The annual AMS list of doctoral degrees in the mathematical sciences and related subjects reports 855 degrees conferred between July 1, 1987, and June 30, 1988 by 207 departments in 143 universities in the United States and Canada. Each entry contains the name of the recipient and the thesis title. The numbers in parentheses following the names of universities have the following meanings: the first number is the number of degrees listed for that university; the next seven numbers are the number of degrees in the categories of 1. Pure mathematics (i.e., algebra, number theory, analysis, functional analysis, geometry, topology, logic, or probability); 2. Statistics; 3. Computer science; 4. Operations research; 5. Applied mathematics; 6. Discrete mathematics; 7. Other.

ALASKA

University of Alaska
(1;0,0,0,0,1,0)

University of Alaska

Olmsted, Coert D., The algebra of interpolation with applications in finite multivariate polynomial, countable real harmonic, and countable complex holomorphic interpolation.

Arizona

University of Arizona
(1;0,0,0,1,0)

Mathematics

Davey, Robert Michael, SMJ analysis of monodromy fields.

Hadida, Ahmed M., A partially ordered semigroup of Boolean spaces.

Modisett, Matthew Clayton, A characterization of the circularity of certain balanced incomplete block designs.

ARKANSAS

University of Arkansas
(1;0,0,0,0,0)

Mathematical Sciences

Bello, Mohammed Yahuza, On some categories of groupoids.

CALIFORNIA

California Institute of Technology
(1;0,0,0,0,0,0,0)

Applied Mathematics

COX, Robert W., A model for stress-driven diffusion in polymers.

Ward, Michael J., Asymptotic methods in semiconductor device modeling.

Mathematics

Glaffig, Clemens Heinz, Smoothness of the integrated density of states for random Schrödinger operators on multidimensional strips.

Hardarson, Askell, Doublewell tunneling via the Feynman-Kac formula.

Hungerford, Gregory Jude, Boundaries of smooth sets and singular sets of Blaschke products in the little Bloch class.

Claremont Graduate School
(1;0,0,0,1,0)

Mathematics

Fryer, Samuel Harvey, Mathematical models of typhoid fever.

Stanford University
(13;0,0,0,4,2,0,7)

Engineering-Economic Systems

Ardell, Gary Lynn, Discovery process modeling.

Bonduelle, Yann Frank, Aggregating expert opinions by resolving sources of disagreement.


Del Sol-Guzman, Patricio, Dominant firm and competitive fringe interaction in exhaustible resource markets.

Derby, Stephen, An approach to using experts in decision analysis.

Gupta, Akhil, Technology, power and the state in a complex agricultural society: The green revolution in a North Indian village.

Parikh, Prashant, Language and strategic inference.

Park, Chulho, Interactive marketing decision system for a highly differentiated product in a growing market.

Sauer, Gerald, Flexibility and surplus/shortage decisions.

Strait, R. Scott, Decision analysis of strategic information.

Teisberg, Elizabeth Olmsted, Capital investment strategies under regulation: A binomial option pricing approach.

Wan, Shao-Hong, Maximum path return method.

Ye, Yinyu, Polynomial time algorithms for linear and quadratic programming.
University of California, Berkeley
(5;30,3,1,6,4,0,7)

BIOSTATISTICS
Bacchetti, Peter, Binary additive isotonic regression.
Galai, Noy, Models of insulin kinetics in juvenile diabetes: Parameter identifiability, estimation and experimental design.
Raz, Jonathan, Testing for no effect when estimating a smooth function by nonparametric regression: A randomization approach.
Smith, Bruce R., The neurophysiological quantal hypothesis.

INDUSTRIAL ENGINEERING AND OPERATIONS RESEARCH
Birger, S. Chet Bradley, Approximate stochastic behavior of a voice/data multiplexer.
Chow, Tat-Chi, Forecasting severe nuclear accidents.
Goncalves, Jose Fernando, Continuous time analysis of production planning and scheduling models.
Khella, Malick, On the partitioning of graphs and hypergraphs.
Lee, Kyung Keun, Inventory management by nonlinear order quantity pricing.
Popken, Douglas Allen, Multiattribute multicommodity flows in transportation networks.
Resende, Mauricio Guilherme DeCarvalho, Shop floor scheduling of semiconductor wafer manufacturing.

MATHEMATICS
Aslaksen, Helmer, Laws of trigonometry on SU(3).
Baker, Peter Fritz, Embedding games.
Botelho, Maria Fernanda, Mappings of the annulus.
Cheung, Chi Keung, Negative holomorphic sectional curvature and hyperbolic manifolds.
Detre, Peter Andrew, Multipliers of weighted Lebesgue spaces.
Dziurzyński, Ryszard Stanislaw, Patches of electrons and electron sheets for the l-D Vlasov-Poisson equation.
Gao, Feng, Probabilistic analysis as a paradigm for error estimation in automatic integration.
Grzegorczyk, Piotr Maria, Topics in dynamical systems.
Kapouleas, Nicolaos, Constant mean curvature surfaces in $\mathbb{E}^3$.
Kearnes, Keith Alan, Topics in algebra: Injective completeness, fine spectra and relative presentability.
Kobayashi, Mei, Discontinuous inverse Sturm-Liouville problems with symmetric potentials.
Kusner, Robert Bernard, Global geometry of extremal surfaces in three-spaces.
Lamoureux, Michael Philip, Analytic isomorphism of transformation group C*-algebras.
Leung, Ka Hin, Orderings, valuations on division rings and generalizations of Albert's theorem.
Lorenzini, Dino Jacques, Degenerating curves and their Jacobians.
Lotto, Benjamin Aron, Multipliers of $H(B)$.
May, Michael Kerry, Triangular hereditary rings and localization with respect to Sylvester rank functions.
Mbanefo, Uyammadu, Mixed boundary-value problems of stress singularities in the neighborhood of a fractured and deboned fibre embedded in an infinite elastic matrix.
Melo, Severino Toscano do Rego, Comparison algebras with periodic symbols.
Moura Neto, Francisco Duarte, Interactions of topological defects in a dissipative system.
Naparst, Harold Lance, Radar signal choice and processing for a dense target environment.
Oh, Young-Guen, Nonlinear Schrödinger equations with potentials: Evolution, existence and stability of semiclassical bound states.
Pai, Chikaung, Quasitriangular operators in $L_\infty$ factors.
Pedrosa, Renato Hydra de Luna, On the uniqueness of isoperimetric regions in cylindrical spaces.
Povyse, Jerome John, Amalgams of type $(L_\infty, \Sigma_3)$. 
Prapavessi, Despina Theophanis, On Jacobi sum Hecke characters of conductor a power of 2.
Reach, Michael Keith, Difference relations for solutions to differential equations.
Smith, Tara Lynn, Some 2-groups arising in quadratic form theory and their generalizations.
Spira, Michel, Witt rings and Galois groups.
Stevenhagen, Peter, Class groups and governing fields.
Williamson, Clifton James, Odd degree polynomials with dihedral Galois groups.
Wong, Yan Loi, Band-passes and the ARF invariant of a knot.
Wright, Paul Emerson, Darboux transformations, algebraic subvarieties of Grassman manifolds, commuting flows and bispectrality.

STATISTICS
Chaudhuri, Probal, Asymptotic theory of nonparametric estimation of conditional quantiles.
de la Peña Diaz Infante, Victor Hugo, L-bounds of best possible type for martingales, degenerate U-statistics, and certain linear forms.
Krebs, William Bernard, A diffusion designed on a fractal state space.
Liu, Richard Chieng, Geometry in robustness and nonparametrics.
Marchetti, Ettore, Statistical inference in doubly stochastic point processes.
Song, Jae Kee, Statistical inference in models based on the percentile lifetime function.

University of California, Davis
(7;1,4,0,0,1,1,0)

MATHEMATICS
Anastas, Miranda, Strong universal covers.
Hawkes, Dorothy Albertson, Structure of Tor and related problems.
Peters, Craig Steven, Application of the WKB method to stochastic problems in operations research and biology.

STATISTICS
Clark, Matthew Merrill, A Bayesian procedure for selecting the best multinomial cell with the option of equality.
Gangopadhyay, Ashis K., Nonparametric estimation of conditional quantile function.
Pawitan, Yudianto, Estimation of spectral components and deconvolution of time series.
Tendick, Patrick H., Bias correction and measures of confidentiality in data security.
University of California, Irvine
(3;2,0,0,0,0,1)

**Mathematics**

Dang, Truong Cao, Classification and isometries of operator triple systems.

Speis, Athanasios, Smoothness of the density of states in the Anderson model on a one-dimensional strip.

Thomé, Bernhard Peter, $\mathbb{R}_1$-separable groups, Kaplansky's test problems, and endomorphism rings.

University of California, Los Angeles
(17;8,2,0,1,3,0,3)

**Biostatistics**

Poon, Wai-Yin, Analysis of polytomous variable models: Maximum likelihood and related approaches.

