m	Adrian Vasiu
2015	Wenyu Du	Accurate and efficient numerical performance evaluation of the Generalized Shiryaev-Roberts procedure for quickest change-point detection.	Aleksey Polunchenko
2015	Jinghao Li	Purity Results on F-crystals	Adrian Vasiu
2015	Qiyi Lu	Learning Partially Labeled Data in the High-dimensional, Low-sample Size Setting	Xingye Qiao
2015	Gangotryi Sorcar	Non Triviality of the Fundamental Group of the Teichmuler Space of Negatively Curved Metrics of a Non-Locally Symmetric Negatively Curved Manifold	Thomas Farrell
2016	Nan Bi	Empirical Likelihood for a Class of Semiparametric Regression Models	Anton Schick
2016	Mauricio Bustamante	On the topology of the space of pinched negatively curved metrics with finite volume and identical ends	Thomas Farrell and Pedro Ontaneda
2016	Qinggang Diao	Cox Proportional Hazards Model with Time-Dependent Covariates	Qiqing Yu
2016	Diego Penta	Decomposition of the Rank 3 Kac-Moody Lie Algebra F with Respect to the Rank 2 Hyperbolic Subalgebra Fib	Alex Feingold
2016	Yilin Zhu	Estimation of the Error Distribution in a Varying Coefficient Regression Model	Anton Schick
2017	Jeremy Hauze	Restrictions on potential automatic structures on Thompson's group F	Matthew G. Brin
2017	Simon Joyce	Interaction Graphs Derived From Activation Functions and Their Application to Gene Regulation	Thomas Zaslavsky
2017	Andrew Kelley	Maximal subgroup growth of some groups	Marcin Mazur
2017	Alexander Schaefer	Permutable Matchings and Negative Cycle Vectors	Thomas Zaslavsky
2017	Amanda Taylor	Locally solvable subgroups of PLo(I)	Matthew G. Brin
2018	Richard Behr	Edge Coloring and Special Edges of Signed Graphs	Thomas Zaslavsky
2018	Eran Crockett	On a Class of Nilpotent Algebras	Fernando Guzman
2018	Junyi Dong	Marginal Distribution Method for Checking Regression Model Assumption	Qiqing Yu
2018	Xiaojie Du	Inference in Linear Regression with Symmetric Errors: An Empirical Likelihood Approach Anton Schick	
2018	Binbin Huang	On a Pseudodifferential Calculus with Modest Boundary Condition	Paul Loya
2018	Ruiqi Liu	Identification and estimation in panel models with over specified number of groups Anton Schi	
2018	Patrick Milano	Mixed Ghost Space	Alexander Borisov
	Rachel Skipper	On a generalization of the Hanoi towers group	Marcin Mazur

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2018	Ting Su	Extensions of Matroids Over Tracts and Doubly Distributive Partial Hyperfields	Laura Anderson
2018	Adam Weisblatt	Geometric techniques for Laplace and Dirac Operators	Paul Loya
2019	Kyle Bayes	Index Theorem for Closed Geodesics	Pedro Ontaneda
2019	Joseph Cyr	Subdirectly Irreducible Binary Modes	Fernando Guzman
2019	Chen Liang	Goodness-of-fit Tests for Spatial Cluster Point Process Models	Xingye Qiao and Ganggang Xu
2019	Kunal Sharma	Adiabatic Limit of Calderon Projector on Manifold with Cylindrical End	Paul Loya
2019	Wenbo Wang	Set-Valued Classification Via Confidence Set Learning	Xingye Qiao
2019	Lin Yao	James-Stein-Type Optimal Weight Choice for Frequentist Model Average Estimator	Xingye Qiao and Ganggang Xu
2019	Changwei Zhou	Some Results on Arakelov Theory of Arithmetic Surfaces	Alexander Borisov
2020	Yinsong Chen	Counting and Sampling Ribbon Tilings of Rectangles	Vladislav Kargin
2020	Charles (Matt) Evans	Spectral Properties of Commutative BCK-Algebras	Fernando Guzman
2020	Yuan Fang	Model-based Clustering Approaches For Non-Gaussian Data	Sanjeena Dang
2020	Amelia Mattern	Deficiency in Signed Graphs	Thomas Zaslavsky
2020	Haomiao Meng	Machine Learning Methods on Selected Topics of Precision Medicine	Xingye Qiao
2020	Theodore Ofner	Warped Product Constructions Relating to Graphs of Groups	Pedro Ontaneda
2021	Kexuan Li	On the Characteristics of the Generalized Shiryaev-Roberts Procedure for Quickest Change-Point Detection in Continuous Time	Aleksey Polunchenko
2021	Wangshu Tu	Model-based clustering approaches for microbiome data	Sanjeena Dang
	Olakunle Abawonse	On the topology of flags of oriented matroids & spaces of flattenings of spheres	Laura Anderson
2022	Ulysses Alvarez	On the topology of corank 1 tropical phased matroids	Laura Anderson and Ross Geoghegan
2022	Joshua Carey	Branching rule decomposition of the level-1 $E_8^{(1)}$ -module with respect to the irregular subalgebra $F_4^{(1)}$ \oplus $F_2^{(1)}$	Alex Feingold
2022	Mengyu Chen	An Empirical Likelihood Approach with Bivariate Data	Anton Schick
2022	Zachary Costanzo	Fields of values of characters of finite groups	Hung Tong-Viet
2022	Jonathan Doane	Boolean twice monoids	Fernando Guzman
2022	Christopher Eppolito	Matroids: Mystic Monoliths, Meta Missiles, and Myopic Meadows	Thomas Zaslavsky and Laura Anderson
2022	Shaofei Zhao	Theory and application about variable selection approaches for high dimensional genomic data	Guifang Fu
2023	Pat Carney	Application of the Theory of Farey Fractions to the Combinatorics of Some Compactifications of the Affine Plane	Alexander Borisov
2023	Nicholas Lacasse	Signed Graphs & Gain Graphs:Packing, Root Systems,Alcoves & Arrangements	Thomas Zaslavsky
2023	Sarah Lamoureux	Arithmetic Differential Operators on Compact DVRs	Adrian Vasiu
2024	Michael Gottstein	Partitions and Gain Graphs	Thomas Zaslavsky
2024	Shiyi Ma	Continuity of Curve Shortening Flow and Enumeration of Nerves	Michael Dobbins
2024	Sayak Sengupta	Iteration of Polynomials over Integers	Alexander Borisov and Adrian Vasiu
2024	Zhou Wang	Set-valued Classification and Conformal Prediction in Out-of-distribution Detection and Bandit Feedback Settings	Xingye Qiao
2024	Zengyan Zhang	Numerical Approximations and Model Order Reduction for Phase Field Equations with Application in Cellular Dynamics	Jia Zhao
2025	Meenakshy Jyothis	"Towards Ivanvo's meta-conjecture for geodesic currents"	Eugenia Sapir
2025	Garrett Proffitt	On subsurface growth rates in infinite-type surfaces	Eugenia Sapir
2025	Baozhen Wang	Conformal Prediction Methods for Distribution Shifts & Casual Effect Estimation	Xingye Qiao
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