

Doctoral Degrees Conferred 1981-1982

THE ANNUAL AMS list of doctoral degrees in the mathematical sciences and related subjects reports 860 degrees conferred between July 1, 1981, and June 30, 1982 by 232 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 numbers 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)

MATHEMATICS

Imam, Ibrahim N., *On the class of inverse M-matrices.*

Litz, Owen Campbell, *Semigroups of column stochastic matrices.*

University of Alabama, Tuscaloosa
(2;2,0,0,0,0,0)

MATHEMATICS

Ivory, Lee R., *Normal complements in mod p envelopes.*

Mahmoud, Mohammad Abdul-Fattah H., *On the dynamical properties of certain discrete flows.*

CALIFORNIA

California Institute of Technology
(9;3,0,0,0,5,0,1)

APPLIED MATHEMATICS

Barker, John Wilson, I. *Interactions of fast and slow waves in problems with two time scales.* II. *A numerical experiment on the structure of two-dimensional turbulent flow.*

Brown, David Leslie, *Solution adaptive mesh procedures for the numerical solution of singular perturbation problems.*

Mueller, James R., I. *The analysis of the rewetting of a vertical slab using a Weimer-Hopf technique.* II. *Asymptotic expansions of integrals with three coalescing saddle points.*

Romero, Louis Anthony, I. *Similarity solutions of the equations of three phase flow through porous media.* II. *The fingering problem in a Hele-Shaw cell.*

Scheid, Robert E., *The accurate numerical solution of highly oscillatory ordinary differential equations.*

MATHEMATICS

Howard, Ralph Elwood, *The volume of tubes in homogeneous spaces.*

Rands, Bruce M. I., *Maximal cliques in graphs associated with combinatorial systems.*

Wiid, Franz G., *Aspects of the theory of normed spaces.*

Wolfskill, John Charles, *On a special class of reduced algebraic numbers.*

Claremont Graduate School
(2;1,0,0,0,1,0,0)

MATHEMATICS

Lambert, John Patrick, *Some developments in optimal and quasi-Monte Carlo quadrature, and a new outlook on a classical Chebyshev problem.*

Volz, Rudolf, *Global asymptotic stability of a periodic solution to an epidemic model.*

Stanford University
(25;5,8,1,9,2,0,0)

MATHEMATICS

Brooks, Peter Sloat, *Paths generated by the homotopy method for solving systems of equations.*

Brulois, Frederic Paul, *Arbitrarily precise estimates for symmetric capillary surfaces.*

Davis, James Frederic, *Evaluation of the Swan finiteness obstruction.*

Higdon, Robert Lynn, *Boundary conditions for hyperbolic systems of partial differential equations having multiple time scales.*

Hunter, John Kelso, *Weakly nonlinear wave propagation.*

Klotz, Richard Galen, *A new inequality for surfaces of general type.*

Korevaar, Nicholas Jacob, *Capillary surface behavior determined by the bounding cylinder's shape.*

Massey, William Alfred, *Non-stationary queues.*

Robson, Robert Oscar, *The ideal theory of real algebraic curves and affine embeddings of semi-algebraic spaces and manifolds.*

OPERATIONS RESEARCH

Cantaluppi, Laurent Jean, *Semi-Markov decision chains with holding-time-dependent policies.*

Dobson, Gregory Chase, *Some exact and approximation algorithms for packing and covering problems.*

Fenelon, Mary Catherine, *Preconditioned conjugate-gradient-type methods for large-scale unconstrained optimization.*

Iusem, Alfredo Noel, *Continuous time linear programs with economic applications.*

Kim, Sehun, *General equilibrium models: Formulation and computation.*

Lafond, Louis Joseph, *On the deterministic production planning of a large hydroelectric system.*

Tovey, Craig Aaron, *Polynomial local improvement algorithms in combinatorial optimization.*

Wilson, Thomas F., *Energy price policies in Canada and Mexico.*

STATISTICS

Anderson, Keaven M., *Moment expansions for robust statistics.*

Chen, Chen-Hsin, *Correlation type goodness-of-fit tests for randomly censored data.*

Huffer, Fred W., *The moments and distributions of some quantities arising from random arcs on the circle.*

Iyengar, Satish, *On the evaluation of certain multivariate normal probabilities.*

Kelly, Gabrielle E., *The influence function in the errors in variables problem.*

Kuk, Anthony, *A mixing distribution approach to estimating particle size distributions.*

McDonald, John Alan, *Interactive graphics for data analysis.*

Zaman, Arif, *An approximation theorem for finite Markov exchangeability.*

University of California, Berkeley

(15;3,8,0,1,0,1,2)

BIOSTATISTICS

Hudes, Mark, *Improvements in screening effectiveness and efficiency from increasing the number of predictors in logistic risk analysis.*

Tan, Leonard, *Comparison of procedures for detecting space-time clustering of human diseases.*

LOGIC AND METHODOLOGY OF SCIENCE

Nash, Peter David, *Reduction theorems in model theory and topology.*

MATHEMATICS

Cochran, Thomas Daniel, *Embedding 4-manifolds in S^5 .*

SCIENCE AND MATHEMATICS EDUCATION

Rin, Hadas, *Linguistic barriers to students' understanding of definitions in a college mathematics course.*

STATISTICS

Abramson, Ian Stephen, *On kernel estimates of probability densities.*

Draper, David Charles, *Rank-based analysis of linear models.*

Ellis, Steven Paul, *Density estimation for point process data.*

Hetherington, Thomas, *Analysis of directional data by exponential models.*

Holmes, Robert Milton, *Contributions to the theory of parametric estimation in randomly censored data.*

Hsiung, Jaw Huan, *Calculation of measures of information for life test experiments and inventory models.*

Loh, Wei-Yin, *Tail-orderings on symmetric distributions with statistical applications.*

Reeves, Jaxk Halbert, *A statistical analysis and projection of the effects of divorce on future U.S. kinship structure.*

- Vasudevan, Srinivas, *Probability approximations for sums of independent and non-identically distributed random variables.*
- Wang, Jane-Ling, *Asymptotically min-max estimators for distributions with increasing failure rate.*
- University of California, Davis**
(1;0,0,0,0,1,0,0)
- MATHEMATICS
- Hall, Mary Stuart, *Numerical solution to the Stokes equations for flow past two spheres and a chain of particles attached to a sphere, with an application to filter clogging.*
- University of California, Irvine**
(4;3,1,0,0,0,0,0)
- MATHEMATICS
- Harrington, David James, *Seminormal composition operators.*
- Murufas, Roderic, *Inverse spectral problems and the determination of spectral multiplicities from positive matrix measures.*
- Reid, John Gordon, *Estimate on moments of the solutions to stochastic differential equations in the plane.*
- Williams, Patrick R., *Coordinate-free linear models, the multivariate binomial distribution, and applications.*
- University of California, Los Angeles**
(12;5,4,0,0,2,0,1)
- BIOMATHEMATICS
- Louy, Charles, *Mathematical models of oxygen transport in skeletal muscle.*
- BIOSTATISTICS
- Lui, Kung-Jong, *Bayesian approach to small domain estimation.*
- Nessim, Sharon Anne, *An evaluation of the small sample properties of Cox, Mantel Haenszel, and Wilcoxon survival tests in the presence of covariate information.*
- Plourde, Robert S., *An investigation of chi-square statistics: With applications to the analysis of matched pair designs.*
- MATHEMATICS
- Adjemian, B. Carol, *A three-chamber hydroelastic model of the cochlea.*
- Bland, John Scott, *Local boundary behaviour of the canonical Einstein-Kahler metric on pseudo-convex domains.*
- Carbery, Anthony Patrick, *Some sharp estimates for Fourier multipliers.*
- Chou, Wu-Nan, *Classification of metabelian p -groups.*
- Chuang, Chen-Lian, *The propagation of scales by game quantifiers.*
- Marron, James Stephen, *Optimal rates of convergence in nonparametric discrimination.*
- Sanders, Richard Stephen, *On convergence of monotone finite difference schemes with variable spatial differencing.*
- Tyler, Douglas Blaine, *Determination of groups of exponent p and order p^7 .*
- University of California, Riverside**
(4;2,2,0,0,0,0,0)
- MATHEMATICS
- Duncan, Melody Jane, *Order dimension in compact partially ordered spaces.*
- Motte, David L., *A constructive approach to minimal projections in Banach spaces.*
- STATISTICS
- Angus, John, *Goodness-of-fit tests for exponentiality based on loss-of-memory type functional equations.*
- Zahedi-Jasbi, Hassan, *Multivariate mean remaining life function: Structural characterization and inference.*
- University of California, San Diego**
(8;4,1,0,0,1,0,2)
- MATHEMATICS
- Dick, Wayne Earl, *Bridges and duality.*
- Hunter, John Alan, *Harmonic analysis over imaginary quadratic number fields.*
- Rodriguez, José, *Tableaux representation of finite structures.*
- Sands, Jonathan Winslow, *The conjecture of Gross and Stark for special values of Abelian L -series over totally real fields.*
- Scales, William Alan, *Interpolation with meromorphic functions of minimal norm.*
- Tsai, Kao-Tai, *Asymptotic expansions for the distribution of some polynomial regression estimates.*
- Wallace, Dorothy Irene, *Selberg's trace formula and units in higher degree number fields.*
- Whitney, Roger Earl, *Bijective studies of tableaux, matrices, and reverse plane partitions.*
- University of California, Santa Barbara**
(5;3,1,1,0,0,0,0)
- MATHEMATICS
- Amrine, Brian Delbert, *Characterization and construction of approximately finite dimensional von Neumann algebras.*
- Chen, Pinyuen, *An alternative definition of correct selection in ranking and selection problems.*
- O'Dunlaing, Colm Pdraig, *Finite and infinite regular Thue systems.*
- Psomopoulos, Evagelos, *On the commutativity of certain classes of rings.*
- Yamini, Amir H., *Structure and commutativity of rings with constraints on generalized commutators.*
- University of California, Santa Cruz**
(1;1,0,0,0,0,0,0)
- MATHEMATICS
- Roccaforte, Raymond, *Asymptotic expansions of traces for certain convolution operators.*
- University of Southern California**
(5;0,0,5,0,0,0,0)
- COMPUTER SCIENCE
- Baker, Deborah, *The use of requirements in rigorous system design.*
- Chu, Wellington, *Structure comparison and semantic interpretation of differences.*
- Fellows, Jonathan, *Applications of abstract data types: The trio operating system.*
- King, Roger, *A semantics-based methodology for database design and evaluation.*
- Vilnrotter, Felicia, *Structural analysis of natural textures.*
- COLORADO**
- Colorado State University**
(11;4,2,0,0,5,0,0)
- MATHEMATICS
- Egger, Alan, *Constrained approximation and strong uniqueness in L^p spaces.*
- Kerayechian, Asghar, *Age-dependent population with finite life span.*
- Nikolopoulos, Christos, *On the closed socle of orders.*
- Ruge, John W., *Multigrid methods for differential eigenvalue and variational problems and multigrid simulation.*
- Santanilla, Jairo, *A degree theoretic approach to solutions of operator equations lying in convex sets with applications.*
- Schaffer, Steven, *Higher order multi-grid methods.*
- Tento, Scott W., *The Benard problem with a free and deformable surface.*
- Twombly, Evan Eugene, *Bifurcating instability of the free surface of a ferrofluid.*
- Zorabi, Honargohar, *Weak star convergence of signed Borel measures on the unit square.*
- STATISTICS
- Krier, Margaret Josephine, *Models and maximum-likelihood inference for multiple-mode censored survival processes.*
- Lucas, Robert Murray, *Asymptotic moments and distributions of the first exit time of controlled branching processes.*
- University of Colorado**
(3;2,0,0,0,1,0,0)
- MATHEMATICS
- Carter, Thomas J., *Localized homotopy of the classical Lie groups.*
- Ely, Richard Wayne, *Existence theorems, comparison techniques, and the method of lines for parabolic functional equations.*
- Larsen, Eric, *Negative definite functions on locally compact groups.*
- University of Denver**
(1;0,0,0,0,1,0,0)
- MATHEMATICS AND COMPUTER SCIENCE
- Naroditsky, Vladimir A., *Finite dimensional quantum mechanics.*
- University of Northern Colorado**
(10;2,4,0,1,0,2,1)
- APPLIED STATISTICS
- Al-Eidarous, Al-Sayd Omar Hussein, *An objective policy for selection and assignment of Saudi Arabian Foreign Ministry personnel.*