Roe, Denise Joanne, The design of longitudinal studies to assess population changes in pulmonary function.

Su, Hong-Lin, Estimation of standard errors in multivariate models when some observations are missing.

**Mathematics**

Agnan, Christine, Statistical curve fitting by Fourier techniques.

Bennish, Joseph, Mixed initial boundary value problems for hyperbolic equations with constant coefficients.

DuBose, Derrick, The equivalence of determinacy and sharps.

Henderson, Janet Nora, Isospectral periodic potentials in dimensions three and higher.

Jamshidian, Mortaza, Applications of the conjugate gradient methods in statistical computing.

Kim, Kang-Tae, Domains with noncompact automorphism groups.

Lee, Jeffrey Marc, Eigenvalues of the Laplacian on Riemannian manifolds.

Mostrel, Marco Mosche, On some numerical schemes for transonic flow problems.

Saidi, Samira, Perfect error-correcting codes.

Sun, Ziqi, On the uniqueness for multidimensional inverse problems in partial differential equations.

Wang, Ju, Projectivities and minimal blocks in algebraic systems.

White, Gregory Brian, The nonrelativistic limit of the Dirac operator. Splitting of the operator and classification of the discrete spectrum.

Yao, Shun-tian, On strategic market games.

Yoshiwara, Bruce William, Bounded harmonic functions and distinguished evaluations.

University of California, Riverside
(11;1,0,0,0,0,0,0)

**Mathematics and Computer Science**

Sroka, Joseph James, pNA games through infinite-dimensional Banach spaces.

University of California, San Diego
(10;6,1,0,0,0,0,3)

**Mathematics**


Hickling, Fred, A class of slice links in dimension four whose complement is homotopy equivalent to a wedge of circles.

Karabeg, Almira, $PQ$-tree data structure and some graph embedding problems.

Lin, Xiao-Song, Artin-type representation theorems and Milnor's $\mu$-invariants.

Morandi, Patrick James, Valuation rings in division rings and central simple algebras.

Rush, Jason Alexandre, Packing.

Toby, Ellen Haynes, Birth and death of a Markov process under a stationary measure.

Tran, Cam Van, Matrix representations of binary connected equicardinal matroids.

Trostle, Jonathan Todd, Involutions, acyclic orientations, and chromatic polynomials of graphs.

Zack, Randal Lee, Some calculations of Hochschild homology.

University of Colorado, Santa Barbara
(3;2,1,0,0,0,0,0)

**Mathematics**

Cordy, Cliff Bernard, III, Intersection conditions and near intersection conditions for path derivatives.

Rodrigues, Brian Charles, Fenchel duality in frechet spaces.

University of Colorado, Boulder
(3;2,0,0,0,0,0,1)

**Mathematics**

Harnett, Gerald, Global potentials for zero rest mass fields.

Jones, Earl P., Some multiplicative subgroups of the positive rationals.

Ohring, Peter, Solvability of left invariant differential operators on certain solvable Lie groups.

University of Colorado, Denver
(1;0,0,0,0,0,1,0)

**Mathematics**

Hefner, Kim Anita Sidwell, Directed biclique covers and partitions of digraphs.

University of Northern Colorado
(7;0,5,0,1,0,0,1)

**Mathematics and Applied Statistics**

Chalermpraseert, Chaiyavit, A study of Thai student polyphasic values by factor and multiple linear regression analyses.
Magyar, Peter, Characteristic group and essential convergence of infinite series of independent random variables.

Prezbinda, Tomasz, The oscillator duality correspondence for the pair $O(2, 2)$, $Sp(2, R)$.

Sauter, John Kurt, Jr., Isomorphisms among monodromy groups and applications to lattices.

Statistics

Escobar, Michael David, Estimating the means of several normal populations by nonparametric estimation of the distribution of the means.

Wan, Jim, Competing risks with covariates.

DELAWARE

University of Delaware

(2;0,1,0,0,1,0,0)

Mathematics

Morgenstern, Elizabeth, An alternative method for the analysis of qualitative data obtained in embryo/fetal toxicity studies.

Root, Robert, Boundary value problems for degenerate elliptic-parabolic fourth order equations.

DISTRICT OF COLUMBIA

American University

(2;0,0,0,0,1,0,1)

Mathematics, Statistics and Computer Science

Montemezzi, Marco, Green's function methods for the polyharmonic equation.

Smith, Elaine, Culture in elementary mathematics education for African-American learners: Enhancing achievement through curricular design.

George Washington University

(2;0,0,0,2,0,0,0)

Operations Research

Ahmed, Mohamed Abdel-Aziz, Composite analytical/simulation models for multi-echelon repairable item systems.

Polster, Robert, A technique for interpolating system response to parametric perturbations in simulation.

Howard University

(2;2,0,0,0,0,0,0)

Mathematics

Davenport, Dennis, The algebraic properties of closed subsemigroups of ultrafilters on a discrete semigroup.

Umoh, Hanson, The ideal of products in $S/S$.

FLORIDA

Florida State University

(4;0,4,0,0,0,0,0)

Statistics

Danaher, Peter, Estimating the audience for a magazine advertising campaign.

Rueda, Norma, Generalized convexity in nonlinear programming.

Santana, Paulo, Finite horizon singular control and a related two-person game.

Utikal, Klaus, Inference for a nonlinear semimartingale regression model.

University of Florida

(6;2,0,1,1,0,0)

Industrial and Systems Engineering

Sepil, Canan Ayse, Dual simplex algorithms for network flow problems and extensions.

Mathematics

Choudury, Gilbert, Fully discrete Galerkin approximation of parabolic boundary value problems with nonsmooth boundary data.

Davis, Steven, Single valued and set valued integrals in locally convex spaces.

Lindsey, Charles, Two-parameter stochastic processes with finite variations.

Statistics

Gallo, Jose Gallo, Exact test for fixed and random effects in unbalanced linear mixed model.

Peters, Dawn, Rank test for the one-two-sample by variate location problems.

University of South Florida

(3;3,0,0,0,0,0,0)

Mathematics

Clarsen, Virginia H., Mathematical classification of evoked potential waveforms.

Kerr, David, Perturbations of monotone operators in Banach space.

Simkani, Mehrdad, Asymptotic distribution of zero of approximating polynomials.

GEORGIA

Emory University

(1;0,0,0,0,1,1,0)

Mathematics and Computer Science

Lindquester, Terri E., The effects of distance and adjacency conditions on Hamiltonian properties in graphs.
ILLINOIS

Illinois Institute of Technology
(3;1,0,0,2,0,0)
MATHEMATICS
Getachew, Dawit, Numerical computations in problems of fluid flow instability.
Naccarato-Grosspietsch, Elise F., A mathematical/control-theoretical model of the neuromuscular reflex loop with FES
Wyzinski, Henry Lawrence, Functional equations of van der Waerden type.

Illinois State University
(3;0,0,0,0,0,3)
MATHEMATICS
Brown, Gary L., Jean D'Alembert, mixed mathematics and the teaching of mathematics.
Engstrom, Ron, The effects of logic on achievement in intermediate algebra.
Konkar, Haifa, Graph theory as an introduction to methods of proof and problem solving.

Northwestern University
(6;4,0,0,0,0,0)
MATHEMATICS
Franzen, Mark, A unification algorithm for simple theories.
Holmgreen, Richard A., Morse-Smale diffeomorphisms of the three sphere.
Kennedy, Stephen, A Lorenz-like strange attractor.
Martino, John, Stable splittings and the Sylow 2-subgroups of $\text{SL}_2(F_q)$, $q$ odd.
Minami, Norihiko, Multiplicative homology operations and transfer.
Towsnes-Kulich, Lisa, Investigations of the integral cohomology ring of a finite group.

University of Chicago
(12;9,1,0,0,2,0,0)
GRADUATE SCHOOL OF BUSINESS
Allenby, Greg, The identification, estimation and testing of demand structures.

MATHEMATICS
Arbogast, Todd James, Simulation of incompressible, miscible, displacement in a naturally fractured petroleum reservoir.
Cho, Yong-Seung, Finite group actions on the moduli space of self-dual connections.

Curran, Stephen J., Intersection homology and group actions on Witt spaces.
Dembski, William A., Chaos, uniform probability, and weak convergence.
Herrmann, Diane Lynn, Generalized quadrangles in P-groups.
Letzter, Gail Rebecca, The algebraic hypercenter and integrality of $i$-adic completions.
Mourad, Karim Joseph, Fragments of arithmetic and the foundations of the priority method.
Murnaghan, Fiona, Meromorphic invariant distributions on $p$-adic $GL(N)$.
Nagata, Masatsugu, The equivariant homotopy type of the classifying space of normal maps.
Stokes, Mitchell P., Faithfulness, fitting ideals, and duality.
Wang, Junping, Asymptotic expansions and $L^\infty$-error estimates for mixed finite element methods for second order elliptic problems.

