

Doctoral Degrees Conferred 1985 - 1986

THE ANNUAL AMS list of doctoral degrees in the mathematical sciences and related subjects reports 801 degrees conferred between July 1, 1985, and June 30, 1986 by 212 departments in 142 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. Mathematics education; 7. Other.

ALABAMA

Auburn University

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

MATHEMATICS

Lumley, Judy Kitt, *On the construction of resolvable Mendelson triple systems having prescribed intersections.*

Mera-Valverde, Reuben Nelson, *Entire functions of order larger than one.*

University of Alabama, Tuscaloosa

(3;0,2,0,0,0,0,1)

MANAGEMENT SCIENCES AND STATISTICS

Chang, Hang-Ling, *Comparisons of hypothesis testing procedures for the two-group growth curve problem in incomplete-data small-sample situations.*

Fahmy, Ahmed Fikry Abdel Wahab, *An expert system for the design of flexible manufacturing systems using simulation analysis.*

Hardin, James Michael, *Contributions to the calculus for factorial arrangements.*

ARKANSAS

University of Arkansas

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

MATHEMATICAL SCIENCES

Piston, Calvin E., *An order relation for positive operators on Banach lattices.*

CALIFORNIA

California Institute of Technology

(4;2,0,0,0,0,0,2)

MATHEMATICS

Baldi, Pierre, I. *On a generalized family of colorings.* II. *Some contributions to the theory of neural networks.* III. *Embeddings of ultrametric spaces.*

Ho, Chi-Fai, *On polynomial invariants for knots and links.*

Ramsamujh, Taje Indralall, *Some topics in descriptive set theory and analysis.*

Rushanan, Joseph John, *Topics in integral matrices and abelian group codes.*

Claremont Graduate School

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

MATHEMATICS

El Doma, Mohamed Osman, *Analysis of nonlinear integro-differential equations arising in age-dependent epidemic models.*

Stanford University

(30;7,5,0,11,5,0,2)

ENGINEERING-ECONOMIC SYSTEMS

Claudio, Corazon, *Design and evaluation of warning systems: Application to nuclear power plants.*

Ezawa, Kazuo J., *Efficient evaluation of influence diagrams.*

Hamm, Gregory, *Simple models of the interactions among energy, the economy, and carbon dioxide.*

Kenley, C. Robert, *Influence diagram models with continuous variables.*

Kline, David, *Storage decisions in incomplete markets.*

Parnell, Gregory Samuel, *Large bilateral reductions in superpower nuclear weapons.*

Perez, Miguel Angel, *Interfirm coordination with application to the electrical industry.*

Phillips, Robert Lewis, *Solving generalized equilibrium models.*

Schwartz, Richard Glen, *The adoption and diffusion of medical innovation.*

Tatman, Joseph A., *Decision processes in influence diagrams: Formulation and analysis.*

Viswanathan, Nagarathnam, *Service reliability differentiated pricing with special reference to electric utilities.*

MATHEMATICS

Arno, Steven, *Class #4.*

Boyse, William, *Wave propagation and inversion in a slightly inhomogeneous medium.*

Chi, Quo-Shin, *Curvature properties of rank one symmetric spaces.*

Frankel, Sidney, *Convex domains with compact quotients are symmetric spaces in complex dimension two.*

Koonce, Alexander Eben, *Relations among characteristic classes for complex cobordism.*

Liang, Fei-tsen, *On nonparametric surfaces of constant mean curvature.*

Palmer, Bennett, *Surfaces of constant mean curvature in space forms.*

Wolf, Michael, *The Teichmüller theory of harmonic maps.*

OPERATIONS RESEARCH

Beltramo, Mark Anthony, *Interfuel substitution and natural gas trade in North America.*

Haas, Peter Jay, *Recurrence and regeneration in non-Markovian simulations.*

Hoyle, Stephen Carey, *A single-phase method for quadratic programming.*

Krueger, Frederick Robert, *d-Arrangements and random polyhedra.*

Peterson, William Paul, *Diffusion approximations for networks of queues with multiple customer types.*

Titus, Birney Donnell, *Modified confidence intervals for the mean of an autoregressive process.*

Wan, Yieh-Hwang, *An implicit enumeration algorithm with binary-valued constraints.*

STATISTICS

DeVeaux, Richard Donald, *Parameter estimation for a mixture of linear regression.*

Hu, Inchi, *Repeated significance tests for exponential families.*

Matthews, Peter Claver, *Covering problems for random walks on spheres and finite groups.*

Segal, Mark Robert, *Regression trees based on rank statistics.*

University of California,

Berkeley

(24;3,10,0,7,0,0,4)

BIOSTATISTICS

Kenley, Susan Scarce, *An examination of the relationship between prevalence, incidence and duration of illnesses in various stochastic models.*

Quesenberry, Charles Price, Jr., *Regression analysis under stratified sampling.*

INDUSTRIAL ENGINEERING AND OPERATIONS RESEARCH

Chang, Kiduck, *Combination of opinions: The expert problem and the group consensus problem.*

Feo, Thomas Aurelio, I. *A Lagrangian relaxation method for testing the feasibility of certain VLSI routing problems.* II. *Efficient reduction of planar networks for solving certain combinatorial problems.*

Greenberg, Betsy Sue, *Queueing systems with returning customers and the order of tandem queues.*

Gupta, Anil Kumar, *Analysis of electricity consumption in U. S. manufacturing: An engineering approach.*

Jun, Duk Bin, *ARMA forecasts with random level changes.*

Milidui, Ruy Luiz, *The computation of compound distributions with two-sided severities.*

Mizrach, Michael, *Dynamic models of detailed and aggregate production networks.*

Righter, Rhonda Lee, *Analysis of sequential stochastic assignment problems.*

Sigman, Karl, *Applications of Harris ergodic Markov chains to the regenerative nature of queueing systems.*

STATISTICS

Alamayehu, Demissie, *Bootstrapping multivariate models and robust statistics.*

Belisle, Claude J. P., *Limit distributions of windings of planar random walks.*

Flannery, Barry Richard, *Quasi-stationary distributions of Markov chains.*

Haycock, Keith, *Bootstrapping prediction error estimates in dynamic linear models.*

Ihaka, George Ross, *Ruaumoko.*

Iyer, Srinivan Narayan, *Domination theory, network reliability and the factoring algorithm.*

Kim, Seong-Ju, *Statistical properties of distances for robust estimation of location and the multivariate Behrens-Fisher problem.*

Koyak, Robert Anthony, *Optimal transformations for multivariate linear reduction analysis.*

Navidi, William Cyrus, *Edgeworth expansions for bootstrapping regression models.*

Rinzardi, Frances Irene, *Some asymptotic properties of Robbins-Monro type estimators with applications to estimating medians from quantal response.*

Romano, Joseph Paul, *On bootstrapping the joint distribution of the location and size of the mode.*

Truong, Young Kinh-Nhue, *Asymptotic properties of nonparametric prediction.*

Wang, Mie-Cheng, *Regression analysis with selection biased dependent variable.*

University of California,

Davis

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

MATHEMATICS

Filliman, Michael Paul, *Isoperimetric problems for zonotopes.*

Rooney, Elaine Kasimatis, *Applications of algebra to packings, coverings and tilings.*

Shannon, Gary Preston, *A truth predicate for Peano arithmetic.*

Spake, Reuben Michael, *On the power semigroup of the infinite cyclic group.*

University of California,

Irvine

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

MATHEMATICS

Hromadka, Theodore V., II, *The complex variable boundary element method for engineers and scientists.*

Panganiban, Rosana Limjoco, *Limit distributions of test statistics in the analysis of categorical data.*

University of California,

Los Angeles

(17;6,9,0,0,2,0,0)

BIOSTATISTICS

Bock, James R., *Estimation of the parameters in the logistic regression model for retrospective studies.*

Hardwick, Janis, *The modified bandit: An approach to ethical allocation in clinical trials for choosing the better of two binomial populations.*

Lee, Martha Bi-Fong, *Conditional independence under order restrictions.*

Liu, Yin Sang, *Optimum design in exponential survival model with right censoring.*

Welch, Michael Emmons, *Classification methods for linear dynamic models.*

MATHEMATICS

Eggan, Peter Cornelius, *Ramanujan congruences for power products of Dedekind eta-functions.*

Horing, Sheau-Ru Crystal, *Sublinear convergence in EM algorithm.*

Marechal, Nicholas James, *Inverse problems for lossy hyperbolic equations.*

Matsubara, Yo, *Filters related to supercompact cardinals.*

McCardle, Kevin Francis, *Information acquisition and the adoption of new technology.*

Moore, Charles Nelson, *Some applications of Cauchy integrals on curves.*

Sako, Brian Hiroyuki, *A model for the crack-and-punch problem in elasticity.*

Sweezy, Caroline Perkins, *L-harmonic functions and the exponential square class.*

Tan, Lin, *Invariant theory for unipotent subgroups of reductive groups.*

Tang, Dei-In, *Minimax and Bayes designs for model robust regression parameter estimation and prediction.*

Thomas, Pascal Joseph, *Properties of interpolating sequences in the unit ball.*

Yu, Qiqing, *Admissibility of the best invariant estimator of a distribution function.*

University of California,

Riverside

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

MATHEMATICS

Griffing, Gary R., *Cofree Lie and other nonassociative coalgebras.*

STATISTICS

Jackson, Dennis Harold, *A simplified multivariate approach to the analyses of generalized repeated measures models.*

University of California,

San Diego

(8;4,2,0,0,2,0,0)

MATHEMATICS

Abello-Monedero, James, *A study of an independent system arising in group choice via the weak Bruhat order.*

Dean, Carolyn Anne, *Annihilators and embeddability of Noetherian rings.*

Gordon, Daniel Martin, *Perfect multiple error-correcting arithmetic codes.*

Grenier, Douglas, *Fundamental domains for $P_n/GL_n(\mathbb{Z})$ and applications in number theory.*

Hart, Susan O'Malley, *Depth-first classification of obstructions to planarity.*

Hobbs, Stephen Lee, *Statistical properties of a nonparametric regression function on S^2 .*

Messer, Karen Sue, *Boundary effects of smoothing splines.*

Stoppa, Jeffrey, *A functional equation for some Selberg zeta functions.*

University of California,

Santa Barbara

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

MATHEMATICS

Du, Ding-Zhu, *Generalized complexity cores and levelability of intractable sets.*

HassanAli, Mohamad, *On the structure and commutativity of certain classes of rings.*

Pan, Luquan, *Applications of rewriting techniques.*

Sadigh-Esfandiari, Ramin, *Theory and application of a maximum principle to a class of distributed parameter control problem.*

University of California,

Santa Cruz

(3;0,0,0,0,1,0,2)

MATHEMATICS

Cabaniss, Sharon Lee, *Bi-embeddings of the complete graph.*

Cotter, Christopher Scott, *The 1.1 resonance and the Hnon-Heiles family of hamiltonians.*

Schaffer, Karl, *The splitting number of other topological parameters of graphs.*

COLORADO

Colorado State University

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

STATISTICS

Ballerini, Rocco, *Records in the presence of a linear trend.*

Calvin, James A., *Confidence intervals for fixed factors in mixed models.*

Lu, Tai-Fang R., *Confidence intervals on sums, differences and ratios of variance components.*

University of Colorado

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

MATHEMATICS

Heiss, Herbert, *Large deviation principles of Markov processes in non-compact cases.*

Kessel, Catherine, *Compactness and expressive power of some generalized quantifiers.*