Bory, Alexander, *Physiological measures and psychological factors in biofeedback.*

Freese, Rudolph John, Jr., *Characteristic physical correlates of urban residential dilapidation.*

French, Vikki, *Subjective judgement analysis of Maya pottery.*

Megahed, Abdul-Razek Mohamed, A Monte Carlo investigation of the normality assumption with truncated normal populations.

Zaher, Adel M., *A comparison between the means procedure and some nonparametric procedures for selecting the best normal population under heterogeneity of variance.*

MATHEMATICS

Bushyager, G. Ray, II, *The development of a mathematics attitude inventory for secondary students in the Des Moines public schools.*

Dodd, Fred, *Number theory in the integral domain $\mathbf{Z}(\frac{1}{2} + \sqrt{5})$.*

Manzer, William Hector, *Applications of mathematics for classroom instruction in several areas of undergraduate mathematics*

Veed, Ellen, *A study of the Fréchet space $L_p, 0 < p < 1$.*

CONNECTICUT

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

STATISTICS

Carter, John Frederick, *Smoothed decision rules for categorical data models.*

Wesleyan University
(4;4,0,0,0,0,0)

MATHEMATICS

Barel, Zeev, *Jónsson-Tarski topoi.*

Jung, Robert, *The structure of Chebyshev spaces.*

Niedzwecki, Gregory, *Rings on groups.*

Peters, Thomas Joseph, *Remote points, G-spaces and products.*

Yale University
(16;5,4,5,0,2,0,0)

COMPUTER SCIENCE

Douglas, Craig, *Multi-grid algorithms for elliptic boundary-value problems.*

Dyer, Michael, *In-depth understanding: A computer model of integrated processing for narrative comprehension.*

Elman, Howard C., *Iterative methods for large, sparse, nonsymmetric systems of linear equations.*

Shapiro, Yhud, *Algorithmic program debugging.*

Weiser, Alan, *Local-mesh, local-order, adaptive finite element methods with a posteriori error estimators for elliptic partial differential equations.*

ENGINEERING AND APPLIED SCIENCE

Shichman, Gideon, *Pattern recognition strategies for the classification of brain electrical potentials.*

Singhal, Sharad, *An adaptive signal synthesis technique for a parametric array.*

MATHEMATICS

Boe, Brian Douglas, *Homomorphisms between generalized Verma modules.*

Carter, J. Scott, *Surgery on immersions: A geometric approach to stable homotopy.*

Cogdell, James Wesley, *Arithmetic quotients of the complex 2-ball and modular forms of nebentypus.*

Fife, James Henry, *Triple products in the Steenrod algebra.*

Krikeles, Basil Constantin, *Estimates for certain non-linear singular integral operators.*

STATISTICS

Bergman, Sten W., *Acceptance sampling: The buyer's problem.*

Irvine, John M., *Changes in regime in regression models.*

Oehlert, Gary William, *Estimating the mean of a positive random variable.*

Ramey, Daniel Bruce, *A non-parametric test of bimodality with applications to cluster analysis.*

DELAWARE

University of Delaware
(3;1,0,1,1,0,0,0)

COMPUTER AND INFORMATION SCIENCES

Islam, Noorul, *Program transformation in functional languages.*

MATHEMATICAL SCIENCES

Lucantoni, David Michael, *An algorithmic analysis of a computer-communications model.*

Wardle, Roger Williams, *Hyperspaces, compactifications, and N-linked systems.*

DISTRICT OF COLUMBIA

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

MATHEMATICS, STATISTICS AND COMPUTER SCIENCE

Asproudis, Spyros, *A principal components approach to some multivariate estimation problems with incomplete data.*

Fasanelli, Florence Dowdell, *The creation of sheaf theory.*

Goodstein, Harvey, *Mathematics preparation and mathematics in-service training needs and preferences of mathematics teachers of the hearing impaired in the United States.*

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

MATHEMATICS

Azimi, Parviz, *Two classes of separable Banach spaces.*

George Washington University
(2;0,0,0,2,0,0,0)

OPERATIONS RESEARCH

Mandelbaum, Jay, *Numerical issues in inference for finite mixtures of Weibull distributions under progressive censoring.*

Rockman, Mark Joel, *Convergence of a direct algorithm for nonlinearly constrained nonlinear programming problems.*

FLORIDA

Florida State University
(9;2,4,0,2,1,0,0)

MATHEMATICS AND COMPUTER SCIENCE

Burton, Dale, *Application of the method of matched asymptotic expansions to large scale instability waves and sound radiation problems.*

Dowlen, Mary Margaret, *On the R-automorphism of $R[X]$.*

STATISTICS

Arghami, Nasser Reza, *Partial sequential tests for the mean of a normal distribution.*

Dabadie, Catherine Anne D., *Stochastic versions of rearrangement inequalities with applications to statistics.*

Joe, Harry Sue Wah, *Percentile residual life functions—properties, testing and estimation.*

Johannesson, Benedikt, *Solutions to continuous time programming problems.*

Mohamed, Fouad Yehia, *Estimation and prediction for exponential time series models.*

Mousa, Amany M., *Estimation of a multivariate location vector.*

Ramos, Paulo Cesar F., *Generalized fractional programming.*

University of Florida
(5;2,3,0,0,0,0,0)

MATHEMATICS

Hsieh, Grace Lienzu Lin, *Convergence theorems for vector integrals.*

Mayer, John Clyde, *Embeddings of plane continua and the fixed point property.*

STATISTICS

Conlon, Michael J., *Continuously adaptive M-estimation in the linear model.*

Schott, James Robert, *The multivariate one-way classification model with random effects.*

Shelton, John T., *Testing lack of fit in a mixture model.*

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

MATHEMATICS AND COMPUTER SCIENCE

Raichoudhary, Ram Krishna, *Induced model category structures.*

GEORGIA

Emory University
(2;2,0,0,0,0,0,0)

MATHEMATICS AND COMPUTER SCIENCE

Francel, Margaret Ann, *Self-conjugate sets of mutually orthogonal Latin squares.*

Johnson, Corlis Powell, *Constructions of neofields and right neofields.*

Georgia Institute of Technology
(6;0,0,0,4,2,0,0)

INDUSTRIAL AND SYSTEMS
ENGINEERING

Ammons, Jane Caumley, *Long range generation expansion planning for power systems.*

Carreno, José, *Economic lot scheduling for multiple products on parallel processors.*

Malmborg, Charles Joseph, *A unified approach to selection, design and evaluation of measures of performance for organizational decision processes.*

Yu, Hsiao-Cheng David, *Unified freight transportation model.*

MATHEMATICS

Boisvert, Robert E., *Group analysis of the Navier-Stokes equations.*

Mokole, Eric Louis, *Sinusoidal excitation of half-infinite chains of harmonic oscillators with one isotopic defect.*

University of Georgia

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

MATHEMATICS

Wang, Derming, *A similarity theorem for a class of Toeplitz operators.*

STATISTICS AND
COMPUTER SCIENCE

Anderson, Margaret Shugart, *Minimax eccentricity estimation in factor analysis of singular matrices.*

Chan, Micah Yik-Man, *Modified moment and maximum likelihood estimators for parameters of the three-parameter inverse Gaussian distribution.*

HAWAII

University of Hawaii

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

PUBLIC HEALTH SCIENCES

Joeseof, Mohamad R., *Epidemiological model and resource allocation for tuberculosis control in the Republic of Korea.*

IDAHO

Idaho State University

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

MATHEMATICS

Graves, George Elton, *Computer-drawn contour maps.*

ILLINOIS

Illinois Institute of Technology

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

COMPUTER SCIENCE

El-Dessouki, Ayman, *A hierarchical model for manipulator control systems.*

MATHEMATICS

Schmitt, Paul W., *Countably additive invariant functionals.*

Illinois State University

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

MATHEMATICS

Witkowski, Joseph Charles, *Cognitive-oriented supplementary material and students' cognitive processes and performance in college remedial algebra.*

Northwestern University

(7;2,0,0,2,1,0,2)

INDUSTRIAL ENGINEERING AND
MANAGEMENT SCIENCES

Eigen, Daryl, *Human-machine protocols for new telephone services: Field evaluation and design.*

Kumar, Ravi, *Product differentiated equilibria—structural stability, maximal dispersion.*

Lyon, Patricia Kay, *Time-dependent structural equations modelling the relationship between attitudes and discrete choice behavior of transportation consumers.*

Moran, Lisa, *Office automation: Debunking the myths concerning its impact on the individual and the organization, a case study.*

MATHEMATICS

Hastings, Kevin John, *Control of stochastic processes in discrete and continuous time.*