University of Illinois, Chicago
(7;3,0,3,0,1,0,0)
MATHEMATICS, STATISTICS AND COMPUTER SCIENCE
Dietzfeldinger, Martin, Lower bounds on computation time for various models in computational complexity theory.
Gialamas, Stefanos, Determining vanishing Massey triple products.
Kirchherr, Walter W., Reversal bounded turing machines.
Lu, Mei Liu, Self-stabilization of fault-tolerant clock synchronization.
Solakiewicz, Richard, Scattering by an obstacle in a half-space bounded by a penetrable outerface.
Yu, Yung, The invariant polynomials of finite subgroups of special linear group in three variables over complex numbers.

University of Illinois, Urbana-Champaign
(12;8,2,0,0,2,0,0)
MATHEMATICS
Cobb, Philip Abram, Existence and conjugacy of Hall subgroups and embedding of $\pi$-subgroups.
Kim, Saee Oh, Projective resolutions of generic order ideals.
Kratzke, Thomas Martin, Total interval number of a graph.
Mora, Carlos Arturo, Subspaces of dualless spaces.
Pang, Peter Yu-Hin, Minimal models and Riemannian foliations.
Sportsman, Joseph Scott, Automorphism groups of the augmented distance graphs of trees.
Srivastav, Anupam, Swan modules and elliptic functions.
Weaver, Margaret Denise (Lefevre), Graph labelings.
Wheeler, Ferrell Shane, On two differential-difference equations arising in analytic number theory.
Wong, Shek-Tung, Analytic continuation and functional equations of cuspidal Eisenstein series for maximal cuspidal subgroups.

STATISTICS
Fakhre-Zakeri, Issa, Sequential confidence sets with guaranteed coverage probability and beta-protection in multi-parameter families.
Kim, Sung Lai, Sequential confidence sets with β-protection in the presence of nuisance parameters.

INDIANA
Purdue University
(26;5,4,1,3,2,0,11)

INDUSTRIAL ENGINEERING
Campbell, Brian, Steiner tree problems on special planar graphs.
del Greco, John G., Representations of bicircular matroids and the complexity of recognizing a class of generalized network flow matrices.
Ferreira, Placid, Adaptive accuracy improvement of machine tools.
Garg, Chaya, Development of a methodology for knowledge elicitation for building expert systems.
Harmonosky, Catherine, An approach to generalized analysis of automated manufacturing systems through classification.
Hsu, Danny, A new approach to select strategy for developing countries to build a machine tool industry.
Huang, Shiu-Ling, Expert systems for grading hardwood lumber.
Joshi, Sanjay, CAD interface for automated process planning.
Koubek, Richard, Toward an understanding of super-expert cognitive performance: implications for expert systems and software engineering.
Liang, Gau-Rong, Logic approach to surface-generating problem.
Maley, James G., A combinatorial optimization solution strategy with application to transport systems.
Occena, Luis, A pattern directed inference approach to hardwired log breakdown decision automation.
Sudit, Moises, Paroloids: a generic environment for local search.
Wu, Muh-Cherng, A new methodology for automatic process planning and execution based on adaptive information modeling.

MATHEMATICS
Haji-Ghassemi, Kamran, Generalized gradients of value functions in optimal control.
Klingenberg, Wilhelm Hans, On compactness of sequence of proper holomorphic maps.
Kong, Kam Cheung, Residues of holomorphic vector fields and sections of vector bundles.
Lin, Ja-Chen, Rational L²-approximation with interpolation.
McNeal, Jeffery Dean, The Bergman kernel function in C².
Roberts, Gordon Reed, Smoothness of CR maps between certain finite-type hypersurfaces in C².
Sternfeld, James Fredric, The effect of a strict cut-off on quantum field theory.
Verma, Jugal Kishore, Unmixed local rings, symbolic topologies of ideals and quasi-factorial domains.

STATISTICS
Angers, Jean-François, Development of robust estimators for a multivariate normal mean.
Fong, King-Hoi, Ranking and estimation of exchangeable means in balanced and unbalanced models: a Bayesian approach.
Han, Sang Hyun, Contributions to selection and ranking procedures with special reference to logistic populations.
Lu, Kun-Liang, Estimated loss frequentist approach.

University of Notre Dame
(5;5,0,0,0,0,0,0)

MATHEMATICS
Chen, Wanxi, Cartan’s conjecture: defect relations for meromorphic maps from parabolic manifold to projective space.
Gandhi, Malan, Invariant distances on manifolds.
Im, Bokhee, The automorphisms of unipotent radicals of certain parabolic subgroups of symplectic groups.
Nayak, Bhanumati, Hermitian Morita theory and the unitary groups.
Wisniewski, Jaroslaw, Length of extremal rays and applications.

IOWA
Iowa State University
(14;3,7,0,1,2,0,1)

MATHEMATICS
Chung, Seiyoung, Dual algorithm for L₁ isotonic optimization on a partially ordered set.
Debnath, Joyati Chakraborty, N-dimensional Laplace transforms with associated transforms boundary value problems.
Dood, Frank Albert, Theorems on unilateral, bilateral multidimensional Laplace transforms with partial differential equations.
Pennings, Timothy James, Extension of dynamical systems.
Schmidt, Robert Craig, The numerical solution of linear first kind Fredholm integral equations using an iterative method.
Tamraz, Abdullah Jamil, Bifurcation of periodic solutions of singularly perturbed delay differential equation.

STATISTICS
Eltinge, John L., Measurement error models for time series.
Francisco, Carol Ann, Estimation of quantiles and the interquartile range in complex surveys.
Hasabelnaby, Nancy, The use of a weighting function in measurement error regression.
Lee, Mong-Hong, Strongly consistent modified maximum likelihood estimation of U-shaped hazard functions.
Lin, Tsung-Hua, Confidence sets for the rates of variance components in a mixed linear model with two variance components.
Morel, Jorge, Multivariate nonlinear models for vectors of proportions: A generalized least squares approach.
Zimmerman, M. Bridget Tirol, Computational aspects and statistical applications of the transportation problem of linear programming.

University of Iowa
(15;9,4,0,0,2,0,0)

APPLIED MATHEMATICAL SCIENCES
Castelfranco, Ann Marie, Nonlinear feedback processes in models of neuronal excitability.

Mathematics
Iverson, Paul Douglass, Derivatives of linear orderings with applications to the first order theory of Boolean algebras.
Kang, Byang Gyun, *-Operations on integral domains.
Ling, Kuen-Shan, Representations of non-self-adjoint algebras.
Mena-Lorca, Jaime Juan, Periodicity and stability in epidemiological models with disease-related deaths.
Othman, Sadoon Ibrahim, Grothendieck measures and strict topologies.
Saavedra-Guzman, Jorge Hiltch, Numerical solution for Laplace's equation on non-simply connected regions.
Widmer, Lamarr Clayton, Identities in alternative rings.
Xue, Weimin, On exact Artinian rings and Morita duality.
Ye, Xiang Dong, Semigroup of quotients.

STATISTICS AND ACTUARIAL SCIENCE
Du Mond, Charles Edward, Adaptive robust L-estimates of scale with applications to a test of homogeneity of variances.
Hillis, Stephen L., M-estimation of location for censored data.
Kelly, Robert E., Estimation error under the simple tree order restriction.
Mendieta, Gonzalo, Two hyperfinite approximations to the Brownian bridge.

University of Kansas
(1;1,0,0,0,0,0,0,0)

MATHEMATICS
Scheepers, Marion, The meager-nowhere dense game.

LOUISIANA

Louisiana State University,
Baton Rouge
(4;3,0,0,0,0,1,0)

MATHEMATICS
Berger, Ruth, Class numbers and units of number fields E with elementary abelian $K_2(G)$.
Redfern, Mylan, White noise approach to multiparameter stochastic integration.
Reid, Talmage James, On roundedness in matroid theory.
Rivero, Francisco, Group actions on minimal functions over finite fields.

Tulane University
(2;1,0,0,0,1,0,0)

MATHEMATICS
Lin, Chin-Yuan, Degenerate nonlinear parabolic boundary value problems.
Siddoway, Michael Frank, On endomorphism rings of modules over Henselian rings.

MARYLAND

Johns Hopkins University
(7;4,1,0,1,0,0,0,1)

BIOSTATISTICS
Connolly, Margaret Anne, Logistic models for familial association of binary traits.

MATHEMATICAL SCIENCES
Christofides, Tassos C., Maximal probability inequalities for multidimensionally indexed semimartingales and convergence theory of U-statistics.
Ting, Shen-Sheng, Obnoxious facility location problems on networks.

MATHEMATICS
Ji, Shanyu, The uniqueness problem, image of hypersurfaces and Nevanlinna theorems in push-forward version.
Kim, Hyun-Kwang, A conjecture of S. Chowla and related topics in analytic number theory.
Yamaguchi, Atsushi, Morava K-theory of double loop spaces of spheres.