Lewin, Renato, *Interpretations into varieties of algebraic logic.*

Quillen, John, *An application of the Melnikov method of the planar three-body problem.*

University of Denver

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

MATHEMATICS AND
COMPUTER SCIENCE

Myers, J. Paul, Jr., *Software testing: A new methodology and a theory of complexity.*

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

MATHEMATICS AND APPLIED STATISTICS

Belstock, Alan, *The effects of specific heteroscedastic trends on the testing of hypotheses in regression analysis.*

Raney, Michael Eugene, *Common factors affecting stock price volatility.*

Zandi, Aziz, *Relationship of creativity with selected personal and academic variables in college students.*

CONNECTICUT

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

MATHEMATICS

Hefferon, James Stephen, *The structure of upper bounds for the arithmetical degrees.*

STATISTICS

Leighty, Robert McConnell, *Interaction terms for categorical variables.*

Wesleyan University
(1;1,0,0,0,0,0)

MATHEMATICS

Baloglou, George, *Compact covering numbers.*

Yale University
(6;2,4,0,0,0,0)

MATHEMATICS

Lee, In-Sok, *Liftings of irreducible characters of ${}^3D_4(q)$.*

Shamash, Josephine, *Blocks and Brauer trees for groups of type $C_2(q)$.*

STATISTICS

Fox, John V., *Probability models on the sphere for genetic fate mapping.*

Jones, Albyn C., *A stochastic analysis of the propagation of error in floating point calculations.*

Kogure, Atsuyuki, *Optimal cells for a histogram.*

Nolan, Deborah A., *U-Processes.*

DELAWARE

University of Delaware
(5;2,2,0,0,1,0,0)

MATHEMATICAL SCIENCES

Joglekar, Gitanjali, *A method of grouping observations for a near neighborhood lack of fit test in regression.*

Landau-Treisner, Laurellen, *Weakly close-to-convex meromorphic functions.*

Ochs, Robert Lamar, Jr., *The limited aperture problem of inverse acoustic scattering.*

Porter, John Frederick, *On the coupling of boundary integral and finite element methods for treating a class of singular perturbation problems.*

Shen, Yujin, *Pair comparison in eigenvalue approach.*

DISTRICT OF COLUMBIA

Catholic University of America
(1;0,0,0,0,1,0,0)

MATHEMATICS

Ahanger, Reza, *Existence of optimal controls for generalized dynamical systems.*

George Washington University
(12;1,4,0,7,0,0,0)

MATHEMATICS

Maleki, Amir Afrasiab, *Semigroups of quasicompact operators: Convergence and mean ergodic properties.*

OPERATIONS RESEARCH

Batcher, Robert Thomas, *Application of semi-Markov processes to the derivation of Lanchester coefficients.*

El-Dessouky, Samir Abdalla, *Stepwise regression using least absolute value criterion.*

Kioussis, Leonidas Christos, *Transient and steady-state analysis of Markovian multi-echelon repairable item inventory systems.*

McGrath, Michael Francis, *A subjective Bayesian approach to queuing theory.*

Nasser, Ahmed Awad, *Algorithmic problems in factorable programming with application to solution of model in systems dynamics.*

Soyer, Refik, *Random coefficient autoregressive processes and their ramifications: Applications to reliability growth assessment.*

Talbott, Carlos Maurice, Jr., *Graphical techniques for maintenance planning.*

STATISTICS/COMPUTER AND INFORMATION SYSTEMS

Blodgett, Robert Jay, *Combination tests on dependent data arising from equal employment litigation.*

Fan, Milton Chung-lien, *Estimation of parameters for the logistic regression model with partially incomplete observations.*

Nolan, Thomas W., *Simultaneous tests for time series data from designed experiments.*

Wright, Elizabeth C., *Conditional tests for third-order interaction in $2 \times 2 \times R \times C$ tables.*

FLORIDA

Florida State University
(7;2,4,0,0,1,0,0)

MATHEMATICS AND COMPUTER SCIENCE

Byrd, James Stanley, *Operators satisfying p -estimates.*

Jackson, Jay Alan, *On the shock cell structure and noise of imperfectly expanded supersonic jets.*

Zoeller, Martha Bettina, *Freeness of Hopf algebras over grouplike subalgebras.*

STATISTICS

Freitag, Steven A., *Estimating jointly system and component reliabilities using a mutual censorship approach.*

Mimmack, Gillian Mary, *Piecewise geometric estimation of a survival function and some results in total positivity orderings.*

Scoring, James Arthur, *Information in censored models.*

Young, Barbara Nelson, *The comparison of sensitivities of experiments.*

University of Florida
(3;1,2,0,0,0,0,0)

MATHEMATICS

Sousa, Michael, *Set-valued integrals.*

STATISTICS

Nickerson, David McLeod, *Sequential shrinkage estimation.*

Samara, Basil, *Tests for correlation and partial correlation based on Kendall's tau.*

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

MATHEMATICS AND COMPUTER SCIENCE

A Alvarez, Carlos, *Application of topological degree to the periodic competing species problem.*

Hosseini, Naser, *The geometric realization functor and preservation of finite limits.*

University of South Florida
(1;1,0,0,0,0,0,0)

MATHEMATICS

Mabry, Richard, *Control of space with preassigned responses.*

GEORGIA

Georgia Institute of Technology
(3;1,0,0,2,0,0,0)

MANAGEMENT

Bouakiz, Mokrane, *Risk sensitivity in stochastic optimization with applications.*

Chung, Kun-Jen, *Some topics in risk-sensitive stochastic dynamic models.*

MATHEMATICS

Hardin, Douglas Patten, *Hyperbolic iterated function systems and applications.*

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

STATISTICS

Srinivasan, Rajagopalan, *Some inference procedures for time series models.*

Vanichbuncha, Kanlaya, *Multiple comparisons with the best population.*

HAWAII

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

MATHEMATICS

Kohs, Werner Paul Georg, *Derivatives of meromorphic functions and solutions to second order differential equations with rational coefficients.*

IDAHO

Idaho State University
(1,0,0,0,0,0,1)

MATHEMATICS
Gillman, Richard Allan, *Homomorphisms of graphs.*

ILLINOIS

Illinois Institute of Technology
(1,0,0,0,0,1,0,0)

MATHEMATICS
Reichmann, Péter Iván, *Consistency condition for reduced integration on the Stokes operator.*

Illinois State University
(1,0,0,0,0,1,0)

MATHEMATICS
Burnham, James Norman, *The effects of extra study materials and notetaking instruction on intermediate algebra at the college level.*

Northwestern University
(8,2,1,0,0,2,0,3)

ENGINEERING SCIENCE AND APPLIED MATHEMATICS
Knessel, Charles, *Asymptotic analysis of state-dependent queueing systems.*
Lasseigne, David Glenn, *Ignition of a combustible solid with reactant consumption.*

MANAGERIAL ECONOMICS AND DECISION SCIENCES

Gresik, Thomas, *The effects of general valuation structures and dependent signal distributions on the efficiency of optimal trading mechanisms.*

Salchenberger, Linda, *Differential games in renewable resource problems.*

Sung, Keuk-Je, *Product differentiation and entry deterrence.*

MATHEMATICS

Cejtin, Henry, *Some cohomology of $GL_n(F_q)$ with coefficients and a category for generic cohomology.*

Jost, Steve, *Nonparametric additive regression.*

Stojanovic, Srdjan, *Free boundary problems.*

Southern Illinois University, Carbondale

(3,2,0,0,0,1,0,0)

MATHEMATICS

Islam, Muhammed, *Periodic solutions of Volterra integral equations.*

Krishnamani, Vatsala, *Finitely generated Witt rings of local type and n-linked Witt rings.*

Nyagura, Levi M., *Analogues of the Levy-Khinchin representation of a hypergroup.*

University of Chicago

(4,3,1,0,0,0,0,0)

MATHEMATICS

Chen, Lung-Kee, *On singular integrals.*

Hickey, Timothy John, *On the Fourier-Jacobi coefficients of certain Eisenstein series on a unitary group.*

Lemp, Steffen, *Topics in recursively enumerable sets and degrees.*

STATISTICS

Heitjan, Daniel F., *A model for age reporting.*

University of Illinois, Chicago
(3,3,0,0,0,0,0,0)

MATHEMATICS, STATISTICS AND COMPUTER SCIENCE

Lin, Lih-San, *Performance modeling of database systems.*

Samhan, Marouf, *First order definability in universal algebras.*

Vaughn, John, *Forking and modularity in stable theories.*

University of Illinois, Urbana-Champaign
(7,7,0,0,0,0,0,0)

MATHEMATICS

Goswami, Alok Kumar, *The prediction process of step-processes and applications.*

Hvidsten, Michael David, *Volume and energy stability for immersions.*

Kandilakis, Dimitrios, *On the theory of set-valued functions with application in approximation, optimization and control theory.*

Perez-Sequi, Maria Luisa, *Simplicial complexes and a partial classification of almost completely decomposable torsion free abelian groups.*

Siskakis, Aristomenis George, *Semigroups of composition operators and the Cesaro operator on $H^p(ID)$.*

Yamaguchi, Jinsei, *Aspects of large cardinals.*

Zhang, Wei-Bin, *Asymptotic distribution of Beurling's generalized prime numbers and integers.*

INDIANA

Indiana University
(4,2,1,0,0,1,0,0)

MATHEMATICS

Decker, Robert James, *Propagation of singularities for two-parameter stochastic processes with stationary independent increments.*

Paulik, George Francis, *Boundary regularity of solutions of certain elliptic systems.*

Titi, Edriss Saleh, *A uniform spectral estimate for the linearized Navier-Stokes operators and their Galerkin approximations.*

Wang, Chien-Tu, *On the Hausdorff dimension of two special sets for the Brownian sheet.*

Purdue University
(22,7,4,0,2,4,0,5)

INDUSTRIAL ENGINEERING

Ben-Arieh, David, *Knowledge-based control system for automated production and assembly.*

Chen, Peter, *A model formalism for the design of simulation model representation.*

Chen, Ye-Sho, *Statistical models of text generation: A system theory approach.*

Donmez, Alkan M., *A general methodology for machine tool accuracy enhancement: Theory, application and implementation.*

Lin, Chin-Wen, *An energy-effective production scheduling strategy for hierarchical control of steel manufacture.*

Lin, Yhu-Tin, *Geometric adaptive control for accuracy and stability in machining a cylindrical workpiece.*

Ong, Kim Lai-King, *Approximating nonstationary multivariate queueing models.*

Riesser, William Fitzhugh, *Electrotribology in metal cutting.*

Tirupatikumara, Soundar R., *Artificial intelligence techniques in facilities layout planning: Development of an expert system.*

MATHEMATICS

Ajanapon, Pimon, *A derivation of the classical limit of quantum mechanics and quantum electrodynamics.*

Himonas, Alexandros T., *On analytic microhypoellipticity of linear partial differential operators of principal type.*

Kulkarni, Devadatta M., *Semigroup of ordinary multiple point, analysis of straightening formula and counting monomials.*

Lin, Huaxin, *The structure of quasi-multipliers of C^* -algebras.*

Parker, Ellen Maycock, *The Brauer group of graded continuous trace C^* -algebras.*

Pheidas, Athanasios C., *The Diophantine problem for addition and divisibility in polynomial rings.*

Sun, Hsiao-lan, *Approximation theory in local rings.*

Yong, Jiongmin, *On differential games of evasion and pursuit.*

STATISTICS

Crank, Keith N., *Methods of approximating Markov jump processes.*

Moser, Barry Kurt, *Missing data in linear models with constant interclass correlation and random block designs with binary data.*