Sedlacek, Steven, *A direct method for minimizing the Yang-Mills functional over four dimensional manifolds.*

Williams, Steven Roger, *A geometric study of smooth decentralized economic mechanisms.*

University of Chicago

(14;12,1,0,0,1,0,0)

MATHEMATICS

Barrett, David, *Transverse symmetries and proper holomorphic maps.*

Brown, David Cory, *Alternating-direction iterative schemes for mixed finite element methods for second order elliptic problems.*

Christ, F. Michael, *Restriction of the Fourier transform to submanifolds of low codimension.*

Cohen, Gerald M., *Hardy spaces: Atomic decomposition, area functions, and some new spaces of distributions.*

Coombes, Kevin R., *Algebraic K-theory and abelianized fundamental groups of curves.*

Friedberg, Solomon, *Theta functions, liftings, and generalized Hilbert modular forms.*

Lucier, Bradley J., *Dispersive approximations of hyperbolic conservation laws.*

Moy, Allen, *Local constants and the tame Langlands correspondence.*

Namboodiri, Unni, *Equivariant vector fields on spheres.*

Schoen, Chadmark, *Algebraic cycles on desingularized nodal hypersurfaces.*

Schwarz, Steven T., *Quotient lattices, index sets, and recursive linear orderings.*

Srinivas, V., *Zero cycles on a singular surface.*

Turull, Alexandre, *Automorphisms of solvable groups.*

STATISTICS

Brown, Charles Hendricks, *Missing values in factor analysis.*

University of Illinois, Chicago

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

MATHEMATICS

Bozdogan, Hamparsum, *Multi-sample cluster analysis and approaches to validity studies in clustering individuals.*

Jensen, Anna-Lise, *Grothendieck rings and integral representation rings of Hopf-algebra orders.*

Wazwaz, Abdul-Majid A., *Uniform approximations for a singular perturbation problem with interior turning point at the boundary in the diffusion process.*

University of Illinois, Urbana-Champaign

(29;14,2,0,0,8,0,5)

MATHEMATICS

Anderson, Claude Wilson, III, *Solutions of quadratic equations in small cancellation groups.*

Borden, J. Martin, *Bounds and constructions for codes protecting against asymmetric errors.*

Fisher, Evan David, *Some almost sure convergence results.*

Gardiner, Christopher John, *A classification of Kupka-Smale flows on the torus.*

Goldberg, Larry A., *Transformations of theta-functions and analogues of Dedekind sums.*

Grear, Joseph Frank, *Analyses of the Lanczos algorithm and of the approximation problem in Richardson's method.*

Haring-Smith, Robert Henry, *Groups and simple languages.*

Kurtz, Stuart Alan, *Randomness and genericity in the degrees of unsolvability.*

Marble, Robert Patrick, *Orthomodular lattices and cut elimination.*

McConnell, Terry Robert, *Inequalities for random walk and partially observed Brownian motion.*

McCurley, Kevin Snow, *Explicit estimates for functions of primes in arithmetic progressions.*

Meadows, Catherine Ann, *Projections of varieties.*

Naiman, Daniel Quitt, *Optimal simultaneous confidence bounds in regression.*

Rhoads, Dennis Lynn, *On the distribution function of $n/\phi(n)$.*

Riddle, Lawrence Hollister, *Weak Radon-Nikodym sets in dual Banach spaces.*

Spiro, Claudia Alison, *The frequency with which an integral-valued, prime-independent, multiplicative or additive function of n divides a polynomial function of n .*

Terwilliger, Paul M., *Distance-regular graphs and generalizations.*

THEORETICAL AND APPLIED
MECHANICS

Chao, Yuh-Jin, *On the use of shearing interferometry for slope and curvature measurements of thin plates.*

Georgopoulos, Evangelia, *Electromagnetic stirring in castings.*

Mak, Wah-Chiu, *Curved element analysis of a deformable race structure roller bearing.*

- Mendenhall, Frederick, Jr., *Computer aided analysis of photoelastic images.*
- Mikolaitis, David Walter, *Flames in straining flows.*
- Newaz, Golam M., *Axial cyclic response of unnotched and notched carburized cylindrical members under constant amplitude completely reversed loading.*
- Palgen, Luc, *The structure of stress-strain relations in finite elasto-plasticity.*
- Sutton, Michael A., *On the theory of speckle shearing interferometry with diffraction gratings as shearing components.*
- Tomita, Nobuya, *Analysis of cyclic plasticity, fatigue and fracture of thick-walled cylinders.*
- Velinsky, Steven Alan, *Analysis of wire ropes with complex cross sections.*
- Wong, Albert, *A new look at the theory of double-apertures speckle photography.*
- Wu, Yensen, *The boundary integral equation method for torsion on an inhomogeneous variable diameter shaft.*

INDIANA

Indiana University (8;7,0,0,0,1,0,0)

MATHEMATICS

- Collins, Clyde, *Some properties of the length dependence of a class of FitzHugh-Nagumo-like systems of partial differential equations.*
- Dudziak, James, *Spectral mapping theorems for subnormal operators.*
- Kittaneh, Fuad, *Commutators of C_p type.*
- Seddighi, Karim, *The class $B_1(\Omega)$ and some of its properties.*
- Sideris, Thomas, *Global behavior of solutions to nonlinear wave equations.*
- Simmons, John Wiseman, II, *Zero commutative group algebras and algebras of small order over the field Z_2 and other fields.*
- Stredulinsky, Edward William, *Weighted inequalities and applications to degenerate quasi-linear elliptic partial differential equations.*
- Wang, Hsiao-lan, *Uniform operators and quasi-similarity.*

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

COMPUTER SCIENCES

- Chew, Leslie Paul, *Normal forms in term rewriting systems.*
- Joseph, Deborah A., *On the power of formal systems for analyzing linear and polynomial time program behavior.*
- Tolopka, Stephen J., *On modeling local paging algorithms for virtual memory systems.*
- Ward, William A., Jr., *Finite difference methods for nearly singular problems.*

INDUSTRIAL ENGINEERING

- Chen, Jhitang Steve, *Integration of process planning with MRP and capacity planning for better shop production planning and control.*
- England, William Lee, *Medical diagnostic test sequencing and optimal protocol design.*

- Haddock-Acevedo, Jorge, *Energy planning for Puerto Rico: A systems modeling approach.*
- Kilmartin, Michael, *The value of electricity freed by distributed solar systems.*
- Medeiros, Deborah J., *Scheduling parallel processors with due dates and setup.*
- Pugh, Gardner Allen, *Inspector allocation in a production environment.*
- Stecke, Kathryn E., *Production planning problems for flexible manufacturing systems.*
- Wu, Billy D., *A mathematical model of machining chatter.*

MATHEMATICS

- Aviles, Patricio Ubaldo, *A study of singularities and Phragmen-Lindelöf theorems for certain classes of nonlinear elliptic second order partial differential equations.*
- Chang, Chin-Huei, *Problems in partial differential equations and applications to several complex variables.*
- Gau, Yih-Nan, *Differential invariance of multiplicity.*
- Lang, Jeffrey John, *The divisor classes of the surface $Z^{p^n} = G(X, Y)$ over fields of characteristic $p > 0$.*
- Leckband, Mark Alan, *An integral inequality with applications.*
- Mutchler, Carl Norman, *Existence and regularity for the Cauchy problem in flat functions for radially hyperbolic operators.*
- Patton, Jon Michael, *On the derivation of the Titus-Bode law.*
- Ramanujachari, Narasimhan, *Equimultiple locus of a hypersurface.*

STATISTICS

- Chen, Jeesen, *On density estimation.*
- Constantine, Kenneth Bruce, *Optimal restricted experimental designs.*

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

MATHEMATICS

- Bolla, Michael Leigh, *Characterizing isomorphisms between endomorphism rings of progenerators.*
- Doty, Stephen Richard, *Structure of Weyl modules for groups of type A_n .*
- Gross, Daniel Joseph, *On compact categorical quotients by torus actions.*
- Higgins, William Joseph, *Large Abelian unipotent subgroups of exceptional Chevalley groups.*
- Norris, Douglas, *Isometrics homotopic to the identity on manifolds of negative curvature.*

IOWA

Iowa State University (15;1,13,0,0,1,0,0)

MATHEMATICS

- Eslami, Esfandiar, *Generic filters in partially ordered sets.*
- Potter, Evelyn Dianne Hatton, *Multivariate polyharmonic spline interpolation.*

STATISTICS

- Blough, David King, *Measures of location and asymmetry in the plane.*

- Chandhok, Promod K., *A study of the effects of measurement error in the survey sampling.*

- Escobar, Luis Alberto, *Optimum multiple- and single-stress accelerated life tests.*
- Hale, Michael, *Attainable bounds for generalized moments via mathematical programming.*
- Ho, Chung-Man (Fred), *Selected topics in computer generation of pseudorandom numbers.*
- Lee, E. Henry, *Estimation of seasonal autoregressive time series.*
- Mee, Robert Wayne, *Analysis of ordered categorical responses, assuming an underlying continuous variable.*

- Mowers, Ronald Paul, *Effects of rotations and nitrogen fertilization on corn yields at the Northwest Iowa (Galva-Primghar) Research Center.*

- Niknian, Minoo, *Contributions to the problem of goodness-of-fit.*

- Noorbaloochi, Siamak, *Some contributions to Bayesian estimation.*

- Ramos, Juan Enrique, *Estimating the probabilities of misclassification in discriminant analysis.*

- Sastrosoewignjo, Soetarto, *Aspects of bivariate CDF iteration.*

- Skarpness, Bradley, *Optimality conditions and dual formulations for programming problems over cone domains.*

University of Iowa (3;1,1,1,0,0,0,0)

COMPUTER SCIENCE

- O'Donnell, John Thomas, *A systolic associative LISP computer architecture with incremental parallel storage.*

MATHEMATICS

- Hansen, Kristina Dale, *Restriction of the ramified supercuspidal representations of $GL_2(F)$ to $GL_2(O_F)$, F a p -field.*

STATISTICS AND ACTUARIAL SCIENCE

- Hoffman, Lorrie Lawrence, *Missing data in growth curves.*

KANSAS

Kansas State University (3;1,2,0,0,0,0,0)

MATHEMATICS

- Heiman, Barbara J., *Fourier transforms of continuous functions on compact groups.*

STATISTICS

- Ash, Katherine Ann, *Use of interblock information in analysis of covariance, and some repeated measures covariance models.*

- McGuire, Stephen Allen, *Discrimination using multivariate Bernoulli random variables with applications in physical anthropology.*