Zhu, Xiou-Wei, Declassification of spinors under $G_{spin14}$ over finite fields and its application.

University of Maryland, Baltimore
(3;0,2,0,0,1,0,0)

MATHEMATICS
Bhaumik, Dulal Kumar, Optimal designs under biased and correlated models.
Saidi, Fathi, The large time behavior of solutions of a diffusion equation involving a nonlocal convection term.
Shen, Wei-Hsiung, Tests for structural relationship.

University of Maryland, College Park
(11;3,2,0,0,6,0,0)

MATHEMATICS
Cai, Haiyan, On reviving Markov processes and applications.
Cheng, Raymond, Delta-trigonometric method using the single-layer potential representation.
Hurtado-Donaldson, Ana, Nonparametric estimation in a survival / sacrifice experiment.
James, Matthew Ronald, Asymptotic nonlinear filtering and large deviations with application to observe design.
Kammeyer, Janet Whalen, A complete classification of the two-point extensions of a multidimensional Bernoulli shift.
Lanza de Cristoforis, Massimo, Nonlinear deformation of structures in perfect flows.
Nardi, Jerry, Practical techniques for source coding: constructive block coding and calculating the compression rate of sliding-block codes.
Park, Kwang, Transnormal systems on projective spaces.
Patrick, Vincent, Some solutions to problems in depth vision from differential geometry and deconvolution methods.
Vanaja, Venkataraman, Iterative solution of forward-backward heat equation.
van de Geijn, Robert, Implementing the QR algorithm on an array of processors.

MASSACHUSETTS

Boston University
(3;1,1,0,0,1,0,0)

MATHEMATICS
Bianco, Louis G., Bayesian inference on time point and amount of charge in an IMA (1,1) time series.
Buck, Gregory R., Mass distribution in central configurations.
Strauss, Nicholas C., Symbolic algebra: Jordan forms and local analysis.

Brandeis University
(3;3,0,0,0,0,0)

Mathematics
Jin, Gyo Taek, Invariants of two-component links.
Kirk, Paul, Link homotopy with one codimension two component.
Nielsen, Peter Andrew, A Riemann-Roch type inequality.

Harvard University
(19;4,8,2,0,3,0,2)

Applied Sciences
Sabot, Gary Wayne, An architecture-independent model for parallel programming.
Spall, Michael, Regional ocean modelling: Primitive equation and quasigeostrophic studies.

Biostatistics
Barraj, Layla M., The analysis of incomplete and nonrepresentative observations from continuous time processes.
Berlin, Jesse Aaron, Publication bias: A problem in interpreting medical data.
Davis, Roger B., Exponential survival trees.
Geer, Daniel E., A knowledge-based system for epidemiologic assessment.
Tosteson, Anna N., Quantitative diagnostic technology assessment: Methods and applications.

Mathematics
Fekete, Alan, Topics in distributed algorithms.
Hatcher, Rhonda Lee, Heights and L-series.
Jungreis, Irwin, Periodic points of one- and two-dimensional maps.
Nadel, Alan M., Hyperbolic surfaces.
Reichstein, Zinovy, The behavior of stability under equivariant maps.
Savin, Gordan, Limit multiplicities of cusp forms.
Tian, Gang, Kähler metrics on algebraic manifolds.
Youssin, Boris, Newton polyhedra without coordinates.

Statistics
Brown, Emery Neal, Identification & estimation of differential equation models for circadian data.
Raghunathan, Trivellore Eamchambadi, Large sample significance levels from multiply-imputed data.
Ramos, Ernesto, Resampling methods for time series.

Massachusetts Institute of Technology
(26;13,1,2,7,2,0,1)

Management Science Group
Abraham, Magid M., Retailer forward buying of consumer goods.
Charoen-Rajapak, Chatchawin, Clustering to minimize (maximize) the within cluster (between cluster) sum of squares: Complexity, optimization algorithms, and heuristics.
Mireault, Paul H., An integer programming approach to the traffic signal synchronization problem.

Mathematics
Aiello, William Anthony, Proofs, knowledge and oracles: Three complexity results on interactive proofs and zero-knowledge.
Blanc, David Abraham, A Hurewicz spectral sequence for homology.
Brenti, Francesco, Unimodal, log-concave and Pólya frequency sequences in combinatorics.
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Feldman, Paul Neil, Optimal algorithms for Byzantine agreement.
Hunter, Thomas John, On $H^*(\Omega^n+2^n+1; F_2)$.
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Trubek, Jeanne, Asymptotic behavior of solutions to $\Delta u + Ke^{2u} = 0$ and $\Delta u + K\psi = 0$ on Euclidean spaces.

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Seden, Deniz, Two-sample rank tests for joint type-II censored data.
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Michigan State University

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Lee, Hyun, Spatial decomposition method and its manipulation.


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Erickson, Martin J., Enumerative and existential combinatorics concerning the power set of the power set of a set.

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Hobart, Sylvia A., Coherent configurations of type \( \binom{2}{2} \) and designs.

Horstmann, Cay S., Automorphism groups of complex surfaces of general type.

LaFlamme, Claude, Complete combinatorics for ultrafilters and the Rudin-Keisler ordering.

Overhill, Marius, Linear problems for the Schwarzian derivative.

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Meslem, Abdelhakim, Asymptotic expansions for confidence intervals with fixed proportional accuracy.

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Sun, Min, On singular stochastic control and optimal stopping time problems in bounded domains.

Western Michigan University

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MATHEMATICS AND STATISTICS

Davis, James Buddy, Robust rank analysis for multivariate linear models.

MINNESOTA

University of Minnesota, Minneapolis

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MATHEMATICS

Elibay, Mohamed Sami, Collision singularities of the N-body problem and the isoceles three-body problem.

Garofalo, Nicola, Unique continuation theorems for second order elliptic and parabolic equations.

Hardy, Gabor, Stochastic differential equations in duals of nuclear spaces.

Hofmann, Steven Carl, Weighted weak \((1,1)\) inequalities for singular integrals with non-smooth kernel.

Jolly, Michael Summerfield, Geometric construction of an inertial manifold for a reaction diffusion equation.

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Lin, San-Yih, Numerical analysis for liquid crystal problems.

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Quiros, Adolfo, On the \( p \)-adic analytic continuation of divisibility properties of filtered \( F \)-crystals with applications to the cohomology of algebraic varieties.

Rustichini, Aldo, Dynamics in a model of economic growth with delays.

Zurkowski, Victor, Scattering for first order linear systems on the line and Backlund transformations.

STATISTICS

Andersen, John Stanley, Treatment allocation in clinical trials with delayed response.
St. Laurent, Roy Thomas, *Diagnostics in nonlinear regression.*
Thomas, John William, *Contributions to statistics diagnostics.*

**MISSISSIPPI**

**University of Mississippi**

(2;1,0,0,0,0,0,1)

**Mathematics**

Jehaima, Ramadan, *Representation of operators on Banach lattices.*
Maddox, Randall Bert, *Vertex partitions and transition parameters.*

**MISSOURI**

**University of Missouri, Columbia**

(2;1,1,0,0,0,0,0)

**Mathematics**


**Statistics**

Islam, Mohammed Zahirul, *Comparing populations with covariates.*

**Washington University**

(8;3,0,0,2,3,0,0)

**Mathematics**

Musso, Emilio, *Pseudo-holomorphic curves in the six sphere.*
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**Systems Science and Mathematics**

Adelani, Lateef Alabi, *Optimal control of renewable economic resources.*
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Yun, Xiaoping, *Coordinated control of two robot arms by nonlinear feedback.*

**NEBRASKA**

**University of Nebraska**

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**Mathematics and Statistics**

Coomes, Brian Arthur, *Polynomial flows, symmetry groups and conditions sufficient for injectivity of maps.*

**NEW HAMPSHIRE**

**Dartmouth College**

(1;1,0,0,0,0,0,0)

**Mathematics and Computer Science**

Miyamoto, Tadatoshi, *Some results in forcing.*

**NEW JERSEY**

**Princeton University**

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**Mathematics**

Bluher, Antonia Wilson, *Near holomorphy of a certain infinite series at negative integers.*
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Eisen, David, *Localized Ext groups over the Steenrod algebra.*
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Im, John J. H., *On special values of certain Dirichlet series associated with two Hilbert modular forms.*
Poor, George, *Cross-ratio identities for theta functions on Jacobi varieties.*
Shurman, Jerry, *Fourier coefficients of a nonholomorphic Eisenstein series associated to an orthogonal group.*
Taylor, Richard, *On congruences between modular forms.*
Wang, Wen-Xiang, *On the compactification of locally symmetric Hermitian manifolds with finite volume.*
Yau, Horng-Tzer, *Stability of Coulomb systems.*
Yuen, David, *Second order theta functions and vector bundles on Jacobi varieties.*