Ramalingam, T., *Statistical properties of file-merging methodology.*

Sohn, Joong K., *Multiple decision procedures for Tukey's generalized lambda distributions.*

Sundar, P., *Ergodic solutions of stochastic differential equations and related topics.*

University of Notre Dame
(3,3,0,0,0,0,0,0)

MATHEMATICS

Betley, Stanislaw, *Homological stability for $O_{n,n}$ over a local ring.*

Kennedy, George Thomas, III, *Foundations of super-simple surgery theory.*

Zukowski, Tomasz, *Connections between hermitian K-theory and symmetric L-theory.*

IOWA

Iowa State University
(13:0,11,0,0,2,0,0)

MATHEMATICS

Smith, Richard Allan, *Theoretical and numerical studies of some ill-posed problems in partial differential equations.*

Vijitha-Kumara, Kanaka Hewage, *Variable stepsize variable order multistep methods for stiff ordinary differential equations.*

STATISTICS

Anderson, Kevin Karl, *Limit theorems for renewal processes in the infinite mean case.*

Callanan, Terrance Patrick, *Restricted maximum likelihood estimation of variance components: Computational aspects.*

Crowder, Lee Ann, *Goal programming: Computational solutions for large-scale models.*

Crowder, Stephen Vernon, *Kalman filtering and statistical process control.*

Gan, Fah Fatt, *Goodness-of-fit statistics for location-scale distributions.*

Jeske, Daniel Robert, *Prediction intervals for the realization of a random variable under a general mixed linear model.*

Kim, Byung Hwee, *The admissibility of some generalized and stepwise Bayes estimators.*

McNulty, Mark Steven, *Information usage in the formation of price expectations: Theory and econometric tests.*

Rogers, Michael Philip, *Selection using a dichotomized auxiliary variate.*

Saad-Eldin, Mohamed Saad-Eldin, *The split-plot design with covariance.*

Tveite, Michael David, *Statistical aspects of L_1 regression.*

University of Iowa
(5:2,2,0,0,1,0,0)

APPLIED MATHEMATICAL SCIENCES

Kolpin, Van Warren, *Extensions and applications of effectivity function theory.*

MATHEMATICS

Neves, Vitor, *Topologies on spaces of smooth functions.*

Wolcott, Keith, *The knotting of theta-curves and other graphs in S^3 .*

STATISTICS AND ACTUARIAL SCIENCE

Amini, Saeid Baradaran, *A comparative study of selected covariance-adjusted survivorship data tests for treatment effects.*

Wollan, Peter Carl, *Estimation and hypothesis testing under inequality constraints.*

KANSAS

Kansas State University
(8:4,3,0,0,1,0,0)

MATHEMATICS

Castellini, Gabriele, *Closure operators, epimorphisms and Hausdorff objects.*

Grubb, Daniel Joseph, *Sets of uniqueness on compact zero-dimensional metric spaces.*

Kilmer, Shelby James, *Mutual absolute continuity and singularity of Riesz product measures.*

Koslowski, Jürgen, *Dedekind cuts and Frink ideals for categories.*

Miller, Timothy Lynn, *Low frequency behavior of solutions to Helmholtz equation in the exterior in \mathbb{R}^2 .*

STATISTICS

Bugaighis, Mohamed, *Small sample properties of estimates of Weibull regression parameters.*

Fermin, Jose Simon, *Noninteractive mathematical models for quantal responses to mixtures of compounds.*

Juico, Yolanda Tongol, *Use of nonconjugate prior distributions in compound failure models.*

KENTUCKY

University of Kentucky
(4:1,3,0,0,0,0,0)

MATHEMATICS

Waggoner, Daniel Floyd, *Loop spaces and the classical unitary groups.*

STATISTICS

Clemmens, Ann Elizabeth, *Some nonparametric contributions to linear models: Random effects models.*

Shetty, Ishwar Devara, *Contributions to the theory of nonparametric ANOVA.*

Wang, Chyan-Ji, *Numerically stable computational methods for dealing with ill-conditioned stepwise-type linear regression problems.*

LOUISIANA

Louisiana State University,
Baton Rouge
(1:1,0,0,0,0,0,0)

MATHEMATICS

Lynch, Mark James, *Spaces of order arcs in hyperspaces of subcontinua.*

Tulane University
(3:1,0,0,0,2,0,0)

MATHEMATICS

Melvin, Robin Guy, *Random choice methods for turbulent combustion model.*

Renegar, Cynthia Diane, *Inertial cobordisms.*

Rieder, Gisele Ruiz, *Mathematical contributions to Thomas-Fermi theory.*

MARYLAND

Johns Hopkins University
(6:3,1,0,2,0,0,0)

MATHEMATICAL SCIENCES

Choudhury, Dipa S., *The role of complex orthogonal matrices in matrix factorization.*

Lee, Huey-Miin, *Gain/variability trade-offs in Markov decision processes.*

Robinson, Alan M., *The isolation game and its generalization.*

Zucker, David M., *Survival data regression analysis with time-dependent covariate effects.*

MATHEMATICS

Ortacıgil, Ercument, *On growth of entire holomorphic mappings.*

Robinson, Margaret Maher, *On the complex powers associated with the twisted cases of the determinant and the Pfaffian.*

University of Maryland,
College Park
(14:1,2,0,1,10,0,0)

MATHEMATICS

Chan, Ngai Hang, *Asymptotic inference of nonstationary autoregressive processes.*

D'Annunzio, Camille Marie, *Numerical analyses of a singular perturbation problem with multiple solutions.*

Fisher, David, *Matrix computations on parallel processors in one, two and three dimensions.*

Jensen, Soren, *Dimensional reduction for nonlinear B. V. P.'s.*

Kostelich, Eric J., *Lorenz cross sections and basin and boundary structure of the double rotor map.*

Larsen, Soren, *Numerical analysis of elliptic partial differential equations with stochastic input data.*

Negrón-Marrero, Pablo Victor, *Large buckling of circular plates with singularities due to anisotropy.*

Shih, Ke-Gang, *Global bifurcation problems of axisymmetric buckling of complete spherical shells.*

Shih, Shagi-Di, *Asymptotic analysis of a singular perturbation problem.*

Tedeschini-Lalli, Laura, *How often do simple dynamical systems have infinitely many coexisting sinks?*

Tsao, Thomas, *Design and analysis of parallel adaptive algorithm for composite decision processes.*

Vohra, Rakesh, *Packing, covering and cyclic staffing.*

Weiss, Howard N., *The geometry of measured geodesic laminations and the earthquake flow on Teichmüller space.*

Winnicki, Jan, *A unified estimation theory for the branching process with immigration.*

MASSACHUSETTS

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

MATHEMATICS

Delmarco, Stephen, *The mathematical foundation of the scalar-vector potential approach to analyzing viscous incompressible flow.*

Tangerman, Folkert Meindert, *Morphologic continuation of Ruelle zeta functions.*

Brandeis University
(4;4,0,0,0,0,0,0)

MATHEMATICS

Mata-Lorenzo, Luis, *The Stein factorization for stable maps and π -stable arcs of maps from 3-manifolds into the plane.*

Sanchez, Rafael, *Structure theorem for grade 3 and type 3 perfect ideals.*

Srinivasan, Hema, *Multiplicative structures on some canonical resolutions.*

Stein, David, *Milnor's μ invariants, Massey products, and a geometric formulation.*

Harvard University
(20;6,1,3,0,4,0,6)

APPLIED SCIENCES

Bloch, Anthony, *Completely integrable Hamiltonian systems and total least squares estimation.*

Freytag, Johann-Christoph, *Translating relational queries into iterative programs.*

Klausner, Aviel, *Multirelations in relational databases.*

Mack, Iris, *Block implicit one-step methods for solving smooth and discontinuous systems of differential/algebraic equations.*

Macrakis, Stavros M., *A programming language to support transformational refinement.*

Ponte Castaneda, Pedro, *Asymptotic stress and deformation fields in steady crack growth with linear strain-hardening.*

Strogatz, Steven Henry, *The mathematical structure of the human sleep-wake cycle.*

BIOSTATISTICS

DeGruttola, Victor Gerard, *Multivariate models for longitudinal data: Diagnostics and resistant methods.*

Hirji, Karim Fatehali, *Exact logistic regression.*

Kalish, Leslie A., *Efficient design of clinical trials and observational epidemiologic studies.*

Lange, Nicholas Theodore, *Influence analysis for proportional hazards and longitudinal random-effects models.*

efkopoulou, Myrto, *The Cox regression model with discrete failure time data: A counting processes approach.*

MATHEMATICS

Call, Gregory, *Local heights on families of abelian varieties.*

Gomez-Mont Avalos, Carlos, *On local Torelli for extremal varieties.*

Puckette, Miller Smith, *Shannon entropy and the central limit theorem.*

Sanchez-Valenzuela, Oscar, *On supergeometric structures.*

Teitelbaum, Jeremy, *p -adic periods as moduli for Schottky curves of genus 2.*

Wu, Xian, *On the nondegeneracy of an infinitesimal invariant associated to normal functions.*

Yukie, Akihiro, *Applications of equivariant Morse stratifications.*

STATISTICS

Godfrey, Katherine, *Analysis of distributional shape using g - and h -distributions.*

Massachusetts Institute of Technology
(19;11,2,3,0,0,0,3)

MATHEMATICS

Amiran, Edoh Y., *Caustics and evolutes for convex planar domains.*

Baez, John C., *Conformally invariant quantum fields.*

Barrington, David A., *Bounded width branching programs.*

Bien, Frédéric V., *Spherical D -modules and representations of real reductive Lie groups.*

Butler, Lynne M., *Combinatorial properties of partially ordered sets associated with partitions and finite abelian groups.*

Collins, Karen L., *Distance matrices of trees.*

Hastad, Johan T., *Computational limitations for small depth circuits.*

Holt, Robert Jeffrey, *Computation of gamma tail probabilities.*

Lane, Thomas Paul, *A model for serial dependence in logistic regression.*

Lawton, Gregory M., *On cells in affine Weyl groups.*

Manuel, Guy, *Determining the number of subpopulations.*

Mathai, Varghese, *Heat kernels, Thom classes and the index theorem for imbeddings.*

Mazzeo, Rafe R., *Hodge cohomology of negatively curved manifolds.*

Rhodes, John A., *Modular forms on p -adic planes.*

Salamanca Riba, Susana A., *On unitary representations with regular infinitesimal character.*

Sengupta, Jyotirmoy, *Projection of orbits and K -multiplicities of a series of irreducible unitary representations.*

Shor, Peter W., *Random planar matching and bin packing.*

Smith, Daphne L., *Vapnik-Červonenkis classes and the supremum distribution of a Gaussian process.*

Sundaram, Sheila, *On the combinatorics of representations of $Sp(2n, C)$.*

Northeastern University
(3;0,0,0,0,0,0,3)

MATHEMATICS

Kelleher, Laura, *Domination in graphs and its application to social network theory.*

Ryan, Charles T., *New codes associated to Schubert cycles.*

Wu, Shu-Shi Yang, *Classes of n^* -edge-connected and k -critical graphs.*

University of Massachusetts, Amherst
(5;1,1,0,0,3,0,0)

MATHEMATICS AND STATISTICS

Baginski, Frank E., *An analysis of a system of nonlinear partial differential equations modeling the nonaxisymmetric buckling of an elastic spherical shell.*