KENTUCKY

University of Kentucky (4;2,0,0,1,1,0,0)

MATHEMATICS

- Hughes, Charles Bruce, *Local homotopy properties in spaces of approximate fibrations.*

Leverenz, Christine Russel, *Hermitian forms in function theory.*

Makowski, Armand Maurice, *Dynamic programming for problems of impulse control.*

Solis, Francisco Javier, *Stochastic optimization problems: A statistical approach.*

LOUISIANA

**Louisiana State University,
Baton Rouge**
(2;2,0,0,0,0,0)

MATHEMATICS

Ritter, David Lawrence, *Some singular measures on the circle which improve L^p spaces.*

Scott, Mark William, *A natural L^p -metric for spaces composed of probability measures with p th-moment.*

Tulane University
(4;4,0,0,0,0,0)

MATHEMATICS

Castellano, Bruno Michael, *Group actions associated with monoids on disks.*

Hilgert, Joachim, *Foundations of K -theory for C^* -algebras.*

Meinel, Klaus, *Superdecomposable modules over integral domains.*

Nino, Jaime, *On continuous posets and their applications.*

University of Southwestern Louisiana
(4;0,1,3,0,0,0)

COMPUTER SCIENCE

Gallizzi, Edmund, *Interprocess communication in a distributed function environment using dataflow protocols.*

Michelsen, Christie D., *The objective evaluation of IS&R/DBMS systems utilizing software engineering principles.*

Michelsen, Randy, *A data driven software development language and the kernel of an associated development methodology.*

MATHEMATICS AND STATISTICS

Wu, Trong, *Estimation in a mixture of two exponential distributions.*

MARYLAND

Johns Hopkins University
(3;1,0,0,1,0,0,1)

MATHEMATICAL SCIENCES

Mahdavi-Amiri, Nezameddin, *Generally constrained nonlinear least squares and generating nonlinear programming test problems: Algorithmic approach.*

MATHEMATICS

Lin, En-Bing, *Geometric quantization of particles with isotopic spin.*

Salvati Manni, Riccardo, *On the not identically zero nullwerte of Jacobians of theta functions with odd characteristics.*

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

MATHEMATICS

Ng, Sze-kui, *Optimal finite-order filtering.*

**University of Maryland,
College Park**

(10;5,1,0,0,4,0,0)

MATHEMATICS

Berman, Robert David, *Radial zeros and the level sets of the module of an inner function.*

Bernstein, David, *Newton polyhedra and cohomology of complete intersections.*

Bieterman, Michael Brady, *The finite element method of lines for parabolic equations—A posteriori error estimation and adoptive approach.*

Conner, Teresa M., *A heteroscedastic model arising from dependance between the mean and the variance.*

Gauss, Roger, *Qualitative behavior of nonlinearly thermoelastic rods and plates.*

Grossmann, John Mark, *Numerical study of virtual cathode behavior in vacuum collective ion acceleration systems.*

Koch, Matthew, *Relations between the vanishing of L -functions of modular forms and the class number problems for imaginary quadratic fields.*

Lee, Sung-Yung, *Helson sets and the balayage problem of Beurling.*

Morgan, Richard, *Mathematical aspects and computational considerations in the theory of homogenization.*

Rosen, Julie Ann, *The Fortet integral with respect to a martingale.*

MASSACHUSETTS

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

MATHEMATICS

Abedinejad, Mohammad Mehdi, *Languages for relational data models.*

Magliaro, Antonio, *Determination of switching locus in non-linear optimal bang-bang control problems via perturbation analysis.*

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

MATHEMATICS

Neto, Oziride Manzoli, *Total linking number modules.*

Schwartz, Phillip, *Liason additon.*

Wilson, George V., *Preprojective partitions and Poincaré-Betti series for finite dimensional algebras.*

Harvard University
(22;13,1,6,0,2,0,0)

APPLIED SCIENCES

Blaustein, Barbara T., *Enforcing database assertions: Techniques and applications.*

Emerson, Ernest Allen, II, *Branching time temporal logic and the design of correct concurrent programs.*

Farrell, Brian F., *Baroclinic instability as an initial value problem.*

Leitner, Henry Haskel, *A knowledge representation formalism for human-oriented computer systems.*

Nikolaou, Christos, *Reliability issues in distributed systems.*

Shmueli, Oded, *The fundamental role of tree schemas in relational query processing.*

Spirakis, Paul George, *Probabilistic algorithms, algorithms with random inputs and random combinatorial structures.*

Swierzbinski, Joseph E., *Bioeconomic models of the effects of uncertainty on the economic behavior, performance and management of marine fisheries.*

MATHEMATICS

Bayer, David, *The division algorithm and the Hilbert scheme.*

Benson, Max Loell, *The Kähler algebra and analytic equivalence of isolated hypersurface singularities.*

Berger, Eric Jules, *The Gauss map and isometric embedding.*

Dordal, Peter Lars, *Independence results concerning some combinatorial properties of the continuum.*

Griffin, Edmond Eugene, II, *Special fibers in families of plane curves.*

Gunther, Nicholas Langdon, *Hamiltonian mechanics and optimal control.*

Jesudason, Judith Anne Packer, *von Neumann algebras associated to ergodic actions of countable groups.*

Jordan, Bruce Winchester, *On the diophantine arithmetic of Shimura curves.*

Laquer, Henry Turner, *Homogeneous connections and Yang-Mills theory on homogeneous spaces.*

Livne, Ron Aharon, *On certain covers of the universal elliptic curve.*

Murty, V. Kumar, *Algebraic cycles on Abelian varieties.*

Silverman, Joseph H., *The Neron-Tate height on elliptic curves.*

Wright, David James, *Dirichlet series associated with the space of binary cubic forms with coefficients in a number field.*

STATISTICS

Okafor, Raymond, *Bias due to logistic nonresponse in sample surveys.*

**Massachusetts Institute of
Technology**
(16;7,0,1,4,4,0,0)

MATHEMATICS

Adams, Malcolm Ritchie, *Spectral properties of zeroth order pseudo-differential operators.*

Garfinkle, Devra, *A new construction of the Joseph ideal.*

Greenberg, Peter Abraham, *A model for groupoids of homeomorphisms.*

Haass, Jon Christopher, *Toward a dynamical classification of spiral galaxies.*

Hickernell, Frederick John, *Finite-amplitude large scale disturbances in layered stratified shear flows.*

Kalish, Shlomo, *Control variables in models of innovation diffusion.*

Lee, John Marshall, *Higher asymptotics of the complex Monge-Ampère equation and geometry of CR-manifolds.*

Leighton, Frank Thomson, *Layouts for the shuffle-exchange graph and lower bound techniques for VLSI.*

Patera, Anthony Tyr, *Secondary instability in wall-bounded shear flows.*

Penner, Robert Clark, *A computation of the action of the mapping class group on isotopy classes of curves and arcs in surfaces.*

Shortt, Rae Michael, *Existence of laws with given marginals and specified support.*

Staab, Edward Francis, *An investigation of the shallow water equations with hydraulic drag.*

Uribe Ahumada, Alejandro, *The averaging methods and spectral invariants.*

OPERATIONS RESEARCH

Chu, Samuel Chin-Wei, *Location problems in the presence of queuing.*

Sarkar, Debashish, *Energy economics and optimization: A synthesis.*

Yanasse, Horacio Hideki, *Aggregation and computational complexity of lot size problems.*

Northeastern University

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

MATHEMATICS

Gu, Huaijin, *Nonparametric asymptotically efficient estimation of a signal in the nonlinear case.*

Henze, John Charles, *The construction of classifying spaces for certain foliations and examples for their cohomology.*

University of Massachusetts,

Amherst

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

MATHEMATICS AND STATISTICS

Baulieu, Forrest Brian, *Order theoretic classification of cluster methods.*

Fisher, Robert James, Jr., *Dolbeault cohomology for compact complex nil-manifolds with values in a line bundle.*

MICHIGAN

Michigan State University

(9;7,1,0,0,1,0,0)

MATHEMATICS

Chu, Moody Ten-Chao, *A nonlinear multistep method for solving stiff initial value problems.*

Gorkin, Pamela B., *Decompositions of the maximal ideal space of L^∞ .*

Kraay, Julie Ann, *Relationships between the restricted ideals and induced modules on the group ring FG .*

STATISTICS AND PROBABILITY

Blake, Michael George, *Testing two failure rates with right censored and uncensored data.*

Blum, Gilles, *Limit theorems for discrete parameter random evaluations.*

Geetha, Rangaswami, *Spatial patterns—statistical formulation and analysis.*

Pasha, Einollah, *On the structure of Germ-Field Markov Processes on finite intervals.*

Soltani, Ahmad R., *Topics on the theory of homogeneous random fields.*

Wittig, Timothy A., *A dynamical theory of generalized Ornstein-Uhlenbeck processes.*

University of Michigan, Ann Arbor

(12;7,1,0,2,0,0,2)

INDUSTRIAL AND OPERATIONS ENGINEERING

Al-Idrisi, Mustafa, *Unconstrained minimization algorithms for function with singular or ill-conditioned Hessian.*

Kang, Kyo, *An approach for supporting system development methodologies for developing a complete and consistent system specification.*

Lee, Kwan, *Biomechanical modelling of cart pushing and pulling.*

Miller, George, *Sequential rectifying inspection procedures with applicability to motor vehicle emission certification testing.*

Stobbe, Terrance, *The development of a practical testing program for industry.*

MATHEMATICS

Dutta, Sankar Prasad, *Multiplicities over local rings.*

Fedder, Richard Scott, *F -purity and rational singularity.*

Fleming, Philip Joseph, *Structural stability and group cohomology.*

Hawkins, William Anthony, Jr., *The étale cohomology of certain p -torsion sheaves.*

Lee, Kyung Bai, *Seifert relatives of flat Riemannian manifolds.*

Tsao, Anna, *Coefficients of meromorphic univalent functions.*

Vince, Andrew Joseph, *Combinatorial maps.*

MINNESOTA

University of Minnesota,

Minneapolis

(16;8,2,5,0,0,1)

BIOMETRY

Gomez-Marin, Orlando W., *Randomization and Gaussian linear models for the two period cross over design.*

COMPUTER SCIENCE

Dekel, Eliezer, *Parallel algorithms.*

Gold, Yaron, *Generalized efficient-access protocols for multi-access channels.*

Lai, Steve, *Design of parallel algorithms.*

Leininger, Brian, *The complexity of decision problems.*

Raghaven, Ragnath, *Algorithms for layout problems in design automation.*

MATHEMATICS

Bauman, Patricia Ellen, *Properties of nonnegative solutions of second-order elliptic equations and their adjoints.*