**Rutgers University, New Brunswick**

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**Mathematics**

Berhanu, Shiferaw, *Hypo-analytic pseudodifferential operators.*
Laffonerrie, Beatriz, *New fixed point theorems for P-compact maps on cones and some applications.*
Mosender-Frajria, Peirlugu, *A construction of singular unitary representation of real reductive groups.*
Olla, Stefano, *Large deviation problems in statistical mechanics.*
Schwarz, Willi, *Applications of loop groups and standard modules to Jacobians and theta functions of isospectral curves.*

**Operations Research**

Crama, Yves, *Recognition and solution of structured discrete optimization problems.*

**Stevens Institute of Technology**

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**Mathematics**

DiMarco, David, *Realizability of p-point, q-line graphs with prescribed minimum degree, line connectivity and point connectivity.*

**NEW MEXICO**

**New Mexico State University**

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**Mathematical Sciences**

Jacobs, Leland H., *The geometry of analytic curves.*
Manshad, Shakir Jaber, *The mathematical modelling for optical flow.*

**University of New Mexico**
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**Mathematics and Statistics**
Espino, Victor, *Vortex motion.*
Sidley, Christine Aileen, *The analysis of mixed and random effect models for nonorthogonal designs.*

**NEW YORK**

**Adelphi University**
(3;0,1;0,0;2,0,0)

**Mathematics and Computer Science**
Pirich, Donna Marie Bridget, *Detection of a low-level, possibly time-delayed signal in unknown ambient background.*
Svitak, Sylvia, *The mathematical foundations of factor analysis through a study of the primary literature.*
Wayne, David, *A system of non-strictly hyperbolic partial differential equations exhibiting a parabolic degeneracy within an infinite strip.*

**CUNY, Graduate Center**
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**Mathematics**
Boccio, Dona, *On the finite Hilbert transform.*
Seguel, Jaime, *Sparse matrix factorizations for fast symmetric Fourier transforms.*
Shenefelt, Myoung An, *Group invariant finite Fourier transforms.*
Sorbi, Andrea, *The fine structure of the Medvedev lattice and the partial degrees.*

**Clarkson University**
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**Mathematics and Computer Science**
Gamal-Eldin, Mohamed Samy, *Global updates in integration of distributed databases.*
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Papageorgiou, Vassilios, *Analytical approaches to integrable and near-integrable dynamical systems.*

**Columbia University**
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**Statistics**
Gu, Ming-gao, *Nonparametric analysis of survival data in staggered entry clinical trials.*
Ji, Chuanshu, *Statistical inference for Gibbs states.*
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**Mathematics**
Chu, Ming, *On the distribution of the roots of polynomial sequences.*
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Moody, John Atwell, *Induction theorems for infinite groups.*
Stade, Eric G., *Whittaker functions and Poincaré series for GL(3, R).*

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**Applied Mathematics**
Andreasen, Viggo A., *Dynamical models for epidemics in age-structured populations-analysis and simplification.*
Chu, Clare Yung-lei, *The fast Fourier transform on hypercube parallel computers.*
Liu, Wei-min, *Dynamics of epidemiological models-recurrent outbreaks in autonomous systems.*
Qiao, Sanzheng, *Fast Toeplitz orthogonalizations.*

**Biometrics**
Cullinan, Valerie Ims, *Estimation in the unbalanced model II one-way classification in the presence of heteroscedasticity assuming randomized sampling rates.*
Rubin, Gail, *Statistical distribution and estimation theory for a single server queue with fixed service time and complete balking.*

**Mathematics**
Figelsanger, Allen Lee, *The generic rigidity of minimal cycles.*
Head, Janet Elizabeth, *The combinatorics of Newton's method for cubic polynomials.*
Hutchinson, Kevin, *On the homology of GL_2 of a field.*
Klassen, Eric Paul, *Representations of knot groups in SU(2).*
Oberste-Vorth, Ralph Werner, *Complex horseshoes and the dynamics of mappings of two complex variables.*
Rose, Lauren Lynn, *The structure of modules of splines over polynomial rings.*
Wittner, Ben Scott, *On the bifurcation loci of rational maps of degree two.*

**Operations Research**
Gallego, Guillermo Miguel, *Real-time scheduling of several products on a single facility with setups and breakdowns.*
Haas, Ruth, *Dimensions and bases for certain classes of splines: A combinatorial and homological approach.*
Masch, Victor V., *The minimum cost subtour elimination method for solving the traveling salesman problem.*

**Statistics**
Ferreira, Irene, *Cluster for the voter model in a random environment and the probability of survival for the biased voter model in a random environment.*
Roy, Rahul, *The Russo-Seymour-Welsh theorem and the equality of critical densities for continuum percolation on R^2.*

**New York University, Courant Institute**
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**Mathematics**
Akbik, Safwan, *Large prime divisors and irreducible polynomials over number fields.*
Altmann, Michael, *Controlled branching process models of linearly structured populations.*
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Hamaguchi, Satoshi, *Anomalous transport arising from nonlinear resistive pressure-driven modes in a plasma.*

Jones, James, *An asymptotic analysis of an expanding detonation.*


Oba, Roger, *Doubly infinite Toda lattice with antisymmetric asymptotics.*

Schlick, Tamar, *Modeling and minimization techniques for predicting 3D structures of large biological molecules.*


Soria, Jose, *A study of correlation inequalities for two-component hypercubic \( g^4 \) models.*

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Tepedino Aranguren, Gaetano, *Bounds on the effective energy density of two non-linear composites.*

Von Dreifus, Henrique, *On the effects of randomness.*

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Eid, George M., *On normal and weakly compact lattices.*


Mansur, Khandaker A., *The interchangeability of the means of certain distributions.*

**Rensselaer Polytechnic Institute**

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Brent, Ronald I., *Environmental effects on acoustic and electromagnetic wave propagation using parabolic approximations.*

Foul, Abdelaziz, *The \( N \times 2N \) linear complementarity problem with connection to the theory of linear inequalities.*


**SUNY at Binghamton**

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**SUNY at Buffalo**

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Meng, Xia-Qing, *Categories of convex sets and of metric space, with applications to stochastic programming and related areas.*

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Park, Eyuhoon, *Probabilistic and statistical properties for the class of natural exponential families with power variance functions.*

**SUNY at Stony Brook**

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Lee, Eui Yong, *A diffusion model for a system subject to continuous mean.*

Lee, Seung-Min, *Continuum structure functions: Finite minimal vector set, weak convergence and reliability importance.*

Wu, Chung-Chung, *Contribution to non-parametric curve fitting.*

Zhang, Yin, *Quasi-Newton algorithms for unconstrained optimization.*

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Basmajian, Ara, *Hyperbolic invariants for infinitely generated Fuchsian groups.*

Loo, Bonaventure, *Branched superminimal surfaces in \( S^3 \).*


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**Syracuse University**

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**MATHEMATICS**


**University of Rochester**

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**MATHEMATICS**

Huang, Min-Jei, *Dynamics for time-dependent quantum mechanical Hamiltonians.*

Liu, Li, *Processes before extinction and comparison of measures by counting atoms.*

Maier, Marie Anna, *H-spaces of finite dimension.*


Yoo, Jinsung, *A Lefschetz duality theorem in p-adic cohomology.*

**NORTH CAROLINA**

**Duke University**

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**MATHEMATICS**

Kimbell, Julia Howell, *On the mathematics, especially differential geometry, of sheet metal forming.*

Kontostathis, Kyriakos, *On the construction of degrees of unsolvability.*

Sylvester, Donna Gates, *Large time existence of small viscous surface waves in a three-dimensional ocean without surface tension.*

**North Carolina State University, Raleigh**

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**MATHEMATICS**


Northrup, James Irvin, *Pointwise quasi-Newton methods and integral equations.*

Oxley, Mark Edwin, *Moving boundaries in reaction-diffusion systems with absorption.*

Pan, Ching-Tsuan, *Hyperbolic rotations for downgrading the Cholesky factorization with applications to signal processing.*
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Moustafa, Magdi Sami, Optimal scheduling in networks of queues.
Muhammad, Abdelfatah A., Information theory and queueing theory via generalized geometric programming.
Onural, Rauf Oruc, Closed queueing networks with finite buffers.
Seyedhassanpour, Seyed Javad, Petroleum resource assessment in a partially explored region with a sequential land release scheme.

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Chen, Chao Lung, Estimation problems in group testing.
Chu, Ping-Chu, Modeling water balance in larval Mexican bean beetles, Epilachna varieris Multians.
Dassel, Karen Ann, Experimental design for the Weibull function as a dose response model.
Eastwood, Brian James, Confidence interval construction in semi-nonparametric regression estimation.
Egeott, Dennis Lee, A comparative evaluation of some statistics for determining the limits of applicability of a linear regression model.
Holland, David Marshall, Evaluation of a bounded frequency distribution generated by a transformed logistic variable.
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Lim, June Taeg, A dynamic growth model of vegetative soybean plants under variations of root temperature and nitrogen concentration in nutrient solution.