Chen, Yi-Ying, *Symmetric and non-symmetric vortices for the Ginzburg-Landau equations.*

Jungster, Jerry Jonah, *The vertical heat equation.*

Link, William August, *Contributions to reliability theory and survival analysis.*

Picoult, Darri Cee, *Stationary random measures in euclidean spaces.*

MICHIGAN

Michigan State University
(6;2,1,0,0,3,0,0)

MATHEMATICS

Blaine, Larry, *Volterra-Lotka systems with small perturbations.*

Chan, Whei Ching, *A study of subharmonic solutions of second order equations.*

Gadbois, Steven, *Mixed norm generalizations of weighted Bergman spaces in the unit ball of C^N .*

Gee, Henry, *A model for the correction of the geometric distortion of multispectral scanner data.*

Vernon, Michael H., *Some isoperimetric hypersurfaces in a complex hyperbolic space and their counterparts in anti-Desitter space time.*

STATISTICS AND PROBABILITY

Karunamuni, Rohana Jith, *Empirical Bayes with sequential components.*

University of Michigan, Ann Arbor
(19;13,0,1,1,0,0,4)

INDUSTRIAL AND OPERATIONS ENGINEERING

Evans, Susan Mary Ruesch, *Ergonomics in manual workplace design: Current practices and an alternative approach.*

Lehto, Mark, *A structured methodology for expert system development with application to safety ergonomics.*

Vander Veen, David, *Parallel replacement under nonstationary deterministic demand.*

Wiker, Steven, *Effects of relative hand location upon movement, time and fatigue.*

Zabinsky, Zeld, *Computational complexity of adaptive algorithms in Monte Carlo optimization.*

MATHEMATICS

Bachman, Tovey, *Closed ideals in an algebra of analytic functions on an annulus.*

Gottron, Stephen, *Skorokhod stopping times of minimal initial expectations.*

Hsu, Felix Chang Wang, *Flowing R-manifolds over a circle.*

Leary, Christopher C., *Extensions of ideals in large cardinals.*

Marsall, Michael, *On dual algebras and their products.*

Martin, Gavin, *The geometry of quasi-conformal mappings.*

Maynes, Robert, *Ideals of real numbers in descriptive set theory.*

Nelder, Craig Allen, *A Poincaré and a Hardy-Littlewood theorem for harmonic functions and quasi-regular mappings.*

Selinas, Jerome A., *A theorem of metric topographic approximation, and estimate for sums involving binary digits.*

Thompson, Mary Lawrence, *Topics in the ideal theory of commutative Noetherian rings.*

Topiwala, Pankaj, *A twistor approach to the Einstein metric on $K3$.*

Unal, Aysenur, *Derivative type support points of the class S .*

Williamson, Calvin, *A phase cell cluster expansion for $\Phi^3/4$.*

Wyneken, Matthew Fair, *Norm behavior of orthogonal polynomials.*

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

MATHEMATICS

Ishiguro, Kenshi, *Classifying spaces of compact Lie groups.*

Western Michigan University
(1;0,0,0,0,0,0,1)

MATHEMATICS

Zou, Hung Bin, *On common subgraphs.*

MINNESOTA

University of Minnesota,
Minneapolis
(17;4,7,0,0,3,0,3)

BIOMETRY

Haight, Stewart, *The identification and support of medical decision-making weakness.*

Ogrinc, Francis Gerard, *The general linear model with logistic errors.*

Smith, Judith A., *Sample size requirements for studies of the etiologic fraction.*

MATHEMATICS

Carpentier, Michel, *p -adic analysis and exponential sums.*

Carvalho, Irene, *Variational methods for plastic crystals.*

Dokken, Douglas Paul, *Harmonic functions of locally compact groups.*

Hansen-Hulse, Jennie, *Asymptotic properties of random discrete graphs as the graph size grows.*

Johnson, James, *Some properties of a three-parameter family of diffeomorphisms of the plane, near a transcritical Hopf bifurcation.*

Lin, Fang-Hua, *Regularity for a class of parametric obstacle problems.*

Raisson, Jean, *Mean-curvature-preserving isometries of surfaces in arbitrary space.*

STATISTICS

Chapman, Phillip L., *Evaluation of a pivotal quantity for use with the bootstrap.*

Conaway, Mark R., *The repeated measurement of categorical data.*

Eick, Stephen G., *Sequential experimentation with delayed responses.*

Hodges, James Steven, *Methods for assessing the accuracy of some standard approximations.*

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McCulloch, Robert Edward, *Model influence in Bayesian statistics.*

Pederson, Shane P., *Misclassification in logistic regression.*

MISSISSIPPI

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

MATHEMATICS

Cole, Donald R., *Some existence results for steady state wave propagation in inhomogeneous anisotropic dispersive media.*

MISSOURI

St. Louis University
(1;0,0,1,0,0,0,0)

MATHEMATICS AND COMPUTER SCIENCE

Summers, Wayne, *Implementation guide and user's manual for a subset of PL/I on an Apple computer.*

University of Missouri, Columbia
(1;0,1,0,0,0,0,0)

STATISTICS

Khan, Bashir, *Classification of a set distributions.*

University of Missouri, Rolla
(1;0,1,0,0,0,0,0)

MATHEMATICS AND STATISTICS

Penas, Linda Marie, *Comparing a set of k statistical populations with respect to a control.*

Washington University
(11;7,0,0,1,3,0,0)

MATHEMATICS

Baigorri, Angel Rodolfo, *A new approach to inverse local times.*

Feldman, Marcus, *The atomic decomposition of weighted Bergman spaces on the Heisenberg group.*

Girela, Daniel, *Growth properties for certain classes of analytic functions.*

Steger, Tim Joshua, *Anisotropic harmonic analysis for homogeneous trees.*

Tabacco Vignati, Anita Maria, *Interpolation of quasi-Banach spaces.*

Vignati, Marco, *Interpolation: Geometry and spectra.*

SYSTEMS SCIENCE AND MATHEMATICS

Cheng, Dai-zhan, *On linearization and decoupling problems of nonlinear systems.*

Liu, Jiangbo, *Computer aided restoration of the large electric power system.*

Tunali, Emrullah Turhan, *Identifiability of nonlinear systems.*

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NEBRASKA

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MATHEMATICS AND STATISTICS

Beezley, Randall Scott, *Electromagnetic direct and inverse problems for absorbing media.*

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NEW HAMPSHIRE

Dartmouth College
(3;2,0,1,0,0,0,0)

MATHEMATICS AND COMPUTER SCIENCE

Levine, David Bruce, *The pairwise intersection problem for monotone polygons.*

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Rosenkrantz, Roger Daniel, *Random drifts.*

University of New Hampshire
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MATHEMATICS

Geuther, Karen Jean, *The role of error analysis, diagnostic grading procedures, and student reflection in first-semester calculus learning.*

Roy, Charles L., *Operator ranges of shifts and C^* -algebras.*

NEW JERSEY

Princeton University
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MATHEMATICS

Adem, Alejandro, *Finite transformation groups and their homology representations.*

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- Rosenkrantz, Roger Daniel, *Random drifts.*

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MATHEMATICS

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- Roy, Charles L., *Operator ranges of shifts and C^* -algebras.*

NEW JERSEY

Princeton University
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MATHEMATICS

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- Cao, Huai-Dong, *Deformation of Kähler matrices to Kähler-Einstein metrics on compact Kähler manifolds.*

- Chang, Sheldon, *Two-dimensional minimizing integral currents and minimal surfaces.*

Chen, So-chin, *Microlocal analysis on free nilpotent Lie groups.*

Chow, Bennett, *Deforming convex hypersurfaces by the heat equation.*

Diaz, Katharine, *The Szegő kernel as a singular integral kernel on a weakly pseudoconvex domain.*

Hales, Thomas Callister, *The subregular germ of orbital integrals.*

Heller, Peter, *Analyticity and regularity for nonhomogeneous operators on the Heisenberg group.*

Hodgson, Craig, *Degeneration and regeneration of geometric structures.*

Lafferty, John D., *The density manifold and configuration space quantization.*

Machedon, Matei, *Estimates for the parametriz of the Kohn laplacian on $(0, 1)$ forms for certain weakly pseudoconvex domains.*

Neff, Andrew, *Maximal function estimates for meromorphic Nevanlinna functions.*

Perry, Kevin, *Estimates for some integrals on the space of minimal surfaces in R^3 .*

Rivin, Igor, *On geometry of convex polyhedra in hyperbolic 3-space.*

STATISTICS

Easton, George Sawyer, *Finite-sample and asymptotic approaches to compromise estimation including compromise maximum-likelihood estimators.*

Hurvich, Clifford Marc, *A unified approach to spectrum estimations: Objective estimate choice and generalized spectral windows.*

Rutgers University, New Brunswick

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MATHEMATICS

Borsari, Lucilia Daruiz, *Bordism of semi-free circle actions on spin manifolds.*

Cordaro, Paulo Domingos, *On the range of the Lewy complex.*

Figueiredo, Leila, *Calculus of principally twisted vertex operators.*

Mandia, Marly, *Structure of the level one standard modules for the affine Lie algebras $F_4^{(1)}$ and $G_2^{(1)}$.*

Moloney, James, *First order theory of residue domains of rings of continuous functions.*

Orr, Kent, *New link invariants and applications.*

Thompson, Abigail, *Property P for some classes of knots.*

Teai, Yuh-Dong, *Cyclic group actions on homotopy complex projective spaces.*

Villarreal, Rafael H., *Koszul homology of Cohen-Macaulay ideals.*

Stevens Institute of Technology

(3,0,0,0,0,0,1)

MATHEMATICS

Yeh, Yuh-Dong, *A study of vertex algebras on graphs.*

NEW MEXICO

New Mexico State University

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

MATHEMATICAL SCIENCES

Dare, Adrienne Marie, *On the feasibility of using satellite doppler data for predicting an atmospheric index of refraction profile.*

Rojo, Hector J., *Basis functions in curved finite elements.*

University of New Mexico

(4,2,0,0,0,2,0,0)

MATHEMATICS AND STATISTICS

Ben Lemlih, Abdelali, *An extension of the method of averaging to partial differential equations.*

Dubrulle, Augustin A., *On matrix bidiagonalization and its application to the compression of large digital images.*

Echavarría, Hector, *Mean capture time calculations with applications to cell biology.*

Johnson, Karen Anne, *Largest induced subgraphs of the n -cube with excluded $2K$ -cycles.*

NEW YORK

Adelphi University

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

MATHEMATICS AND COMPUTER SCIENCE

Bohannon, Barbara J., *A system of conservation laws exhibiting a parabolic degeneracy on two intersecting lines.*

Clarkson University

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

MATHEMATICS AND COMPUTER SCIENCE

El-Tohami, Mohammed, *Mathematical problems of designing state and input observers for singular linear control systems.*

Saridakis, Yiannis G., *Parallelism, applicability and optimality of modern iterative methods.*

Columbia University

(12;9,0,0,0,0,0,3)

STATISTICS

Gomez, Guadalupe, *Estimation of the time-to-tumor distribution in serial/sacrifice experiments.*

Jeng, Huajin, *Contributions to spectral analysis with applications to electromyographic data.*

Olshansky, Moshe, *Topics on stopping times.*

Zhou, Mai, *Some nonparametric two sample tests with randomly censored data.*

MATHEMATICS

Datskovsky, Joseph, *Minimal geodesics on the sphere with three holes and word traces.*