Griffin, Philip Stanley, *The growth of d -dimensional random walk.*

Hall, Glen Richard, II, *On invariant sets of certain maps of the annulus.*

Johnson, Steven D., *Resolutions of ideals.*

Lin, Ching-her, *The sufficiency of Matkowsky-condition in the problem of resonance.*

Shaw, Richard Knox, *A class of operators which acts on the Hardy space H^1 , and a related weight condition.*

Verchota, Gregory Charles, *Layer potentials and boundary value problems for Laplace's equation on Lipschitz domains.*

Zaare-Nahandi, Rahim, *Seminormality of certain generic projections.*

STATISTICS

Meyer, Michael Malcolm, *Applications and generalizations of the iterative proportional fitting procedure.*

Shih, Wei-Chung Joe, *Multiple linear regression with incomplete data.*

MISSOURI

St. Louis University

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

MATHEMATICS

Schneider, Michael Barney, *Expansions and equivalences of Boolean functions.*

Zahn, Robert Lawrence, *Refined conjugacy classes and characters and the reduction of representations.*

University of Missouri, Columbia

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

STATISTICS

George, Varghese, *Technological data analysis using the method of tested priors.*

University of Missouri, Kansas City

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

MATHEMATICS

Conklin, Joyce, *Reflexive algebras, reflexive lattices, and characterizations of subspace lattices in the finite dimension.*

Euler, Russell, *Generalized differences.*

Kemp, Marilyn H., *Lorentzian warped products of a second type.*

University of Missouri, Rolla

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

MATHEMATICS AND STATISTICS

Bray, William Oliver, *On the integrability and L^1 -convergence of trigonometric series.*

Washington University

(5;5,0,0,0,0,0)

MATHEMATICS

Bloom, Steven H., *Weighted norm inequalities of vector-valued functions.*

Hernandez, Eugenio, *Topics in complex interpolation.*

Kline, Robert M., *Extremal configurations on Riemann surfaces.*

Livingston, Ellen Schmitz, *Linearization of analytic vector fields with a common critical point.*

Yang, Kichoon, *Induced projective structures on submanifolds of real projective space.*

MONTANA

Montana State University

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

MATHEMATICAL SCIENCES

Angelos, James Roy, Part I: *Strong uniqueness in L^p spaces, $1 \leq p < \infty$.* Part II: *Questions on polynomial product approximation and an application.*

Bergum, James Stanley, *Simultaneous estimation of risk in several 2×2 contingency tables: An empirical Bayes approach.*

Chew, Robert D., *Estimating toxicity curves by fitting a compartmental-based model to median survival times.*

Riley, Bruce Victor, *Galerkin schemes for elliptic boundary value problems.*

University of Montana

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

MATHEMATICS

Cromer, Tom, *Asymptotically periodic solutions to some integral equations in epidemic modeling.*

NEBRASKA

University of Nebraska

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

MATHEMATICS AND STATISTICS

Grow, David Edward, *A class of I_0 -sets*

Henderson, Johnny L., *Right focal point boundary value problems for ordinary differential equations.*

Sebo, Donald E., *Multiple objective linear programming in objective space.*

van de Liefvoort, Albertus H.A., *An algebraic approach to the steady state solution of $G/G/1/N$ type loops.*

NEW HAMPSHIRE

Dartmouth College

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

MATHEMATICS

Doyle, Peter Grant, *Application of Rayleigh's short-cut method to Pólya's recurrence problem.*

Glaser, Mary Eileen, *A polynomial time algorithm for isomorphism of directed graphs of bounded valence.*

Hoffman, Woodward Crim, *Sound and complete axiomatics for the programming languages with parallelism.*

NEW JERSEY

Princeton University

(12;8,4,0,0,0,0,0)

MATHEMATICS

Federer, Leslie Jane, *p -adic L -functions, regulators, and Iwasawa modules.*

Goodwillie, Thomas, *A multiple disjunction lemma for smooth concordance embeddings.*

Greenleaf, Allan Thomas, *Estimates for pseudodifferential operators with mixed characteristics.*

Heiligman, Mark, *A p -adic theory of hypergeometric differential equations.*

Indik, Robert Adam, *Fourier coefficients of non-holomorphic Eisenstein series on a tube domain associated to an orthogonal group.*

Shaw, Mei-Chi, *Hodge theory on domains with cone-like or horn-like singularities.*

Solomon, Bruce Michael, *Lipschitz spaces of multiple valued functions and the closure theorem.*

White, Brian Cabell, *Singularity structure and generic regularity of two-dimensional area-minimizing surfaces.*

STATISTICS

Bartmann, Flavio C., *A new angle on past and future.*

Beltrao, Kaizo, *Spectral analysis of time series with hidden missing values.*

Horn, Paul, *On simple robust confidence procedures.*

Stine, Robert A., *Prediction intervals for time series.*

Rutgers University, New Brunswick

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

MATHEMATICS

Breen, Stephen A., *Large order perturbation theory for the anharmonic oscillator.*

Darken, JoAnne S., *Accessible sets for analytic systems in \mathbf{R}^2 .*

Farber, Martin Robert, *Applications of LP duality to problems involving independence and domination.*

Gerszonowicz, Jorge A., *Parametries of the forward Cauchy problem for a class of operators with double characteristics.*

Kim, Do-Han, *Global solvability in C^∞ and examples of PDEs without nonconstant solutions.*

Schachter, Paul Joseph, *Z-knots.*

STATISTICS

Kourouklis, Stavros, *Bahadur optimality of sequential experiments with exponential data.*

Shorrock, Glenn Edward, *Confidence intervals for a normal variance.*

NEW MEXICO

New Mexico State University

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

MATHEMATICAL SCIENCES

Albrecht, Ulrich Frederich, *Ideal conditions in endomorphism rings.*

Giovannitti, Anthony John, *Standard constructions in Abelian group theory.*

University of New Mexico

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

MATHEMATICS AND STATISTICS

Johnson, Roger B., *Estimation of density and dispersion in m -dimensional space based on distance measurements.*

Nett, Susan Anderson, *Singular perturbation of certain boundary value problems in Banach space.*

NEW YORK

CUNY, Graduate Center

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

COMPUTER SCIENCE

Rudowsky, Ira Stephen, *Computational techniques for the evaluation of total service time in packet-switched store-and-forward communication networks: Cyclic allocation and bounding procedures.*

MATHEMATICS

Haghighi, Mahmood, *Relative integral basis in algebraic number fields.*

Lewinter, Martin, *Flat points on continuous isometric deformations of connected planar regions.*

Perlin, Mark William, *Random graphs applied to the immune network.*

Clarkson College of Technology

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

MATHEMATICS AND COMPUTER SCIENCE

Al-Nasr, Nazar Abdulmohsen, *Mathematical investigation of linear control systems containing input derivatives.*

Halabi, Yahia Sabri, *Numerical simulation of transport processes in natural rivers.*

Taha, Thiab Rashed Moh., *On the numerical and analytic aspects of certain nonlinear evolution equations.*

Tenny, Theodore Carl, *A business programming language for small computers.*

Columbia University

(6;5,1,0,0,0,0,0)

MATHEMATICAL STATISTICS

Wu, Lancelot, *On recursive estimation, adaptive filtering, and stochastic approximation.*

MATHEMATICS

Davis, Richard Andrew, *Representation theory of H^* -algebras.*

Heifetz, Daniel Boris, *p -adic oscillatory integrals and wave front sets.*

Kennedy, Gary Philip, *An integral formula for the Milnor number.*

Przytycki, Jozef, *Incompressible surfaces in 3-manifolds.*

Vasas, Martin, *Homotopy and codimension one splitting.*

Cornell University

(16;1,1,3,5,6,0,0)

APPLIED MATHEMATICS

Ellner, Stephen Paul, *Evolutionarily stable germination behaviors in randomly varying environments.*

Greenspan, Bernard David, *Bifurcations in periodically forced oscillations: Subharmonics and homoclinic orbits.*

Klein, David Michael, *Techniques and the decay of correlations in continuum statistical mechanics.*

Munson, Beth Spellman, *Face lattices of oriented matroids.*

Munson, Gary Alan, *Causal information transmission with feedback.*

Prakash, Chetan, *High temperature differentiability of lattice Gibbs states by Dobrushin uniqueness techniques.*

BIOMETRICS

Wijesinha, Anila, *On testing for a functional relationship between mean and variance with applications to regression.*

COMPUTER SCIENCE

Archer, James Elson, Jr., *The design and implementation of a cooperative program development environment.*

Krafft, Dean Blackmar, *AVID: A system for the interactive development of verifiably correct programs.*

Schlichting, Richard Dale, *Axiomatic verification to enhance software reliability.*

MATHEMATICS

Schrieber, Leonard Robert, *Nonrecursiveness in Euclidean and integral domains.*

OPERATIONS RESEARCH AND INDUSTRIAL ENGINEERING

Amato, David, *The statistical design and analysis of animal cancer treatment experiments.*

Bauer, Mary Ann, *The reliability of series-parallel load-sharing systems that contain flaws.*

Cogliano, Vincent, *Sensitivity analysis and model identification in simulation studies: A frequency domain approach.*

Kulkarni, Radhika, *Closed adaptive sequential procedures for selecting the best of $k \geq 2$ Bernoulli populations.*

Singh, Harpal, *Lot size considerations for parallel and series machines.*

**New York University,
Courant Institute**
(21;12,0,0,0,9,0,0)

MATHEMATICS

Augenbaum, Jeffrey Mitchell, *A new Lagrangian method for the shallow water equations.*

Bassein, David, *Classifications of some nearly cyclic finite groups.*

Beylkin, Gregory, *Generalized Radon transform and its applications.*

Birnir, Björn, *Complex Hill's equation, complex Korteweg-de Vries flows and Jacobi varieties.*

Buys, Mutiara, *The Kovalevskaya top.*

Clarke, Dale Marie, *The structure of the set of hyperbolic partial differential equations.*

Cohn, Stephen Edward, *Methods of sequential estimation for determining initial data in numerical weather prediction.*

Eydeland, Alexander, *An iterative method for solving nonlinear variational problems.*

Finkel, Allan, *Remarks on an eigenvalue problem associated with the periodic Sine-Gordon equation.*

Korman, Philip, *Existence of solutions for a nonlinear BVP associated with water waves.*

Levermore, Charles David, *The small dispersion limit of the Korteweg-de Vries equation.*

McCartin, Brian James, *Theory, computation, and application of exponential splines.*