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Abulata, Mohamed Futuh, Stochastic models of birth intervals according to data ascertainment method and relevant fertility indices.
Howard, George, An evaluation of general linear models to log-rank scores for the analysis of failure time data: With applications to survival following stroke, in the North Carolina comprehensive stroke program.
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Marques, Eliana, Analysis of categorical data from longitudinal studies of subjects with possibly clustered structures.
McCarroll, Kathleen A., An evaluation of some approximate F statistics and their small sample distributions for the mixed model with linear covariance structure.
Pantula, Janelia Faye, Optimal prediction in linear regression analysis.

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Basu, Robert James, Local range properties and univalence in the Cauchy-Stieltjes space.
Grisson, Charles, Local equivalence of four-state systems with two controls under feedback.
Hoke, Harry Franklin, III, Lie groups which are closed at infinity.

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Kettl, Ernestine Elizabeth, Some applications on the transform-both-sides regression model.
Marques, Mauro, A study of Lebesgue decomposition of measures induced by stable processes.
Palmer, Christopher Ralph, A clinical trials model for determining the best of three treatments having Bernoulli responses.
Tsai, Ming-Tan, Asymptotic optimality and distribution theory of nonparametric tests for restricted alternatives.
Wu, Xizhi, Bayes sequential testing—a direct and analytic approach.
Yin, Yin, Edgeworth expansion in tests concerning heteroscedasticity.

Ohio
Case Western Reserve University
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Operations Research
Cuff, Carolyn Kidder, Minimization of total tardiness in many-to-many pickup and delivery systems.
Djerdjou, Mohamed, A surrogate constraint relaxation based algorithm for the general quadratic multidimensional knapsack problem.
Fuh, Duu-Cheng, Ranges for negotiation in international countertrade.
Getts, Gregory Brainard, A decision support system for stock and option investments.
Ikem, Fidelis Madeke, Physician manpower planning for developing countries.

Khot, Chandrashekhar Madhukar, An efficient resource directive algorithm for multicommodity network flow problems.
Velazco, Enio Edgardo, Queueing theoretic approaches for the analysis and synthesis of air traffic control problems.

Kent State University
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Mathematical Sciences
Deeb, Ahmad, Matrix transformation of subsequences, rearrangements, & stretchings.
Mohammad, Ali Abdul-Moshin, Projective concepts relative to classes of modules.

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Mathematics
Bannai, Etsuko, Positive definite unimodular lattices with trivial automorphism groups.
Ghanat, Patrick, A deformation technique for almost integrable parallelizations.
Han, Sang, The character tables of certain association schemes.
Kim, Jae Moon, On cyclotomic units.
Ray, Phillip Paul, Classical Kac-Moody algebras in characteristics.
Reeder, Mark Stephen, The Steinberg module and the top cohomology of arithmetic groups.

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Hossain, Ayub, The stochastic preference relations for vector valued attributes.
Jeng, Tian-Tzer, Some contributions to asymptotic theory on hypothesis testing when the model is misspecified.
Lee, Gerald Kichun, The statistical models and analysis of stem cell assay.
Pan, Un-Quei Winkey, Burn-in with mixed populations.
Ting, Chao-Ping, Optimal designs for treatment control comparison.
Yeo, Sungchul, On estimation for a combined Markov and semi-Markov model with censoring.

Ohio University
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Hudak, Michael Wayne, Applications of forcing to cardinal invariants of the continuum.
Soeowo, Edy, Stability of traveling wave solutions of the power KdV equation.

University of Cincinnati
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Mathematical Sciences
Pulsinkamp, Richard John, Nonlinear admissible estimators in the one parameter exponential case.

University of Toledo
(1:1,0,0,0,0,0)

Mathematics
Gompa, Raghuramaiah, Approximations to the quantum mechanical time evolution.

OREGON

Oregon State University
(6:1,3,0,1,0,0)

Mathematics
Franzosa, Marie M., Densities and dependence for point processes.
Smith, Steven Jay, Optimal harvesting of continuous age structured populations.

Statistics
ElArishy, Samia, Improving on the intrablock estimator via a nonlinear normal equation.
Rossi, Richard Joseph, Nonparametric density estimation by generalized expansion estimators—a cross-validation approach.
Srirapanich, Pachitarian, Estimating root mean squared error in the one-way random model.
Yang, Minghui, A hazardous-inspection model with costly repair.

University of Oregon
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Mathematics
Douglass, James Matthew, Some results concerning the reflection representation of Weyl groups and Hecke algebras.
Hill, Gregory Mark, On the representations of $\text{GL}_n(\mathbb{Z}_p)$.
Patterson, Paul Linton, III, A characterization of the algebras for a locally compact group.
Perennec, Michelle Lucienne, Asymptotic behaviour of some statistics derived from the studentized empirical characteristic function & their asymptotic relative efficiency in testing multivariate normality.

Pennsylvania

Carnegie-Mellon University
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Mathematics
Brandon, Deborah, On a class of models for heat flow in materials with memory.
Chiu, Chichia, A higher order vortex method for two- and three-dimensional spaces.
Choi, U Jin, Fractional order Volterra equations in Hilbert spaces.

Statistics
Galway, Lionel A., Statistical analysis of star-shaped sets.
Thibaudeau, Yves, Approximating the moments of a multimodal posterior distribution with the method of Laplace.

Lehigh University
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Mathematics
Kwon, O-Hun, Nonlinear alternative theorems and homogeneous convex-concave programming.
Swiktar, Hal Mitchell, Descriptive set theory and large cardinals.

Pennsylvania State University
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Mathematics
Davenport, Daniel Mark, Varieties of power commutative semigroups and their rational languages.
Hirst, Jeffry L., Combinators in subsystems of $\mathbb{Z}_2$.
Loi, Phan-Hung, On the theory of index and type III factors.
Park, Sung Ho, Lipschitz continuous metric projections and selections.
Shieban, Faraj, Categories and semigroupoids.
Steven, Scott, Group-action graphs and Ramsey graph theory; Investigating the Ramsey numbers $R(K_1,nK_{k,m})$ and $R(K_1,nK_{k,m})$.
Syed, Khalid, M-static modules.
Wang, Hangkun, Study of stabilization and energy dissipation for second order vibrating systems.
Yu, Xiao Kang, Matrix theory in second order arithmetic.

Statistics
Lele, Subash, A study of estimation procedures for spatial processes.
Linder, Ernst, Statistical inference in the linear errors-in-variables model using the bootstrap with applications in environmental risk analysis.
Suman, Kenneth, A James-Stein type estimator of a distribution function.

Temple University
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Mathematics
Shoham, Dan, Pursuit problems.

Statistics
Khan, Nazeer, Maximum likelihood ratio classification criterion for mixed binary and continuous variables.
Soper, Keith, General functional models, with application to cytogenetics.

University of Pennsylvania
(9:5,3,0,0,0,1,0)

Mathematics
Bae, Sunghan, On the conjectures of Lichtenbaum and of Chinburg over function fields.
Kong, Pyung-Lyun, On the variety of plane curves of degree $d$ with $\sigma$ nodes and $\kappa$ cusps.
Kim, Seong, A generalization of Frohlich's theorem to wildly ramified quaternion extensions of $\mathbb{Q}$.
Pedersen, Sharon Louise, Optimal vector fields on spheres.
Schmutz, Eric J., Statistical group-theory.
Yim, Jin-Whan, Space of souls in a complete open manifold of nonnegative curvature.

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Hwang, Irving, Group sequential significance test for clinical trials.
Weintraub, Keith S., Sample and ergodic properties of some min-stable processes.
Witt, Gary, The analysis of repeated measurements with first-order autocorrelation.

University of Pittsburgh
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Palk, Myung Lee, Repeated measurement analysis for the non-normal outcome and its small sample properties.
Zee, Benny Chung Ying, Reliability of total skin score and subgroup classification of progressive systemic sclerosis.

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Bansal, Neveen K., Some statistical inferences on latent variables.
Bhandary, Madhu Sudan, Inference on signal processing in the presence of outliers.
Ding, Yijun, Feature selection on covariance matrices and mean vectors.
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RHODE ISLAND

Brown University
(20;7,0,0,0,13,0,0)

APPLIED MATHEMATICS
Fitzpatrick, Bcn George, Statistical models in parameter identification and model selection.
Ji, Dunnu, Asymptotic analysis of nonlinear filter problems.
Knoerr, Alan, Global models of natural boundaries—theory and applications.
Mertus, John A., Self calibrating methods for image reconstruction in emission computer tomography.
Pratt, Michael Meade, Analysis of near characteristic methods in the study of steady supersonic flow.
Ramachandran, Kandethody M., Nearly optimal singular controls for wideband noise driven systems and queueing processes.
Rodriguez, John David, Studies of the Ginzburg-Landau equation.
Rothman, Ernest, Preconditioning matrices for spectral derivative operators.
Sakamoto, Kunimochi, The existence and stability properties of transition layers in singularly perturbed ordinary differential equations.
Wang, Chunming, Approximation methods for linear quadratic regulator problems.
Warhola, Gregory Thomas, Steady waves in a nonlinear theory of viscoelasticity.
Zhang, Qing, Controlled partially observed diffusions.