Kueh, Ka-Lam, *Explicit formulas in analytic number theory.*

McEwan, Lee J., *Degenerations of rational surfaces to Inoue-Hirzebruch surfaces.*

Mizner, Robert, *On the geometry of CR structures of co-dimension 2.*

Smith, Kevin, *Two-generator groups of three-dimensional hyperbolic isometries.*

Wada, Masaaki, *Conjugacy invariants and normal forms of isometries of hyperbolic space.*

Ye, Yangbo, *Kuznetsov trace formula and base change.*

Zimmer, Robert, *Categories as a basis for algebraic automaton theory.*

Cornell University

(17;1,3,0,8,5,0,0)

APPLIED MATHEMATICS

Eteng, Ernest, *Density-stratified stagnation-point flow.*

French, Donald A., *The finite element method for a degenerate elliptic equation.*

Hockett, Kevin George, *Bifurcations of rational and irrational cantor sets and periodic orbits in maps of the circle.*

MATHEMATICS

Bennett, Allan D., *Continuous dependence on modeling in the Cauchy problem for second-order nonlinear partial differential equations.*

Persens, Jan, *On stabilizing ill-posed problems for partial differential equations under perturbations of the geometry of the domain.*

OPERATIONS RESEARCH

Aboudi, Ronny, *A constrained matching problem: A polyhedral approach.*

Bhaskaran, Bhanu G., *Almost sure ordering of some continuous time stochastic processes with applications.*

Cho, Dall Hoon, *Arranging points in R^d : A question of balance.*

Dietrich, Brenda Lynn, *A unifying interpretation of several combinatorial dualities.*

Ip, Chi Ming, *The distorted stationary point problem.*

Lee, Jonathan, *Subspaces with well-scaled frames.*

Lynch, David, *The guided decomposition algorithm for linear programming.*

Tipnis, Shailesh K., *Integer rounding and combinatorial max-min theorems.*

STATISTICS

Cecce, Margaret Ann, *A conditional approach to two-stage selection procedures.*

Legall, George, *A conservative test for normality.*

Phelan, Michael J., *Nonparametric inference from poisson-type counting.*

Zanelli, Marta, *Empirical Bayes methods in mixed linear models.*

New York University,
Courant Institute
(19;10,0,0,0,9,0,0)

MATHEMATICS

Börger, Christoph, *A Lagrangian fractional step method for the incompressible Navier-Stokes equations.*

Chan, Raymond Honfu, *Iterative methods for overflow queueing models.*

Chierchia, Luigi, *Quasi-periodic Schrödinger operators in one dimension, absolutely continuous spectra, Bloch waves, and integrable Hamiltonian systems.*

DeLillo, Thomas Knox, *A comparison of some numerical conformal mapping methods.*

Duke, William, *Some problems in multidimensional analytic number theory.*

Fein, Michael Bertrand, *Continuity of the distribution function of the sum of an additive and a multiplicative arithmetic function—an Erdős conjecture.*

Koralyov, Mikhail, *Long-time existence of the solutions of nonlinear wave equations.*

Lee, Tzong-Yow, *Large deviation theory for empirical density of noninteracting infinite particle systems.*

LeMesurier, Brenton John, *The focusing singularity of the nonlinear Schrödinger equation.*

McKenney, Alan, *The drift-kinetic model in the long-thin approximation.*

Menezes, Maria Lucia, *Infinite genus curves with hyperelliptic ends.*

Michalek, Raymond, *Multiplicity results for differential equations with symmetry.*

Ross, David Stewart, *Computation of the transonic flow about a swept wing in the presence of an engine nacelle.*

Rubinstein, Jacob, *Homogenization in domains with many free boundaries.*

Tarantello, Gabriella, *Some results on the minimal period problem for nonlinear vibrating strings and Hamiltonian systems; and on the number of solutions for semilinear elliptic equations.*

Van de Velde, Eric, *Algorithms for computational fluid dynamics on parallel processors.*

Vinacua, Alvaro, *Nonlinear elliptic equations written in terms of functions of the eigenvalues of the complex Hessian.*

Wolansky, Gershon, *Dissipative perturbations of completely integrable Hamiltonian systems with applications to celestial mechanics and geophysical fluid dynamics.*

Zhou, Zhengfang, *The existence of periodic solutions of nonlinear wave equations on S^n .*

Rensselaer Polytechnic Institute
(4;0,0,0,1,3,0,0)

MATHEMATICAL SCIENCES

Adjerid, Slimane, *Adaptive finite element methods for time dependent partial differential equations.*

Arney, David C., *An adaptive mesh algorithm for solving systems of time dependent partial differential equations.*

Jackson, Thomas L., *Effects of thermal expansion on the evolution and stability of combustion waves.*

Pedroso, Moacir, *Hybrid ellipsoid-sequential quadratic programming algorithms.*

SUNY at Buffalo
(6;2,0,0,0,4,0,0)

MATHEMATICS

Chi, Henjin, *On a numerical solution to a class of nonlinear delay-differential equations of mixed type.*

Hsu, Ray, *Topics on weakly almost periodic functions.*

Liu, De-fu, *Local energy decay for hyperbolic systems in exterior domains.*

Lu, Chunqing, *Multiple steady states and their stability in a biochemical system.*

Wang, Ching-an, *Multiple steady state solutions of buoyancy induced flows of a vertical ice wall melting in porous media saturated with pure and saline water.*

Yeh, Yeong-nan, *On the combinatorial species of Joyal.*

SUNY at Stony Brook
(13;5,2,0,2,4,0,0)

APPLIED MATHEMATICS AND STATISTICS

Al-Towaiq, Mohammed, *On a two-term based on incomplete factorization of large sparse systems.*

Driscoll, Michael A., *Numerical methods for the solution of integral equations of mathematical physics.*

Dynin, Svetlana, *Nonparametric probability density estimation.*

Garcia, Maria, *On numerical solutions of non-linear equations by homotopy methods.*

Gonzalez, Jaime, *On the role of signatures and strong spanning trees.*

Kim, Chul, *Continuum structure functions: Modules, bounds, axiomatization and reliability importance.*

Li, Wen-Jui, *Degree two inequalities, bipartite graphs and some extensions of antiblocking theory.*

Lin, Mu-Shieung, *An iterative method for the inverse problem of two dimensional diffusion equation.*

Thode, Henry, *Power of absolute moment tests against symmetric non-normal alternatives.*

MATHEMATICS

Abdulali, Salman, *Absolute Hodge cycles in Kuga fiber varieties.*

Hensley, Harvey Scott, *Equivariant Reidemeister torsion.*

Kerbaugh, Gary Lynn, *Surfaces of constant mean curvature one in hyperbolic space.*

Kupeli, Demir Nuri, *On null hypersurfaces and spacelike surfaces in spacetimes.*

Syracuse University
(5;4,0,0,0,1,0,0)

MATHEMATICS

Guzman, Fernando, *Countegrations and cohomology for commutative.*

Isaza, Pedro, *Functions of generalized bounded variation and Fourier series.*

Lbekkouri, Aboubakar, *On cohomological dimension of modules and algebras.*

Lebbar, Rachid, *Convergence and nonconvergence of numerical solutions of weakly singular integral and differential equations.*

Servatius, Herman J., *Graph groups*
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University of Rochester
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MATHEMATICS

Choi, Yun Sung, *Spaces of holomorphic functions.*

Hong, Sungpyo, *On the time-like geodesic flows on Lorentz manifolds of positive curvature.*

Ross, Shepley L., II, *Hecke operators for $F_0(N)$, their traces, and applications.*

STATISTICS

Hungerford-Harder, Melinda, *Effects of censoring on robustness.*

Kuranchie, Pasmor, *Estimators for the parameters of a linear regression model with random intercepts and heteroscedastic variances.*

Ramaswamy, Ravi, *Aspects of quasi-stationarity, exponentiality and relaxation time in birth-death processes.*

NORTH CAROLINA

Duke University
(6;3,1,0,0,2,0,0)

MATHEMATICS

Fehribach, Joseph David, *Perturbation methods for solid diffusion in an infinite two phase Stefan problem. Liquid phase epitaxy in GaAlAs.*

Fernandez-Carmena, Fernando, *Bilinear forms over algebraic varieties.*

Layton, Harold Erick, *A mathematical model of the urine concentrating mechanism.*

Massey, David Bradley, *Families of hypersurfaces with one-dimensional singular sets.*

Noguchi, Mitsunori, *Abelian-Hopf theory on Riemann surfaces.*

Rayens, William Steven, *A model for classifying linear mixtures.*

North Carolina State University,
Raleigh
(11;5,3,0,1,1,0,1)

MATHEMATICS

Clark, Kenneth Dean, *The numerical solution of linear time varying singular systems of differential equations by difference methods.*

Guglielmi, Josephine Patterson, *Compactifications with singular remainders.*

Hollis, Selwyn Lamar, *Globally bounded solutions of reaction-diffusion systems.*

Knowles, Paul Henry, *Symbolic integration in terms of error-functions and logarithmic integrals.*

Lopez-Permouth, Sergio Roberto, *Integration of quotients.*

STATISTICS

Aminzadeh, Mostafa S., *Prediction intervals in exponential families.*

Cid Serrano, Luis, *Estimation of the feedback parameters in a closed-loop system: A geophysical problem.*

Garoui, Abderrazak, *Estimating population totals from area frame samples.*

Pereira, Clifford Brian, *On admissibility among affine sets of linear estimators.*

Rady, El-Houssainy Abdelbar, *Testing fixed effects in mixed linear models.*

University of Oregon

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

MATHEMATICS

Lang, William Christopher, *The structure of hypergroup measure algebras.*

Pringle, Thomas Holt, *Exceptional Yang-Mills theory.*

Testerman, Donna Marie, *Certain embeddings of simple algebraic groups.*

PENNSYLVANIA

Carnegie-Mellon University

(6;1,3,0,0,2,0,0)

MATHEMATICS

Cayco, Maria Esperanza, *Finite element methods for the stream function formulation of the stationary Navier-Stokes equations.*

Heinricher, Arthur, Jr., *A singular stochastic control problem arising from a calculus of variations problem with non-Lipschitzian minimizers.*

STATISTICS

Follmann, Dean Albert, *Nonparametric mixtures of logistic regression models.*

Laskey, Kathryn, *Bayesian models of strategic interaction.*

Phillips, Kem F., *Compartment models with random parameters.*

Sungur, Engin, *Maximum self-decomposable distributions.*

Drexel University

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

MATHEMATICS AND COMPUTER SCIENCE

Siegler, Miriam, *Improved mathematical models of flat-plate collectors.*

Zhang, Yixin, *Parallel algorithms for problems involving directed graphs.*

Pennsylvania State University

(5;3,2,0,0,0,0)

MATHEMATICS

Alves, Carlos Serra, *Partitions of finite substructure.*

Garvan, Francis Gerard, *Generalizations of Dyson's rank.*

Schneider, Todd J., *On Vaught's conjecture and theories of order.*

STATISTICS

Becker, Mark P., *Analysis of discrete data using log-multiplicative models and other log-nonlinear models.*

Burn, David A., *The effect of time series outliers on the sample autocorrelation coefficient.*

Temple University

(9;1,4,0,2,2,0,0)

MATHEMATICS

Choi, Young-Ju, *Rational period functions for the modular group and real quadratic fields.*

Li, Shuchen, *Computer prediction of the interaction of...environmental electromagnetic fields...with biostructures...*

STATISTICS

Bohl, Alan, *A mathematical programming model for strategic management of a portfolio of business units.*