Morshedi, Christine, *Stresses, strains and displacements in a poroelastic layered pavement model subject to a moving load.*

Nanda, Tara, *Isospectral flows on band matrices.*

Pilant, Michael Stephen, *Existence of strong solutions for a perturbation problem in plane transonic flow.*

Pinsky, Ross George, *An analysis of the Donsker-Varadhan I-function for diffusion.*

Saltzman, Jeffrey, *A variational method for generating multidimensional adaptive grids.*

Sulsky, Deborah, *Models of cell and tissue movements.*

Tomei, Carlos, *The Boussinesq equation.*

Venakides, Stephanos, *The zero dispersion limit of the Korteweg-de Vries equation.*

Weinberger, Samuel, *Homotopy equivalent manifolds by pasting.*

Rensselaer Polytechnic Institute
(4;0,0,1,2,1,0,0)

MATHEMATICAL SCIENCES

Hattori, Harumi, *Problems in non-homogeneous conservation laws.*

Prelle, Myra Jean, *Elementary first integrals of differential equations.*

OPERATIONS RESEARCH AND STATISTICS

Kupferschmid, Michael, *An ellipsoid algorithm for convex programming.*

Oudjit, Aissa, *Median locations on deterministic and probabilistic multidimensional networks.*

Rockefeller University
(1;0,0,0,0,1,0,0)

MATHEMATICS

Katz, Talbot Michael, *Bizarre behavior in gases and magnets.*

SUNY at Albany
(3;1,2,0,0,0,0,0)

MATHEMATICS AND STATISTICS

Chiu, Hui-Yuan, *A new Bayesian approach to estimating finite population parameters.*

Ryczaj, Jerzy, *C^k -estimates for the Cauchy-Riemann equations on certain weakly pseudoconvex domains.*

Song, Chwan-Chin, *Covariance stabilizing transformations.*

SUNY at Binghamton
(2;1,1,0,0,0,0,0)

MATHEMATICAL SCIENCES

Kavanagh, John Paul, *Extensions of homeomorphisms and generalizations.*

Mauro, David Whittlesey, *Consistency of Kaplan-Meier least squares estimators.*

SUNY at Buffalo
(12;8,3,1,0,0,0,0)

COMPUTER SCIENCE

Chen, Keh-Jiann, *Tradeoffs in machine inductive inference.*

MATHEMATICS

Jean, Maw-Ding, *Homogeneous C^* -algebras and C^* -algebra fibre bundles.*

King, Fenn, *Topics in matrix theory.*

Pahk, Dae-Hyeon, *Hypoelliptic convolution operators in the spaces K'_M .*

Reichman, Jack Zev, *Semicontinuous real numbers in a topos.*

Šćedrov, Andrej, *Sheaves and forcing and their metamathematical applications.*

Tan, Lee Yek, *Hypoelliptic convolution equations in a subspace K'_1 of Beurling's distributions with restricted growth.*

Watro, Ronald J., *Effects of infinite exponent partition relations on Mahlo cardinals.*

STATISTICAL DIVISION

Fischer, Diane M., *The largest variance ratio statistic: An analysis and simulation.*

Malec, Donald John, *Bayesian predictive inference for stratified and stratified two-stage sample designs.*

Reilly, Andrew A., *Statistical models for multiple response categorical data: A Bayesian approach.*

STATISTICS

Razanadrakoto, Dieudonné, *The distribution of the number of times outside a linear boundary associated with the strong law of large numbers.*

SUNY at Stony Brook
(12;7,1,0,1,3,0,0)

APPLIED MATHEMATICS AND STATISTICS

Jen, Erica, *Direct methods for the approximate solution of singular integral equations.*

Kerr, James Bruce, *Optimal approximations of linear operators.*

Ouyang, Soo Peter, *Empirical Bayes and density estimation.*

Tang, Ignatius, *Iterative methods for solving inverse problems in atmospheric sciences.*

Teng, Austin, *An $O(n^{3/2})$ algorithm for coloring proper circular-arc graphs.*

MATHEMATICS

Addington, Susan L., *Families of abelian varieties of non-Satake type, over a quotient of a product of upper-half planes.*

Chu, I-ping, *Riemannian fibrations of Euclidean spaces.*

Haas, Andrew, *Groups of automorphisms of Riemann surfaces.*

Hayslip, Iris, *Characteristic classes for modules over cyclic groups.*

Kang, Chunghyuk, *Normal two dimensional triple point singularities.*

Mitchell, John, *A local study of Carnot-Carathéodory metrics.*

Susskind, Perry, *On Kleinian groups with intersecting limit sets.*

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

MATHEMATICS

Schramm, Michael John, *Topics in generalized bounded variation.*

University of Rochester
(13;0,6,6,0,0,0,1)

COMPUTER SCIENCE

Arya, Arun Kumar, *Super: Encapsulated autonomous distributed computations on an abstract architecture.*

Haas, Andrew, *Planning mental actions.*

Sabbah, Daniel, *A connectionist approach to visual recognition.*

Schudy, Robert B., *Harmonic surfaces and parametric image operators: Their use in locating the moving endocardial surface from three-dimensional cardiac ultrasound data.*

Selfridge, Peter G., *Reasoning about success and failure in aerial image understanding.*

Smith, Edward Tucker, *Debugging techniques for communicating, loosely-coupled processes.*

MATHEMATICS

Fernandez, Claudio, *Resonances in obstacle scattering.*

STATISTICS

Espeland, Mark Andrew, *Estimation from contingency tables involving indirect observation.*

Menjoge, Shailendra, *Some new procedures in simultaneous estimation of parameters; their compound and individual risks.*

Moschopoulos, Panagis (Peter), *Analysis of variance with random sample sizes.*

Petrondas, Demetrios, *Two topics in permutation (re-randomization) inference: Double ratio statistics and multiple comparisons.*

Pun, Fu-Ceayong, *Model building by logistic regression.*

Rubin, Abbe Sue, *The use of weighted contrasts in the analysis of models with heterogeneity of variance.*

Yeshiva University

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

MATHEMATICS

Hahn, Susan, *Two parallel queues created by arrivals with two demands.*

Herzberg, Martin, *The invariance principle and asymptotic completeness for a quantum mechanical system.*

Kohn, Merlye Cherrick, *Difference equation techniques for the solution of partial differential equations.*

NORTH CAROLINA

Duke University

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

COMPUTER SCIENCE

Leuze, Michael Rex, *Memory access patterns for vector machines with applications to problems in linear algebra.*

MATHEMATICS

Oberguggenberger, Michael B., *Propagation of singularities for semilinear mixed hyperbolic systems in two variables.*

Tso, Chak Yuen, *The use of nearest neighbors in the detection of spatial correlation.*

North Carolina State University, Raleigh

(16;0,10,1,2,1,0,2)

MATHEMATICS

Hughes, George Crittenden, *Convergence rate analysis for iterative minimization schemes with quadratic subproblems.*

OPERATIONS RESEARCH

Hanson, Kathryn Wagoner, *Integration of data, voice and image traffic on a wide-band local network.*

Jo, Kyung Yoon, *Optimal service-rate control of queueing systems in discrete and continuous time.*

Walther, Eleanor Ann, *Control of arrivals to a GI/M/1/LIFO queueing system: Individual and social optimization.*

STATISTICS

Aunuddin, *A comparison of various techniques for controlling two-dimensional systematic variation in agricultural field experiments.*

Brocklebank, John Clare, *Estimating variance components using alternative minque's in selected unbalanced designs.*

Czochor, Ronald John, *A theoretical analysis of plant host-pathogen interactions in a gene-for-gene system.*

Hsu, Yea-Tsai Bill, *The relative efficiency of the approximate F-tests frequently encountered in unbalanced designs.*

Landois, Luis Leon, *Generalized least squares analysis of the split-plot model using an estimated variance-covariance matrix.*

Lifson, Dale Paul, *Development and applications of the quantile regression estimation (QRE) procedure.*

Paredes, Hector Segundo, *A per-plant covariance analysis approach in the study of the effects of missing plants on adjacent plants in the field experiments.*

Reynolds, John, *Genetic distance and coancestry.*

Said, Elmahdy Said, *Testing for unit roots in autoregressive moving average models.*

Tang, Dershuen Allen, *Verbal and non-verbal aspects of machine perception and knowledge representation in artificial intelligence.*

Vivaldi, Lucio José, *Models and designs for three-treatment, two-period cross-over studies.*

Warren, John, *Weighted ridge regression.*

University of North Carolina, Chapel Hill

(19;1,17,0,1,0,0,0)

BIOSTATISTICS

Agung, Igusti, *Some nonparametric procedures for general right censored data.*

Bonney, George Ebow, *Maximum likelihood methods for genetic analysis of multivariate pedigree data.*

Dawson, Deborah V., *Problems of ascertainment in pedigree analysis.*

Hardison, Charles David, Jr., *Small-sample properties of a family on non-parametric partial correlation measures.*

Janis, Joseph M., *A descriptive and statistical methodology for age-period-cohort analysis with application to lung cancer.*

Kissling, Grace Elizabeth, *A generalized model for analysis of non-independent observations.*

Koury, Kenneth J., *Parametric competing risks models in clinical trials.*

Lewis, Alcinda W., *The Burr distribution as a general parametric family in survivorship and reliability theory applications.*

Lewis, Donald K., *Matching in epidemiologic studies: Validity and efficiency.*

Muhlbaier, Lawrence Henry, *Enhancement of precision of estimates of prevalence by multiple observation of individuals.*

Portier, Christopher J., *Optimal bioassay design under the Armitage-Doll multi-stage model.*

Stewart, Paul W., *Application of a bivariate t distribution to hypothesis testing in crossover designs.*

Teeter, Rebecca A., *Effects of measurement error in piece-wise regression models.*

Watson, Bernard Peyton, Jr., *Kendall's order statistics method of discriminant analysis.*

OPERATIONS RESEARCH AND SYSTEMS ANALYSIS

Liu, Jun-Min, *Production and inventory smoothing problems with FIFO or LIFO constraints.*

STATISTICS

Castellana, John Vincent, *Nonparametric estimation of probability densities for stationary sequences.*

Gallo, Paul, *Properties of estimators in errors-in-variables regression models.*

Murphree, Emily S., *Transient cumulative processes.*

Schoenfelder, John Robert, *Analysis of covariance matching.*

OHIO

Bowling Green State University

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

MATHEMATICS AND STATISTICS

Adegboye, Olawoye Adegboye, *On testing against restricted alternatives in Gaussian models.*