MATHEMATICS
Buyske, Steven George, Lie sphere transformations and the focal sets of hypersurfaces.
Curtin, Eugene, Intermediate tautness and relative tautness for submanifolds.
Faucette, William Mark, Harmonic volume, symmetric products, and the Abels-Jacobi map.
Hanamura, Masaki, Motives of perverse sheaves.
Kerckhove, Michael George, Conformal transformations of pseudo-Riemannian Einstein manifolds.
Lopez, Angelo, On the Picard group of projective surfaces.
Solomon, David R., On Lichtenbaum’s conjecture in the case of number fields.

University of Rhode Island
(4;2,0,0,1,1,0,0)

MATHEMATICS
Hammel, Sherry E., Optimization of observability in target tracking with bearings-only measurements.
Hoag, Jeffrey Taber, Existence and uniqueness of solutions for a delayed-advanced model of the two-body problem of electrodynamics.
Partheniadis, Evangelos C., Oscillations and asymptotic behavior of solutions of delay and neutral delay differential equations.
Schultz, Stephen W., Necessary and sufficient conditions for oscillations of neutral differential equations.

SOUTH CAROLINA

Clemson University
(4;2,1,1,0,0,0,0)

MATHEMATICAL SCIENCES
Eschenbach, Carolyn Pizzulo, Eigenvalue classification in qualitative matrix analysis.
Fox, Kevin L., Some applications of smooth splines to density and cumulative function approximation.
Jones, Wendell Davis, Detecting and understanding joint influence in regression diagnostics.
Shelton, Therese N., The Volterra-Stieltjes integral equation.

University of South Carolina
(4;1,2,0,0,0,1,0)

MATHEMATICS
Lin, Chiang, Some topics on partially ordered set.

Rowe, David Barry, Compact convex subsets in Lp(w), 0 < p < 1.

STATISTICS
Berry, Jack Jefferson, Multivariate simultaneous inference.
Lio, Yuhlong, Smooth nonparametric quantile estimation from right censored data.

TENNESSEE

University of Tennessee
(2;2,0,0,0,0,0,0)

MATHEMATICS
Clark, Stephen, Some qualitative properties of the spectral density function for Hamiltonian systems.
Snyder, David F., Partially acyclic manifold decomposition yielding generalized manifolds.

Vanderbilt University
(1;1,0,0,0,0,0,0)

MATHEMATICS
Profo, Joseph S., Using sub-normality to show simple connectivity at infinity of a finitely presented group.

TEXAS

North Texas State University
(4;3,0,0,0,1,0,0)

MATHEMATICS
Brucks, Karen Marie, Dynamics of one-dimensional maps: Symbols, uniqueness, and dimension.
Gragg, Karen, Dually semimodular consistent lattices.
Kurepa, Alexandra, Radially symmetric solutions to a superlinear Dirichlet problem in a ball.
Unsurangsi, Sumalee, Existence of a solution for semilinear wave equation and a nonpontone problem.

Rice University
(4;1,0,0,0,3,0,0)

MATHEMATICAL SCIENCES
Dawson, Clinton Norman, Error estimates for Godunov-mixed methods for nonlinear parabolic problems.
El-Alem, Mahmoud M., A global convergence theory for a class of trust region algorithms for constrained optimization.
Martinez, Hector Jairo, Superlinear convergence of the structural secant method from the convex class.
University of Texas, Arlington
(4;4,0,0,0,0,0,0)

MATHEMATICS
Hu, Shouchuan, Fixed point theory and
differential-integral equations.
Kathirkamanayagan, Malivaganam, Study of
singularity perturbed systems.
Sivasundaram, Seenithambly, The method
of upper and lower solutions and integral
method for nonlinear differential equations.
Winton, Richard, On subdirectly
irreducible groups and automorphism
groups.

University of Texas, Austin
(6;3,0,0,0,3,0,0)

MATHEMATICS
Beneish, Esther, Invertible modules.
Bosse, Marie-Pascale, Homogenization of
the layered medium equation.
Koo, Hyeng Keun, Rational function
fields and related topics in skew field
theory.
Motto, Michael, Surfaces in three-manifolds
and three-manifold triads.
Oppenheimer, Seth Frederic, A partial
differential equation arising from a
 problem in the dynamics of gas absorp-
tion.
Walkington, Noel John, Resolution of a
diffusion problem arising in the flow of
fluids.

Watanabe, Masaji, Bifurcation of invari-
ant tori and periodic solutions to systems
of coupled oscillators.
Woodward, Diana Elizabeth, Patterns of
phase-locking in networks with cyclic
group symmetries.
Zinner, Bertram, Traveling waves in dis-
crete excitable media.

Utah State University
(1;0,0,0,1,0,0)

MATHEMATICS
Bourji, Samih Kassem, Least-change se-
cant updates of nonsquare matrices.

Virginia

Old Dominion University
(3;0,1,0,0,2,0,0)

MATHEMATICS AND STATISTICS
Edmonds, George F., On the thermal
stresses due to a uniform heat flow past
a circular hole with a radial edge crack.
Hwang, Jen-Ing, Grace, On a moving
boundary problem of transitional ballis-
tics.
Sabin, Sanjeev, Large deviation local
limit theorems for ratio statistics.

University of Virginia
(2;1,0,0,0,1,0,0)

APPLIED MATHEMATICS
Fulton, James Paul, Rubber-like spherical
shells and circular plates under vertical
point-loads.

MATHEMATICS
Edwards, Steven Robert, The spin bord-
ism of $B(E^8 \times E^8)$.

Virginia Commonwealth University
(1;0,1,0,0,0,0,0)

BIOSTATISTICS
Clark, B. Christine, Developmental toxici-
 city data: Trend tests for mean propor-
tional responses from litters of random
 size.

Virginia Polytechnic Institute
and State University
(7;0,0,0,0,0,0,0)

STATISTICS
Amin, Raid, Variable sampling interval
control charts.
Bauer, Laura Lynn, Hypothesis testing
procedures for non-nested regression
models.
DeFeo, Patrick A., Sequential robust response surface strategy.
Einsporn, Richard Lloyd, A link between least squares regression and nonparametric curve estimation.
Giovanitti-Jensen, Ann, Graphical assessment of the prediction capability of response surface designs.
Marx, Brian D., Ill-conditioned information matrices and the generalized linear model: An asymptotically biased estimation approach.
Senderak, Edith Tan, Design and regression estimation in double sampling.

WISCONSIN

University of Wisconsin, Madison
(30;23,4,0,0,2,0,1)

MATHEMATICS

Blount, Douglas J., Comparison of a stochastic model of a chemical reaction with diffusion and the deterministic model.
Chen, Chao-Nien, Multiple solutions and bifurcation for a class of nonlinear Sturm-Liouville eigenvalue problems on an unbounded domain.
Costantini, Cristina, The Skorohod oblique reflection problem and a diffusion approximation for a class of transport processes.
Decker, Naomi, The Fourier analysis of multigrid-type iterative methods.
Fares, Jean, The generalized local Lefschetz number.
Goldstein, Steven, Multitype branching processes: Diffusion approximations for critical decomposable processes and calculations for a cancer tumor growth model.
Graves, Alan Scott, The splitting of the equivariant J-homomorphism for linear circle actions.
Hall, Mark E., Verma bases of modules for simple Lie algebras.
Harizanov, Valentina, Degree spectrum of a recursive relation on a recursive structure.
Henriques, Pedro, Some variational problems for exterior differential systems.
Hong, Geck Chan, Integral mean estimates for a class of subharmonic functions of finite order in space.
Jiang, Shouli, The strict p-space problem and generalized metric spaces as images of metric spaces.
Long, Yiming, Periodic solutions of perturbed superquadratic Hamiltonian systems.
Markel, Scott Alan, Solitary and periodic waves in swirling flows of plasmas.
Michael, T. S., The structure matrix of the class of r-multigraphs with a prescribed degree sequence.
Ng, Siu-Ah, A nonstandard approach to the theory of forking.
Odenthal, Charles, Presentations over HNP rings with enough invertible ideals and torsionfree cancellation over neoclassical orders.

dos Santos, Josenildo, Some algebraic topological concepts in critical point theory.
Sardis, Robert M., Robotic singularities and control.
Schroeder, Gary H., \(L^p(\mathbb{R}^N)\) bounds \((1 \leq p \leq \infty)\) on solutions of \(u_t - \Delta \phi(u) = f\) set in \(L^1(\mathbb{R}^N)\).
Shen, Shanpu, Contributions to the theory of waves on currents of ideal fluids.
Stockbridge, Richard Hamilton, Time-average control of Martingale problems.
Wade, Bruce Alan, Stability and sharp convergence estimates for symmetrizable difference operators.
Watson, David Kirk, Smoothness in parameter and singular integrals with mixed homogeneity.
Wong, Peter Ngai-Sing, Equivariant Nielsen fixed point theory for G-maps.