Cupingood, Leonard A., *Linear filtering and the ARIMA approach to seasonal adjustment and stock option pricing.*

Dorfman, Gerald Anthony, *Array calculus with applications in statistics.*

Kingsbury, Lilliam, *Evaluating robust regression estimators in the presence of influential points.*

Nydick, Robert L., Jr., *Evaluating optimal solution value estimation procedures for large scale optimization problems.*

Ramos, Juan, *Statistical procedures for evaluating disease clusters and their epidemiologic interpretations.*

Tan, Joseph Hiemhiem, *Exponential regression and its extension.*

University of Pennsylvania

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

MATHEMATICS

Beckmann, Sybilla Katherine, *Fields of definition of solvable branched coverings.*

Kaplan, Alexander, *Multi-states on operator algebras.*

Wenzl, Hans, *Representations of Hecke algebras and subfactors.*

University of Pittsburgh

(8;1,4,0,0,1,0,2)

BIOSTATISTICS

Arena, Vincent C., Jr., *Evaluation of the synthetic case-control design for occupational health.*

Schaid, Daniel J., *Evaluation of some multivariate nonparametric statistics for longitudinal studies.*

MATHEMATICS AND STATISTICS

Bueno, Vanderlei C., *Models in negative dependence through stochastic ordering for random variables conditioned on order statistics.*

Khattree, Ravindra, *Some contributions to the statistical theory of prediction: Selection indices and their construction.*

Lee, Meei-Yow Lin, *The reduced basis method for differential algebraic equation systems.*

Naik, Dayanand Narayana, *Ridge regression and other procedures in a prediction problem.*

Vaidya, Hina Prahlad, *Some contributions to the analysis of familial data.*

Yin, Yong Quan, *Spectra for large dimensional random matrices.*

RHODE ISLAND

Brown University

(21;9,1,0,0,9,0,2)

APPLIED MATHEMATICS

Fong, Jefferson, *Supersonic flow over axisymmetric and non-axisymmetric bodies.*

Grillakis, Manoussos, *Nodal characterization and instability for bound states of the Klein-Gordon equation.*

Kwok, Yue-Kuen, *Transonic controversy and regular perturbation methods for subcritical flow.*

Lippman, Alan Francis, *A maximum entropy approach for expert systems construction.*

Memory, Margaret Carolyn, *Bifurcation in a population model with delay and diffusion.*

Newton, Paul Kenneth, *Instabilities of the Ginzburg-Landau equation.*

Osborn, Brock, *Parameter estimation in pattern theory.*

Saul, Alan Bruce, *Visual cortical unit response properties in kittens given brief monocular experience following dark rearing.*

Sepulveda, Nicasio, *Solitary waves in the resonant phenomenon between surface and internal waves.*

Soner, Halil Mete, *Optimal control of piecewise deterministic processes with state-space constraint.*

Wang, Wen-Biao, *Stress and strain analysis of fibre-reinforced sheets with bending stiffness.*

Wei, Musheng, *Numerical computation of scattering frequencies.*

Zou, Qisu, *Over-taking collision between two solitary waves.*

MATHEMATICS

Anderson, John T., *Algebras of solutions to partial differential equations.*

Coghlan, C. Leslie, *Tight stable mappings of surfaces.*

Deutsch, Jesse I., *Identities on modular forms in several variables derivable from Hecke transformations.*

Freije, Richard M., *Intersection formulae and volume calculations for Mumford curves.*

Garrity, Thomas, *On ample vector bundles and negative curvature.*

Napolitano, Margaret, *Higher dimensional formal groups and the formal group of the Jacobian.*

O'Grady, Kieran, *Moduli of abelian and K3 surfaces.*

Schwalbe, Daniel, *K-theory for discrete subgroups of the Lorentz groups.*

University of Rhode Island
(1,0,0,0,0,1,0,0)

MATHEMATICS

LaTourrette, Robert A., *Efficient recursive batch time delay difference estimation in the presence of target motion.*

SOUTH CAROLINA

University of South Carolina
(5,2,1,0,0,2,0,0)

MATHEMATICS

Koo, Reginald, *Sharp inequalities for the conjugate function.*

Miller, Valerie Ann, *Successive overrelaxation methods for solving large scale rank deficient least square problems.*

Wojcicka, Ewa, *Functions of bounded characteristic on multiply connected domains.*

Yan, Zheng, *Monotonicity preserving curve fitting algorithms.*

STATISTICS

Lubecke, Andre, *Nonparametric maximum penalized likelihood estimation of lifetime density functions.*

TENNESSEE

Memphis State University
(1,0,1,0,0,0,0,0)

MATHEMATICAL SCIENCES

Singh, Karan Pal, *Some carcinogenesis models and effects of metabolism on cancer tumor development.*

University of Tennessee
(2,1,1,0,0,0,0,0)

MANAGEMENT SCIENCE

Melton, Kim Ingrid, *A procedure for initiating process control.*

MATHEMATICS

Choi, Jung-In, *Mappings of ANR's whose images are ANR's.*

Vanderbilt University
(4,3,0,0,0,1,0,0)

MATHEMATICS

Chyan, Chuan Jen, *Two linear population models and their associated semigroups.*

Lane, Mark Timothy, *The third axiom of countability characterization of balanced projective abelian groups and applications.*

Leubury, Youngwinon, *Modelling fermentation processes.*

Patching, David Steven, *Hyperspaces of some direct limit spaces.*

TEXAS

North Texas State University
(1,0,0,0,0,0,1)

MATHEMATICS

Rice, David M., *Consistency in lattices.*

Rice University
(9,1,1,0,0,7,0,0)

MATHEMATICAL SCIENCES

Carter, Richard Gordon, *Multi-model algorithms for optimization.*

Gonzalez, Ruth, *Domain decomposition for two-dimensional elliptic operators on vector and parallel machines.*

Hüsemann, Joyce Ann Stevens, *Histogram estimators of bivariate densities.*

Killough, John, *A multi-level domain decomposition algorithm suitable for the solution of three-dimensional elliptic partial differential equations.*

Li, Guangye, *Algorithms for solving sparse nonlinear systems of equations.*

McKay, Edward G., *Electromagnetic propagation and scattering in spherically symmetric terrestrial system models.*

Olkin-Meza, Juan Camilo, *Conjugate residual methods for almost symmetric linear systems.*

Olkin-Meza, Julia Ann, *Linear and nonlinear deconvolution models.*

MATHEMATICS

Li, Hsiu-Hsiang, *Geometrically contained curves and the calculus of variations.*

Southern Methodist University
(7,0,2,0,2,2,0,1)

MATHEMATICS

Allgaier, Darrell E., *Wave number shocks for the tail of Korteweg-de Vries solitary waves in slowly varying media.*

McWilliams, Joseph Graves, *Properties of the transfer function in compartmental models.*

OPERATIONS RESEARCH

Asaad, Elnidani, *The multicommodity, multiperiod assignment problem.*

Harris, E. Douglas, *Development and implementation of a management training program for engineers in product design and manufacturing organizations.*

Rotimi, Aderohunmu, *The solution of multiperiod network models with bundle constraints by aggregation.*

STATISTICS

Carmody, Thomas, *Diagnostics for multivariate smoothing splines.*

Thombs, Lori Ann, *Bootstrap prediction intervals for autoregressive processes.*

Texas A & M University
(5,0,5,0,0,0,0,0)

STATISTICS

Berdine, Ronald James, *Improving risk characterization based on time to response.*

Burguete, Esteban, *On the generalization of a time-to-response cancer risk assessment model.*

Harpaz, Avraham, *Stationary time series, quantile functions, nonparametric inference and rank transform spectrum.*

Stevens, Gary Richard, *Estimation in spatial time series.*

Tsukuda, Yoshihiko, *Asymptotic expansions of the distributions of test statistics for the slope in a simple linear functional relationship.*

Texas Tech University
(1,1,0,0,0,0,0,0)

MATHEMATICS

Mohammad-Ali, Rosihan, *Properties of Möbius transformations of convex mappings.*

University of Houston
(3,3,0,0,0,0,0,0)

MATHEMATICS

Bruni, Anthony James, *Nonnegative nontrivial fixed points of orthogonal projections.*

Muoneke, N'Ekwunife, *On the stochastic and doubly stochastic powers of nonnegative square reducible matrices.*

Zeng, Xianwu, *A qualitative investigation of coupled systems of nonlinear oscillators.*

University of Texas, Arlington
(1,1,0,0,0,0,0,0)

MATHEMATICS

Poorkarimi, Hushang, *Qualitative and quantitative investigation of some hyperbolic partial differential equations.*

University of Texas, Austin
(5,2,1,1,0,1,0,0)

MATHEMATICS

Chou, Shang-ching, *Proving and discovering geometry theorems using Wu's method.*

Luecke, John Edwin, *Finite covers of Haken 3-manifolds.*

McKemie, Marcia Jean, *Quasiconformal groups and quasisymmetric embeddings.*

Moore, Leslie Melissa, *Ordering the points in factorial experiments to protect against early termination.*

Rulla, James Lorin, *A Stefan problem with prescribed convection.*

UTAH

University of Utah
(4,2,0,0,0,0,0,2)

MATHEMATICS

Albano, Alberto, *Infinite generation of the Griffiths group: A local proof.*

Jordan, Michael Charles, *Convolutional curves and surfaces.*

Pulte, Michael Joseph, *The fundamental group of a Riemann surface: Mixed Hodge structures and algebraic cycles.*

Whelan, Tracy M., *Geodesic curves on rectangular polynomial Bezier surface patches.*

VIRGINIA

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

MATHEMATICS

Irvine, Larry Dean, *Minimal norm constrained interpolation.*

Saunders, Bonita Valerie, *Algebraic grid generation using tensor product B-splines.*

University of Virginia
(3;1,0,0,0,2,0,0)

APPLIED MATHEMATICS AND COMPUTER SCIENCE

Poole, Eugene L., *Multi-color incomplete Cholesky conjugate gradient methods for vector computers.*

Schlüssel, Kent, *Multi-module Markov decision processes.*

MATHEMATICS

Lehman, James Larry, *An application of the Shimura correspondence to the modular curve $X_0(49)$.*

Virginia Commonwealth University
(2;0,0,0,0,0,0,2)

BIOSTATISTICS

Rode, Richard A., *The use of Box-Cox transformations in the development of multivariate tolerance regions with applications to chemical chemistry.*

Schwiderski, Ute Ellen, *A unified MANOVA-GMANOVA theory and splines.*

Virginia Polytechnic Institute and State University
(11;0,5,0,0,6,0,0)

MATHEMATICS

Derezinski, Jan, *Existence and analyticity of many body scattering amplitudes at low energies.*

Fabiano, Richard Henry, *Approximations of integro-partial differential equations of hyperbolic type.*

Ganchev, Alexander Hristov, *Boundary value and Wiener-Hopf problems for abstract kinetic equations with nonregular collision operators.*

Noren, Richard Dennis, *Uniform L1 behavior for the solution of a Volterra equation with a parameter.*

Turi, Janos, *Well posedness questions and approximation schemes for a general class of functional differential equations.*

Walus, Wlodzimierz Ignacy, *Stationary solutions of abstract kinetic equations.*

STATISTICS

Chung, Jain, *Control chart procedures based on cumulative ganging scores.*

Hilow, Hisham, *Economic expandible-contractible sequential factorial designs for exploratory experiments.*

Lee, Wonwoo, *Fractional principal components estimation: A general approach to biased estimators.*