Goel, Sudhir Kumar, *Completely unstable flows on manifolds.*

Kumar, Ashok, *Quasi-varieties of lattice ordered groups.*

Soni, Anil Kumar, *Studies in univalent functions.*

Tang, Jen, *Exact distribution of certain test statistics in multivariate analysis.*

Case Western Reserve University

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

MATHEMATICS AND STATISTICS

Fitzsimmons, Patrick Joseph, *Characterization and convergence of Markov sets.*

Lewis, John, *Function spaces and localization.*

Markovskiy, Alexander, *Substantiation of Schwarz's method for some ill-posed problems of mathematical physics.*

Rao, Vidhyonath Kajana, *Contributions to the theory of nilpotent groups and spaces.*

OPERATIONS RESEARCH

Gajjala, Radhakrishna Murty, *A critique of linear and non-linear regression problems with four different minimization criteria.*

Lee, Woo-Young, *R & D system planning and technology transfer methods in an industrialized developing country.*

Mohanty, Bidhu Bhusan, *A regionalized goal-oriented model for dynamic analysis of world trade.*

Ritchken, Peter Harris, *Portfolio selection techniques.*

Kent State University

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

MATHEMATICAL SCIENCES

Stehle, Stephen Paul, *On the hereditary Dunford-Pettis property.***Ohio State University**

(13;8,3,0,0,0,2)

MATHEMATICS

Benham, James William, *Graphs, representations, and spinor genera.*Brickell, Ernest Francis, *The incidence structure of d - and $(d+1)$ -flats in the direct product of projective and affine spaces.*Cheng, Fuhua, *Estimates for the rate of approximation of functions of bounded variation by positive linear operators.*DeLaurentis, John Morse, *Limiting behavior of certain combinatorial stochastic processes.*Flinn, Patrick, *M -ideals in $(B^1 p)$ and finite dimensional Banach spaces containing only small l_p^n 's.*Kirschenbaum, Marc, *The degree of C^0 -sufficiency of Weierstrass jets via the tree model.*Moon, Aeryung, *Some results in designs and association schemes.*Oprea, John, *Some results on approximation theory.*Shan, Chin-Chi, *Some results in approximation theory.*Young, Elmer Lorne, *On topology generated by a function from a set to itself.*

STATISTICS

Edwards, Donald George, *Multiple comparisons with the best treatment.*Rust, Steven Wayne, *Robust non-parametric procedures for the several sample location problem.*Teoh, Kok Wah (Nick), *Contributions to the asymptotic theory of estimation and hypothesis testing when the model is incorrect.***Ohio University**

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

MATHEMATICS

Swardson, Mary Anne, *Generalizations of F -spaces and some topological characterizations of the generalized continuum hypothesis.***University of Cincinnati**

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

MATHEMATICS

Liu, Jong-Chi, *Normal forms and stability via Lie transforms.***OKLAHOMA****University of Oklahoma**

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

MATHEMATICS

Dahlberg, Randall P., *Structure of injective hulls of Lie modules.*Rowe, David E., *Study of Borsuk's hyperspace.***OREGON****Oregon State University**

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

STATISTICS

Chou, Chung Kuang, *Optimal inspection policies for a partially observable process with hazardous inspections.*Poulsen, Neil Kenneth, *Large sample efficiencies of invariant quadratic unbiased estimators.*Shih, John I., *Nonparametric estimation of univariate and mixing densities—A Bayesian least squares approach.*Thompson, Steven Kirk, *Adaptive sampling of spatial point processes.***University of Oregon**

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

MATHEMATICS

Abrams, Gene David, *Rings with local units.*Deckhart, Robert William, *Classical Lie algebras over \mathbb{Z} .*Serven, Robert Jon, *Torsion theories and homology.*Vasek, William, *Asymptotic power of likelihood ratio tests of linear hypothesis in exponential families.***PENNSYLVANIA****Carnegie-Mellon University**

(15;0,4,11,0,0,0,0)

COMPUTER SCIENCE

Feiler, Peter H., *A language-oriented interactive programming environment based on compilation technology.*Gupta, Satish, *Architectures and algorithms for parallel updates of raster scan displays.*Hilfinger, Paul, *Abstraction mechanisms and language design.*Lai, Kwok-Woon, *Functional testing of digital systems.*Leiserson, Charles E., *Area-efficient VLSI computation.*McDonald, David, *Understanding noun compounds.*Medina-Mora, Raul, *Syntax-directed editing: Towards integrated programming environments.*Ramakrishna, Kamesh, *Schematization as an aid to organizing Zog information nets.*Robinson, John, *Design of concurrency controls for transaction processing systems.*Schwanke, Robert W., *Execution environments in programming languages and operating systems.*Song, Siang, *On a high-performance VLSI solution to database problems.*

STATISTICS

Chaloner, Kathryn Mary, *Optimal Bayesian experimental design for linear models.*Cnaan, Avital, *Survival models with multiple phases.*Trader, David Alan, *Infinitely divisible random sets.*Wilson, John, *Search for randomly moving targets.***Lehigh University**

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

COMPUTER AND INFORMATION SCIENCES

Knerr, Charles Calvin, *The enhancement of traditional instruction and learning in analytic geometry via computer support.*

MATHEMATICS

Tanzini, Joseph Peter, *Some precision asymptotics of numerical integration.***Pennsylvania State University**

(12;6,2,4,0,0,0,0)

COMPUTER SCIENCE

Ashok, Venkataraman, *The complexity of finding disjoint matchings in graphs subject to various optimizing functions.*Bassiouni, Mostafa A., *Program I/O modeling and its applications.*Jamp, Rueiming, *A program behavior model and its performance evaluation.*Spooner, David Leon, *A unified security model for data base and operating systems.*

MATHEMATICS

Halpin, Patrick Ronald, *Polynomial identities and weak identities of matrices.*Manes, David Edward, *Embeddings of groups in two-generator groups using wreath products.*Nousiainen, Pekka Sakari, *On the Jacobian problem.*Pappas, Peter Chris, *The model theoretic structure of group rings.*Spearman, Blair, *On the four part of the class group of quadratic forms.*Tubbs, Robert Earl, *An elliptic analogue to the Gelfond-Feldman measure of algebraic independence.*

STATISTICS

Byrne, Philip J., *Repeated measures models for time dependent data.*Peterson, John Joseph, *On some problems in survival data analysis with covariates.***Temple University**

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

MATHEMATICS

Gillespie, John, *Nonparametric and normal specialized tolerance.***University of Pennsylvania**

(8;2,3,0,1,2,0,0)

MATHEMATICS

Beissinger, Janet Simpson, *Factorization and enumeration of labeled combinatorial objects.*Brosius, J. Eric, *Classification and moduli for rank two vector bundles on a ruled surface.*Simion, Rodica, *On compositions of multisets.*Wassermann, Antony J., *Automorphic actions of compact groups on operator algebras.*

OPERATIONS RESEARCH

Easingwood, Christopher, *A nonuniform diffusion model of new product acceptance.*

STATISTICS

Cooil, Bruce K., *Nonlinear extrapolation of extreme quantiles.*

Steckel, Joel, *A game theoretic and experimental approach to the group choice phenomena in organizational bind behavior.*

Szabat, Kathryn Ann, *Ex post del.*

University of Pittsburgh

(7;3,3,0,0,1,0,0)

BIOSTATISTICS

Burgut, Huseyin Rifk, *Biased estimation procedures: Application to epidemiological data.*

Liu, Hannen Hinnung, *Prognostic indicators in primary breast cancer survival analysis using a proportional hazard model.*

Tekyi-Mensah, Samuel Edward, *An adaptation of the proportional hazards model with a time dependent exposure index to a retrospective cohort study: An epidemiological application.*

MATHEMATICS AND STATISTICS

Guiver, John P., *Contributions to two dimensional systems theory.*

Nelson, Robert Raymond, *On two classes of Banach spaces which consist of equivalence classes of functions, the spaces of finite upper p -variation Marcinkiewicz spaces.*

Srinivasan, S., *Finite p' -nilpotent groups.*

Zahid, Muhammad Ishaq, *Para- H -closed spaces, locally para- H -closed spaces and their minimal topologies.*

RHODE ISLAND

Brown University

(17;9,0,2,0,5,0,1)

APPLIED MATHEMATICS

Crowley, James Michael, *Numerical methods of parameter identification for problems arising in elasticity.*

Davis, Barry Robert, *A neurobiological approach to machine intelligence.*

Hrusa, William John, *A nonlinear functional differential equation in Banach space with applications to materials with fading memory.*

Magalhaes, Luis T., *Singular perturbations of linear retarded functional differential equations.*

Pennell, Stephen Anthony, *Solitary waves of large amplitude.*

Rockey, Steven Anthony, *Discrete methods of state approximation, parameter identification and optimal control for hereditary systems.*

COMPUTER SCIENCE

Bulterman, Dick C. A., *Animated abstractions for target architecture independent system descriptions.*

Flanagan, Peter, *A discrete model of semantic learning.*

Wong, Douglas, *On the unification of language comprehension with problem solving.*

MATHEMATICS

Chase-Klapper, Andrew Manoch, *Canonical subgroups of formal groups of arbitrary dimension.*

Diaz, Steven Paul, *Exceptional Weierstrass points and the divisor on moduli space that they define.*

Haskell, Peter Evarts, *Intrinsically defined cycles in the K homology of singular curves.*

Horowitz, Tony G., *Varieties of low relative degree.*

Liao, Yu-Chung, *Optimal control of a Brownian motion and its approximation to queuing process.*

McGuinness, Frances Oisin, *The Cassels pairing in a family of elliptic curves.*

Richters, Stephen, *H^p spaces in tubes and the representation of tempered distributions by holomorphic functions.*

Tabak, Barbara, *Harmonic maps and foliations.*

University of Rhode Island

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

COMPUTER SCIENCE AND EXPERIMENTAL STATISTICS

Carey, Michele Boulanger, *Analytical study of generalized ridge regression.*

MATHEMATICS

Murthy, Narayan, *The simple and the dominated integral in two dimensions.*

SOUTH CAROLINA

Clemson University

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

MATHEMATICAL SCIENCES

Benz, Stephen Lewis, *Parameter estimation in a reproducing Hilbert space for linear hereditary systems.*

McClanahan, Gregory Alan, *Directed block designs.*

Medical University of South Carolina

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

BIOMETRY

Lacy, Mark Edward, *Analysis and modeling of the recombination of rhodopsin.*

Lipscomb, Aquilo Rudolph, *Renal transplantation: Analysis of patient and kidney graft survival.*