STATISTICS

Ahn, Sung K., A study of multivariate time series with reduced rank structures and partial nonstationarity.
Hamada, Michael, Studies on incomplete and ordered categorical data from industrial experiments.
Lindstrom, Mary Judith, Linear and nonlinear mixed-effects models for repeated measures data.
Lohr, Sharon, Accurate multivariate estimation using double and triple sampling.
Shao, Jun, On resampling methods for variance estimation and related topics.

University of Wisconsin, Milwaukee
(2;1,0,0,0,1,0,0)

MATHEMATICAL SCIENCES

Loustaunau, Philippe, Large subdirect products of modules.
Sridhama, Selvaratnam, Sampling theorems.

WYOMING

University of Wyoming
(2;1,1,0,0,0,0,0)

MATHEMATICS

Roe, Robert Paul, Inverse limit spaces and dynamics of continuous maps on finite graphs.

STATISTICS

Pawl, David, Conditional simulation of Gaussian random fields.
Annual AMS-MAA Survey

CANADA

Dalhousie University
(2;1,0,0,0,1,0,0)

Mathematics, Statistics and Computing Science

Merkovsky, Robert E., Nearly convergent procedures for convex and large scale optimization based on linear programming.
Rouhani, Hassan, Classification of certain non-commutative three-tori.

McGill University
(2;1,0,0,0,1,0,0)

Mathematics and Statistics

Melkonian, Sam, Nonlinear waves on thin films and related phenomena.
Rumbos, Beatriz, A sheaf representation for non-commutative rings.

McMaster University
(1;1,0,0,0,0,0,0)

Mathematics and Statistics

Gaur, Abhay Kumar, Relative numerical ranges of elements of Banach and L.M.C.-algebras.

Queen’s University
(4;3,1,0,0,0,0,0)

Mathematics and Statistics

Granville, Andrew James, Diophantine equations with varying exponents.
Jahan, Rowshan, Survival time models and residuals analysis.
Lorenzini, Anna, On the Betti numbers of points in projective space.
Sodhi, Amarjit Singh, On the conductor of points in P².

Ottawa-Carleton Institute
(7;6,1,0,0,0,0,0)

Mathematics and Statistics

Ahmed, Syed Ejaz, Various strategies of point estimation under uncertain prior information.
Dyndel, Roderick Kerry, Some contributions to analysis: A new space of generalized functions for integro-differential equations involving Hilbert-transforms and a note on the non-nuclearity of a space of test-functions on Hilbert-space.
Jeffs, Janice Elaine, On the general theory of graph grammars.
Moshi, Augustine Masumbuko, Matching and stable cutsets in graphs.

Murdoch, Duncan James, Models and methods in the risk assessment of chemical carcinogens.
Remillard, Bruno, Large deviations and laws of the iterated logarithm for multidimensional diffusion processes with applications to diffusion processes with random coefficients.
Schmuland, Byron Allan, Dirichlet forms and infinite dimensional Ornstein-Uhlenbeck processes.

Simon Fraser University
(2;1,0,0,0,0,1,0)

Mathematics and Statistics

Wismath, Shelly L., Hyperidentity and hypervariety results for varieties of semi-groups.
Zhou, Huishan, Homomorphism properties of graph products.

Université de Montréal
(9;7,0,0,0,2,0,0)

Mathématiques et Statistique

Ben El Mechaikh, Hichem, Quelques principes topologiques en analyse convexe.
Blanchet, Pierre, Théorèmes de fusion et du dualité pour les solutions d’équations elliptiques.
Deguire, Paul, Théorèmes de coïncidences. Théorie de minimax et applications.
El Amiri, Abdeljalil, Équations différentielles dans les espaces de Banach.
Mghazli, Zoubida, Une méthode mixte pour les problèmes d’hydrodynamique.
Piché, Claude, Treillis apparentés aux groupes abéliens de torsion.
Raisi, Nadia, Analyse proximale en optimisation.
Rheffoul, Mohammed Reda, Classes d’opérateurs pseudo-différentiels.
Zaoui, Mostafa, Sous-algèbres maximales et automorphismes des algèbres simples complexes.

Université Laval
(5;5,0,0,0,0,0,0)

Mathématiques, Statistiques et Actuarial

Ider, Mostafa, Calcul symbolique dans les classes de fonctions indéfiniment dérивables et quasi-analyticité généralisée.
Jamali, Abdelhak, Sur le théorème du maximum de N. Korevaar pour la fonction de concavité, extension au cas des solutions faibles.
Ouellet, Michel, Le problème des diviseurs de Dirichlet et la fonction zêta de Riemann.
Tonga, Marcel, Couplages sur les lambda-algèbres.
Tsai, Chi-Ten, Local Carleman classes of infinitely differentiable functions and their topological properties.

University of Alberta
(3;3,0,0,0,0,0,0)

Mathematics

Forrest, Brian Edmund, Amenableability and ideals in the Fourier algebra of a locally compact group.
Nazzal, Shakir Hamid, On the centrality of certain finitely generated soluble groups.
Yang, Zhuoqiu, Some topological and combinatorial properties of amenable groups and semigroups.

University of Saskatchewan
(1;1,0,0,0,0,0,0)

Mathematics

Mashhood, Bahman, The index in type II factors.

University of Toronto
(13;9,3,1,0,0,0,0)

Mathematics

Behera, Akur, Homotopy theory in groupoid enriched categories.
Brown, Jason Ira, A theory of generalized graph colourings.
Burke, Maxim Robert, Some applications of set theory to measure theory.
Churchard, Peter William, Proper knot theory in open three-manifolds.
Guinand, Paul Scott, The structure of quasinilpotent operators.
Jessup, Barry John, Rational Lusternik-Schnirelmann category and a conjecture of Ganea.
Kim, Yang Kon, Regular germs for p-adic Sp(4).
Lee, Wai-Ming Felix, A mean ergodic theorem for multiparameter superadditive processes on Banach lattices.
Moorhouse, Guy Eric, Unitary and other linear groups acting on finite projective planes.
Zoroboska, Nina, Composition operators on weighted Hardy spaces.
Statistics
Bagchi, Parthasarathy, *Bayesian analysis of directional data.*
Ghosh, Sucharita, *Some tests of normality using methods based on transforms.*
Keen, Kevin John, *Estimation of intraclass and interclass correlations.*

**University of Western Ontario**
(2;1,0,0,0;1,0,0)

**Applied Mathematics**

**Mathematics**
Zelewski, Piotr, *Generalization of the Segal conjecture.*

**University of Windsor**
(1;0,1,0,0;0,0,0)

**Mathematics and Statistics**

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**Annual AMS-MAA Survey**

**Doctoral Degrees Conferred 1986–1987**

**Supplementary List**


**CALIFORNIA**

**University of California, Berkeley**
(2;0,0,0,0,0,0,2)

**Biostatistics**
Black, Dennis M., *Statistical issues in the analysis of blood pressure data in the presence of treatment.*
Lo, Sing Kai, *Computer intensive statistical methods for population genetic models.*

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**MINNESOTA**

University of Minnesota, Minneapolis
(1;0,1,0,0,0,0,0)

**Statistics**
Chalaykarn, Pintip, *Minimizing the expected time to the goal.*

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**RHODE ISLAND**

Brown University
(1;0,0,0,0,1,0,0)

**Applied Mathematics**

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AMS Centennial Publications • Volume I
A History of the Second Fifty Years
American Mathematical Society • 1939-1988

**Everett Pitcher**

This is volume one of a two-volume set which is being published to commemorate the AMS Centennial. (Volume 2 will contain the Proceedings of the AMS Centennial and will be published at a later date.) Professor Everett Pitcher served as an AMS Associate Secretary for 8 years and as the Society Secretary for the past 22 years. His long association with the Society, his detailed knowledge of its workings, and his historical perspective on the American mathematical community make him the ideal author for such a work.

Professor Pitcher chronicles the Society's activities over the past fifty years, as it grew in membership, in volume and diversity of its publications, in the number of meetings and conferences it organizes, and in the range of services it provides to the mathematical community. The book presents a picture of the AMS in 1938 and delineates the political and social influences that shaped its subsequent development. Some of the key personalities in the Society's history, notably the Presidents, are also described. This book is the crowning achievement in Professor Pitcher's years of dedication and service to the Society. This book complements the history of the Society's first fifty years, written in 1938, the Society's semicentennial year, by Raymond Clare Archibald, who was the AMS librarian at that time. Archibald's history is volume one of American Mathematical Society Semicentennial Publications.

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