Wu, Ying-Keh, *Empirical Bayes procedures in time series regression models.*

Zhang, Nien Fan, *Estimating partial group delay.*

WASHINGTON

University of Washington
(10;7,2,1,0,0,0,0)

MATHEMATICS

Asmar, Nakhle, *The conjugate function on locally compact Abelian groups.*

Chacon, Rene Manuel, *Barrier stopping times and the filling scheme.*

Hui, Stefan Young-Yin, *Qualitative properties of solutions to H^∞ optimization problems.*

Kolinek, Martin, *Geometric methods in computational complexity.*

Noble, Steven, *Diffusions on vector bundles and the heat equation for forms.*

Pearlman, Austin C., *Algebraic extensions of the Brown-Peterson spectrum.*

Ringseth, Paul Frederick, *Invariant Eisenstein systems.*

Salehi, Ebrahim, *Dynamics and unique ergodic properties of functions on semi-groups.*

STATISTICS

Ko, Daijin, *Robust statistics on compact metric spaces.*

Zamar, Ruben H., *Robust estimation for the errors-in-variables model.*

Washington State University
(4;1,0,0,1,2,0,0)

MATHEMATICS

Farris, Steven, *Fully transitive polyhedra.*

Gupta, Nilama, *A higher than first order algorithm for non-smooth constrained optimization.*

Ueda, Minoru, *Some models for evolution in geographically structured populations with selection and selective-migrates.*

Zhang, Baohuan, *A nonlinear stability analysis of a fixed-boundary model equation for alloy solidification.*

WISCONSIN

University of Wisconsin, Madison
(30;15,9,0,0,1,0,5)

INDUSTRIAL ENGINEERING

Ballakur, Arvind, *An investigation of part family/machine group formation for designing cellular manufacturing systems.*

Peterson, James G., *Personal qualities and job characteristics of expert engineers and planners.*

Qu, Weishuang, *Two-dimensional layout of regular and irregular shapes on stock sheets of multiple sizes.*

Sakman, Guldal, *An empirical study on three methods of problem definition of ill-structured situations.*

Valisek, John, *Information requirements determination: An empirical investigation of obstacles within an individual.*

MATHEMATICS

Ebel, David J., *Stability theory of a toroidal plasma with viscosity, resistivity and Hall effect.*

Haefner, Jeremy A., *Direct sum behavior of lattices over Sigma-1 rings.*

Hwang, Suk Geun, *Minimization problems for the permanent function on classes of nonnegative matrices.*

Loper, Kenneth Alan, *On rings without a certain divisibility property.*

McCord, Christopher K., *Mappings and homological properties in the Conley index theory.*

Mischaikow, Konstantin M., *Homoclinic and heteroclinic orbits for a class of 4-dimensional Hamiltonian systems.*

Reed, Robert Charles, *A decidable Ehrenfeucht theory with exactly two hyperarithmetic models.*

Reineck, James Francis, *The connection matrix and the classification of flows arising from ecological models.*

Scofield, Jeremy, *Nielsen fixed-point theory for fiber-preserving maps.*

Shahriari, Shahriar, *Capable groups and fully ramified characters.*

Solheid, Ernie S., *On the spectral radius and the determinant of matrices of zeros and ones.*

Sueiro-Bal, Juan, *On maximal functions and Poisson-Szegő integrals.*

Tatsuoka, Kay S., *The word problem for alternating knots and finite volume hyperbolic groups.*

Thron, Christopher P., *Properties and analytic development of the largest eigenvalue for a class of transfer operators, with applications.*

Zielinski, Michael F., *Highly oscillatory singular integrals along curves.*

Zivaljevic, Rade T., *Infinitesimal analysis and homology theory.*

STATISTICS

Bisgaard-Frantzen, Soren, *Topics in industrial statistics.*

Chow, Shein-Chung, *Resampling procedures for the estimation of nonlinear functions of parameters.*

Jorn, Hongsuk, *An algorithm for unbalanced multifactorial ANOVA model with contrasts.*

Kim, Kyungmann, *Estimation following sequential tests in clinical trials.*

Meyer, Ralph Daniel, *Analysis of factorial experiments.*

Sanders, Elizabeth, *Minimum bias estimation for first and second order rotatable response surface.*

Shiau, Jyh-Jen Horng, *Smoothing spline estimation of functions with discontinuities.*

Thornquist, Mark, *Modelling discrete time ordinal disease progression data by proportional hazards.*

Wolf, Dennis A., *Nonlinear least squares for linear compartmental models.*

University of Wisconsin, Milwaukee
(3;3,0,0,0,0,0,0)

MATHEMATICAL SCIENCES

Devine, Thomas Gerard, *Algebraic and topological considerations of one-pointed rings.*

Muthavel, Kandasamy, *Existence and nonexistence of independent sets in the generalized linear continua. Behavior of the ordinal functions $\phi(\alpha)$ and $\psi(\alpha)$ defined by $2^{\aleph_\alpha} = \aleph_{\alpha+\phi(\alpha)}$ and $\aleph_\alpha^{(\alpha)} = \aleph_{\alpha+\psi(\alpha)}$.*
 Nicol, Sherrie Jean, *Continuous exact sets.*

WYOMING

University of Wyoming
 (5:4,0,0,0,1,0,0)

MATHEMATICS

Sochacki, James S., *Mathematical model of seismic wave research.*

STATISTICS

Drummer, Thomas David, *Size-bias in line transect sampling.*

Fenwick, James W., *Information content of land classification systems.*

Lawton, Barbara, *Mixtures of random fields—estimation and simulation.*

Ospina-Bolero, David, *A maximum likelihood approach in multiple frame surveys.*

CANADA

Carleton University
 (2:1,1,0,0,0,0,0)

MATHEMATICS AND STATISTICS

Idris, Ismail Mohamed, *Valuated division rings, orderings and elliptic Hermitian spaces.*

Prasad, N. G. Narasimha, *Small area estimation and measurement of response error variance in surveys.*

Dalhousie University
 (1:1,0,0,0,0,0,0)

MATHEMATICS, STATISTICS AND COMPUTING SCIENCE

Higson, Nigel David, *Algebraic K-theory of stable C^* -algebras.*

McGill University
 (2:2,0,0,0,0,0,0)

MATHEMATICS AND STATISTICS

Kaczynski, Tomasz, *Topological transversality of condensing set-valued maps.*

Simons, Lloyd Douglas, *The structure of the Hilbert symbol for unramified extensions of 2-adic number fields.*

McMaster University
 (2:2,0,0,0,0,0,0)

MATHEMATICAL SCIENCES

El-Helaly, Sherif Taha, *Topological algebras with orthogonal M -bases.*

Kamal-ElDeen, Mahmoud Ahmed, *Modules in which complements are summands.*

Queen's University
 (3:1,0,0,0,0,0,0)

MATHEMATICS AND STATISTICS

Goan, Andrew Paul, *Characterizing impure epimorphisms and impure monomorphisms.*

Simon Fraser University
 (2:2,0,0,0,0,0,0)

MATHEMATICS

Chun, Chong C., *Certain minimal theories.*

Loveys, James, *Certain weakly minimal theories.*

Université de Montréal
 (5:4,1,0,0,0,0,0)

MATHÉMATIQUES ET STATISTIQUE

Bouabdillah, Driss, *Modules directs et fortement directs sur anneaux principaux.*

Bouanane, Abdelmalek, *Sur les TAG-anneaux commutatifs.*

Hattab Ibrahim, Saadia, *Modules localement rectifiables et rectifiables.*

Krawcewicz, Wieslaw Zbigniew, *Contribution à la théorie des équations non linéaires dans les espaces de Banach.*

Théberge, Alain, *Les modèles linéaires et la théorie de l'estimation pour l'échantillonnage en plusieurs occasions.*

Université Laval
 (2:1,0,0,0,1,0,0)

MATHÉMATIQUES, STATISTIQUES ET ACTUARIAT

Bouchoum, Mohamed, *Groupe des unités d'un composé d'un corps quadratique et d'une extension cyclique réelle de degré 4 de \mathbb{Q} .*

Manouzi, Hassan, *Approximation par éléments finis d'un modèle de simulation de la turbulence.*

University of British Columbia
 (4:2,0,0,0,1,0,1)

MATHEMATICS

Hare, Kathryn Elizabeth, *Thin sets and strict 2-associatedness.*

Loewen, Philip Daniel, *Proximal normal analysis in dynamic optimization.*

Swaters, Gordon Edwin, *On the stability and propagation of barotropic modons in slowly varying media.*

Yiu, Paul Yu Hung, *Topological and combinatoric methods for studying sums of squares.*

University of Calgary
 (5:3,1,0,0,0,0,1)

MATHEMATICS AND STATISTICS

Islam, Muhammad Nurul, *Bayesian estimation of some generalized probability distributions.*

Sankaran, Parameswaran, *Vector fields on flag manifolds.*

Wani, Prabhakar R., *Study of the S -module $\text{Hom}_R(RM, R N)$ where $S = \text{End}_R M$.*

Yousif, Mohamed Fouad, *V-modules and generalized V-modules.*

Zaguia, Nejib, *Schedules, cutsets and ordered sets.*

University of Toronto
 (4:3,0,0,0,1,0,0)

MATHEMATICS

Boivin, Daniel, *Local ergodic theorems for multiparameter resolvents and abelian processes.*

Bose, Christopher John, *Generalized Baker's transformations.*

Li, Zi-Cai, *Numerical methods for elliptic boundary value problems with singularities.*

Poulin, Jean, *Stratification for noetherian families of submodules of $k[[y]]^p$ and metric properties of real analytic sets.*

University of Waterloo
 (6:1,1,0,1,2,0,1)

APPLIED MATHEMATICS

McInnis, Celia, *A study of class of Stefan problems.*

Van Roessel, Henry J. J., *Steady and unsteady three-dimensional hypersonic flow theory.*

COMBINATORICS AND OPTIMIZATION

Bourjolly, Pierre-Michel Jean-Marie, *Integral and fractional node-packings, and pseudo-boolean programming.*

Ellingham, Mark Norman, *Isomorphic factorizations of regular graphs.*

PURE MATHEMATICS

Kommel, Helene Janet, *On the non-counting congruence of order 2.*

STATISTICS AND ACTUARIAL SCIENCE

Thavaneswaran, Aerambamoorthy, *Estimation of semimartingales.*

University of Western Ontario
 (7:3,2,0,0,2,0,0)

APPLIED MATHEMATICS

Loh, Ching Yuen, *Numerical techniques for free surface problems in viscous incompressible and porous flows.*

Phillips, Stephen Blair, *Green's functions involving gauge-transformed field variables.*

MATHEMATICS

Mayorquin-Garcia, Jesus-Manuel, *Homology and K-theory of loop spaces.*

Moreno-Rodriguez, Guillermo, *Sphericals and primitive classes in the bordism of compact Lie groups.*

Zaldivar-Cruz, Felipe De Jesus, *Localized algebraic K-theory.*

STATISTICAL AND ACTUARIAL SCIENCES

Jandhyala, Venkata Krishna, *Residual processes for regression models with applications to detection of parameter changes at unknown times.*

Koval, John J., *Logistic regression models with correlated observations.*

University of Windsor
 (2:0,0,0,0,2,0,0)

MATHEMATICS

Chew, Kok-Thai, *MHD flows with arbitrary angle between velocity and magnetic fields.*

Grossman, George William, *Finite-difference algorithms for incompressible flow over an arbitrary symmetric profile.*

Doctoral Degrees Conferred 1984-1985

Supplementary List

The following entries supplement the list of thesis titles published in the November 1985 *Notices*, pages 774-786, and the March 1986 *Notices*, page 298.

COLORADO

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

MATHEMATICS

Meyerowitz, Aaron, *Partial geometric lattices.*

NEW YORK

Cornell University
(1;0,0,0,1,0,0,0)

OPERATIONS RESEARCH

Domich, Paul David, *Residual methods for computing Hermite and Smith normal forms.*

THE BIEBERBACH CONJECTURE: Proceedings of the Symposium on the Occasion of the Proof
Albert Baernstein, David Drasin, Peter Duren
and Albert Marden, Editors
(Mathematical Surveys and Monographs, Volume 21)

For 70 years, the Bieberbach conjecture has intrigued the mathematical world. In 1977, Louis de Branges of Purdue University took up the challenge of this famous unsolved problem. He will be recognized as the mathematician who proved Bieberbach's conjecture. And more importantly, his method came from totally unexpected sources: operator theory and special functions.

This book, based on the Symposium on the Occasion of the Proof, tells the story behind this fascinating proof and offers insight into the nature of the conjecture, its history and its proof. A special and unusual feature of the book is the enlightened personal accounts of the people involved in the exciting events surrounding the proof. Especially attractive are the photographs of mathematicians who have made significant contributions to univalent functions, the area of complex analysis which provides the setting for the Bieberbach conjecture.

Research mathematicians, especially analysts, are sure to enjoy the articles in this volume. Most articles require only a basic knowledge of real and complex analysis. The survey articles are accessible to non-specialists, and the personal accounts of all who have played a part in this important discovery will fascinate any reader.

1980 Mathematics Subject Classifications: 30, 47
ISBN 0-8218-1521-0, LC 86-10843, ISSN 0076-5376
260 pages (hardcover), 1986
List price \$45, Institutional member \$36, Individual member \$27
Code SURV/21NA

Shipping/Handling: 1st book \$2, each add'l \$1, \$25 max. By air, 1st book \$5, each add'l \$3, \$100 max.
Prepayment required. Order from AMS, P.O. Box 1571, Annex Station, Providence, RI 02901-1571, or call 800-556-7774 to use VISA or MasterCard.



Some Basic Hypergeometric Orthogonal Polynomials that Generalize Jacobi Polynomials

Richard Askey and James Wilson

(Memoirs of the AMS, Number 319)

The classical orthogonal polynomials include those of Hermite, Laguerre, Jacobi and discrete analogues found by Chebychev, Charlier, Meixner and Hahn. In an earlier paper the authors found the most general set of classical orthogonal polynomials whose weight function is discrete. The same polynomials with different choices of parameters have an absolutely continuous weight function. The explicit orthogonality relation is obtained, many special cases are considered, and a few facts about these polynomials are discovered. These include quadratic transformations for some basic hypergeometric series, a solution of

Watson's extension of the Rogers-Ramanujan identities, inequalities for the polynomials on the spectral interval, a divided difference equation and a Rodrigues type formula. All of the paper rests on a new extension of the beta integral which has four rather than two free parameters in addition to the q associated with basic hypergeometric series.

1979 Mathematics Subject Classification:
05A17
ISBN 0-8218-2321-3, LC 84-28117
ISSN 0065-9266
iv + 56 pages (softcover), March 1985
List price \$11, Institutional member \$9,
Individual member \$7

Doctoral Degrees Conferred in 1985-1986 (Supplementary List)

The following list supplements the list of thesis titles published in the November 1986 issue of *Notices* (see page 924 for an explanation of the numbers in parentheses).

ARIZONA

University of Arizona
(8;2,0,0,0,6,0,0)

APPLIED MATHEMATICS

Clough, Anne, *A mathematical model of single photon emission computed tomography.*

Dagan, Arie, *Some aspects of vortex line reconnection.*

Hammel, Steven, *A dissipative map of the plane—a model for optical bistability.*

Shelley, Michael, *The application of boundary integral techniques to multiply connected domains.*

Tonellato, Peter, *Critical behavior of an ignition model in chemical combustion.*

Weyker, Robert, *Resonance and asymptotic series based identification of an acoustically rigid sphere.*

MATHEMATICS

Sade, Martin, *Variational principles for field variables subject to group actions.*

Wang, Kwang-Shang, *Finite groups for which every complex representation is realizable.*

ILLINOIS

University of Chicago
(3;2,0,0,0,1,0,0)

MATHEMATICS

Crane, Louis, *Action of the loop group on the self-dual Yang-Mills equation.*

Harris, John, *Stable splittings of classifying spaces.*

Squeff, Christina, *Super-convergence of mixed finite element methods for parabolic equations.*

NEW YORK

CUNY, Graduate Center
(2;1,0,0,0,1,0,0)

MATHEMATICS

Benardete, Diego, *Topological equivalence of flows on homogeneous spaces, divergence of subgroups, and asymptotic homotopy classes.*

Kim, Myong-Hi, *Complexity of Newton-Euler type algorithms.*

PENNSYLVANIA

Carnegie-Mellon University
(4;1,0,0,0,2,0,1)

MATHEMATICS

Chang, Ching Lung, *Finite element approximations for first order linear elliptic systems.*

Hodgdon, Marion Louise, *Solutions of the Field relations in a theory of shear bands.*

Strojwas, Malina, *Tangential approximations.*

Turner, James Clarence, *A finite element analysis of a zero equation model of turbulence.*

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

MATHEMATICS

Bailey, Carmine Michael, *On the optimum design of piston rings.*

Schaffer, Matthew John, *Permanence and universal family theorems for conull FK spaces.*

SOUTH CAROLINA

Clemson University
(7;1,1,1,0,1,0,3)

MATHEMATICAL SCIENCES

Chien, Victor, *Parameter estimation for a diffusion problem in a semi-infinite interval.*

Kovalcik, William, *A lumped parameter model of evaporation-condensation driven convective flows in atmospheric environments.*

Padua, Roberto, *Some robust estimates of the regression coefficients.*

Peters, Kenneth, *Theoretical and algorithmic results on domination and connectivity.*

Piazza, Barry, *Hamiltonian and connectivity properties of permutation graphs.*

Portier, Frederick J., *An integrated approach to discrete simulation: Theory, methodology, and computer aided program generation.*

Stueckle, Samuel, *Algebraic and isomorphism properties of permutation graphs.*

Aboulaich, Rajae, *Méthodes du gradient conjugué pour la résolution numérique des équations de Navier-Stokes*. 1986.

Allouache, Mahmoud, *Fonctions caractéristiques de certaines classes de fonctions indéfiniment dérivables*.

El Koutri, Abdelkader, *Semi-groupes d'opérateurs, classes de vecteurs quasi-analytiques et les problèmes qui s'y rattachent*.

Essaloui, Driss, *Méthodes numériques pour la simulation d'écoulements visco-élastiques*.

Iamuremye, Alphonse, *Théorie de Fredholm et de Riesz dans les algèbres de Banach*.

Ider, Mostefa, *Calcul symbolique dans les classes de fonctions indéfiniment dérivables et quasi-analyticité généralisée*.

Souissi, Ali, *Quelques problèmes d'optimisation de formes en hydrodynamique*.

University of Alberta
(2:0,1,0,0,1,0,0)

MATHEMATICS

Sawatzky, Ronald Peter, *Wave phenomena in fluid-filled distensible tubes: dispersion, dissipation and reflection*.

STATISTICS
AND APPLIED PROBABILITY

Upadrashta, Surya Prakash, *Induced order statistics—A quantile estimator*.

University of British Columbia
(3:2,1,0,0,0,0,0)

MATHEMATICS

Aubertin, Bruce Lyndon, *Algebraic numbers and harmonic analysis in the p -series case*.

Reimers, Mark Allan, *Hyper-finite methods for multi-dimensional stochastic processes*.

STATISTICS

Coldman, Andrew James, *The development of resistance to anti-cancer agents*.

University of Calgary
(4:1,2,0,0,1,0,0)

MATHEMATICS AND STATISTICS

Currie, James, *Nonrepetitive walks in graphs and digraphs*.

Easwaran, Chirakkal V., *Evolution of perturbations of some nonlinear dispersive wavetrains*.

Fanoye, Felix Kiya, *Inference theory for some generalized discrete probability models*.

Gombay, Edit, *Applications of density estimators*.

University of Manitoba
(4:1,0,0,0,0,0,0)

MATHEMATICS AND ASTRONOMY

Chen, Daniel Ching, *Asymptotic behaviour of wave scattering diffraction patterns*.

University of New Brunswick
(1:0,0,0,0,1,0,0)

MATHEMATICS AND STATISTICS

Chartron, Richard Jacques, *Nonlinear discrete approximations*.

University of Toronto
(3:1,0,0,0,2,0,0)

MATHEMATICS

Hackborn, William Walter, *Separation in interior Stokes flows driven by rotlets*.

Jessup, Barry John, *Rational Lusternik-Schnirelmann category and a conjecture of Ganea*.

Scott, Paul James, *Sufficient conditions for optimal control of multiple basin tidal power systems*.

University of Waterloo
(9:1,3,0,0,2,0,3)

APPLIED MATHEMATICS

Sahoo, Prassanna Kumar, *Theory and application of some measures of uncertainty*.

Sulston, Kenneth Ward, *Interaction of atoms and ions with solid surfaces*.

COMBINATORICS AND
OPTIMIZATION

Boyd, Sylvia Cameron, *The subtour polytope of the travelling salesman problem*.

Curran, Donald, *Constructions for resolvable and doubly resolvable designs*.

Wiedemann, Douglas Henry, *Hamming geometry*.

PURE MATHEMATICS

Easton, David Charles, *Applications of the hypergeometric function in effective diophantine approximation*.

STATISTICS AND ACTUARIAL
SCIENCE

Gould, Ann, *Some issues in the regression analysis of survival data*.

Willmot, Gordon E., *A class of counting distributions with insurance applications*.

Yatawara, Nihal, *Defection of outliers and random events in time series*.

University of Western Ontario
(4:1,1,0,0,2,0,0)

APPLIED MATHEMATICS

Chowdhury, Mansur Abdul, *Preregularization and anomalies*.

Schuck, Peter Laurens, *Numerical solution of subsidence mound problems in porous media*.

MATHEMATICS

Markovich, Tom N., *On a Tauberian theorem for Borel-type methods of summability*.

STATISTICAL AND
ACTUARIAL SCIENCES

Kheoh, Thian San, *Topics in time series analysis and forecasting*.

University of Windsor
(3:0,1,0,0,2,0,0)

MATHEMATICS AND STATISTICS

Jinadasa, Kankaran Gamage, *Matrix derivatives with application to estimation problems in multivariate statistics*.

Sharma, Ramesh, *Cauchy-Riemann [CR]-submanifolds of semi-Riemannian manifolds with applications to relativity and hydrodynamics*.

Siddiqui, Abdul Majeed, *Flow problems of the fluids of differential type*.

Doctoral Degrees Conferred 1985-1986

Supplementary List

The following entries supplement the list of thesis titles published in the November 1986 *Notices*, pages 924-938, and the February 1987 *Notices*, page 261.

MINNESOTA

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

STATISTICS

Ho, Chih-Hsiang, *One-sided sequential stopping boundaries for clinical trials: Classical and Bayesian approaches*.

WASHINGTON

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

MATHEMATICS

Booker, Andrew, *Construction of some reflecting Brownian motions*.