University of South Carolina

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

MATHEMATICS AND STATISTICS

Calhoun, Carol Ann, *Stochastic convergence of randomly weighted sums.*

Hopkins, Laurie Boyle, *Some problems involving combinatorial structures determined by intersections of intervals and arcs.*

Lo, Sheng-Ping, *Graph labeling and optimization problems.*

McNichols, Diane, *Nonparametric density and failure rate estimation based on arbitrarily right-censored data.*

TENNESSEE

Vanderbilt University

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

COMPUTER SCIENCE

Ray, Wayne Allen, *Concurrency control architecture in distributed database systems.*

TEXAS

North Texas State University

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

MATHEMATICS

Beasley, Craig Jackson, *Finite element solutions to nonlinear partial differential equations.*

Ingram, John Michael, *Geometric problems in measure theory and parametrizations.*

Liaw, Mou-Yung Morris, *The steepest descent method using finite elements for systems of nonlinear partial differential equations.*

Southern Methodist University

(7;1,3,3,0,0,0,0)

COMPUTER SCIENCE AND ENGINEERING

Chavarria Garza, Hector, *A user profile-query model for document retrieval.*

Im, Seung Bae, *Hierarchical design and implementation of communication protocols.*

Romberg, Frederick Arnold, *Logical design of complex databases such as a manufacturing operations database.*

OPERATIONS RESEARCH

Lal, Ram, *A unified study of algorithms for steady state probabilities in Markov chains.*

STATISTICS

Dorsett, Dovalee, *Resistant M -estimators in the presence of influential points.*

Hahn, Suk-ki, *A Bayesian approach using a two-stage prior, to the symmetric multiple comparison problem.*

Henderson, Robert Kent, *Robust and resistant estimation of regression coefficients.*

Texas A & M University

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

STATISTICS

Dunn, Mark Raymond, *Regression diagnostics.*

Monroe, Howard Marshall, II, *Confidence limits for the global optimum.*

Riggs, Mark W., *Canonical correlation and discrimination with missing observations.*

Sahinoglu, Mehmet, *Statistical inference on the reliability performance index for electric power generation systems.*

Texas Tech University

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MATHEMATICS

Neil, Charles Hugh, *A singular differential system arising from a two-channel model of fluid flow.*

Pavur, Robert J., *Unbiased F-tests for factorial experiments with co-related data.*

University of Houston
(6;5,0,0,0,1,0,0)

MATHEMATICS

Becerra, Linda, *Multiplicative lattices and the integral closure operator.*

Collins, Welburn Dwayne, *Monotone upper semi-continuous decompositions of IUC continua.*

Davis, James Francis, *Zero span continua.*

Marsh, Dorothy Davis Sherling, *Concerning the Cone = Hyperspace property.*

Marsh, Marcus Marlene, *Fixed point theorems for certain tree-like continua.*

Nguyen, Tung Manh, *Circulant matrices, intersection projection, proximity maps and linear programming.*

University of Texas, Arlington
(3;1,0,0,0,0,0,2)

MATHEMATICS

Aftabzadeh, Abdol-Reza, *Contribution to the study of asymptotic behavior of solutions of ordinary differential equations.*

Ray, Michael Broe, *Monotone iterative techniques for the numerical solution of nonlinear Neumann problems.*

Samimi, Mansour, *Uniqueness and nonuniqueness criteria for ordinary differential equations.*

University of Texas, Austin
(13;3,0,7,2,1,0,0)

COMPUTER SCIENCES

Edmiston, Richard Dale, *The puff recognition system.*

Haas, Laura Myers, *Two approaches to deadlock in distributed systems.*

Huang, Shou-Hsuan Stephen, *Height balanced trees of order (β, γ, δ) .*

Mansoury, Abdulhamid Mohammed, *Page-cut integer programming methods for the solution of integer programming problems.*

Slocum, Jonathan, *A practical comparison of parsing strategies for machine translation and other natural language processing purposes.*

Smith, Howard Reed, *A grammatical inference system based on case grammar and semo-syntactic features.*

Tyson, William Mabry, *APVR: A priority-ordered agenda theorem prover.*

MATHEMATICS

Duffuaa, Salih Osman, *On some economic distribution and network problems.*

Gutiérrez, José Adalid, *On the boundedness of the Banach space-valued Hilbert transform.*

Chang, Jea Kang, *Generalized conjugate gradient acceleration of iterative methods.*

Matovsky, John-Anton C., *Decomposition of symmetric two-tensors over a compact Riemannian manifold with boundary.*

Nelson, Abraham, *Goal arc methods in $EE\theta$ planning and control.*

Vose, Michael David, *Limit theorems for sequences of divisor distributions.*

UTAH

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

MATHEMATICS

Hoste, Jim Edward, *Sewn-up r -link exteriors.*

Martin, Jorge M., *On inverse limits of bundle maps.*

Sikorski, Krzysztof, *Optimal solution of nonlinear equations.*

VIRGINIA

University of Virginia
(7;4,0,2,0,1,0,0)

APPLIED MATHEMATICS AND COMPUTER SCIENCE

Koh, Kern, *Design and performance of future virtual memory systems using fast secondary storage.*

Popyack, Jeffrey Lee, *Approximating Markov decision processes with multi-module Markov decision.*

Song, Woon-Ho, *Equivalence transformation for queueing network topologies.*

MATHEMATICS

Goggins, Robert Allen, *Bordism of almost tangent structures.*

Shell, Nancy Lee, *Factorization and invariant subspaces in some $H^2(\mu)$ spaces.*

Wadsworth, Catherine Gorini, *Multiplicative constructions in equivariant bordism.*

Wood, Thomas Edward, *Sequences of associated random variables.*

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

BIostatISTICS

Enas, Gregory George, *Optimality considerations in nearest neighbor classification.*

Virginia Polytechnic Institute and State University
(4;1,1,0,0,2,0,0)

MATHEMATICS

Amillo-Gil, José, *Nonlinear neutral functional differential equations in product spaces.*

Miklaveic, Milan, *Stability of measurable flows over an infinite flat plate.*

Polewczak, Jacek, *Existence theorems for semilinear evolution equations in weak topologies.*

STATISTICS

Lee, Luen-Fure, *Empirical Bayes estimators for the cross-product ratios of 2×2 contingency tables.*

WASHINGTON

University of Washington
(19;5,8,6,0,0,0,0)

BIOMATHEMATICS

Barr, Vivian Athelia, *Approximations of permutation distributions based upon moments.*

DeVault, Arthur Reeves, *Orthogonal polynomial methods of contingency table analysis.*

Genter, Frederick, *A generalized regression model for ordinal response variables.*

Self, Steven, *Cox proportional hazards model with time dependant covariates: Asymptotic distribution of B and related topics.*

Sim, Dalice, *A sequential score test.*

Smith, Eric Peter, *The statistical properties of biological indices of water quality.*

Vollmer, William M., *Risk factor detection using case-only data.*

Walsh, David Alastair, *Some methods for the analysis of biomedical time series.*

COMPUTER SCIENCE

Borgwardt, Peter Arthur, *Cache structures based on the execution stack for high level languages.*

Du, Hung-Chang David, *Some design and analysis problems for parallel processing.*

Garner, Richard Lynn, *Analysis of queueing networks using decomposition.*

Huddleston, Charles Scott, *Robust balancing in B-trees.*

Mallgren, William Roberts, *Formal specification of interactive graphics programming languages.*

Rao, Ram, *A kernel for distributed and shared memory communication.*

MATHEMATICS

Keeler, Stephen Philip, *The existence of Gibbs' phenomenon for new classes of Fourier series.*

Law, Kouok-Kouong, *Compactifications of complex affine surfaces.*

Molelekoa, Moshe, *Space-time symmetries of Yang-Mills fields.*

Ndakbo, Victor, *Singular convolution operators of Hilbert type on a class of totally disconnected Abelian groups.*

Zorn, Paul Manthey, *Analytic functionals and Bergman spaces.*

Washington State University
(5;2,0,0,0,3,0,0)

MATHEMATICS

Bradley, Edward, *A study of reaction-diffusion models for biological processes.*

Burke, John Richard, *Addition theorems and notions of density in $GF[p, x]$.*

Evans, Anthony Brian, *Distance in finite geometrics.*

Ferm, Eric Nicander, *A linear stability analysis of the buoyancy and surface-tension driven Bénard problem.*

Smith, James Leslie, *Exploitative interactions involving age structure.*

WISCONSIN

University of Wisconsin, Madison
(26;11,7,7,0,1,0,0)

COMPUTER SCIENCES

Cheng, Yun-Chian, *Iterative methods for solving linear complementarity and linear programming problems.*

Friedland, Dina, *Design, implementation, and analysis of parallel external sorting algorithms.*

Kao, Cheng-Yan, *Secant approximation methods for convex optimization.*

Leland, Will Edward, *Density and reliability of interconnection topologies for multicomputers.*

Ramanath, Munagala V.S., *Optimal code-generation for control structures.*

Schmitt, Lorenz A., *A structured approach to computer image understanding; the use and representation of real-world knowledge in an artificial vision system.*

Wilkinson, William Kevin, *Database concurrency control and recovery in local broadcast networks.*

MATHEMATICS

Gowda, Muddappa Seetharama, *Two problems in the function theory of the unit ball of C^n .*

Guichard, David R., *Automorphisms and large submodels in effective algebra.*

Ho, Lop-Fat, *Controllability and spectral assignability of a class of hyperbolic control systems with retarded control canonical forms.*

King, James Holliday, *Strong ratio theorems for Markov and semi-Markov chains.*

Manasse, Mark Steven, *Techniques and counterexamples in almost categorical recursive model theory.*

Morris, Walter Garfield, II, *Constant term identities for finite and affine root systems: conjectures and theorems.*

Parks, Alan E., *Generalized permutation characters of solvable groups.*

Ramey, Wade C., *Boundary behavior of bounded holomorphic functions along maximally complex submanifolds.*

Rosenthal, David A., *The classification of the order indiscernibles of real closed fields and other theories.*

Tangredi, Michael P., *Properties and applications of resolvents of some Volterra operators.*

Watkins, Joseph Clyde, III, *A central limit problem in random evolutions.*

Wimmers, Edward, *The interaction between quantifiers and admissible sets.*

STATISTICS

Chang, Der-Shin, *Estimation with auxiliary information in survey sampling: Some large sample results.*

Esan, Ebenezer, *Regression with correlated errors.*

Fries, Arthur, *Analysis of factorial experiments and accelerated life tests under an inverse Gaussian model.*

Issos, Janes N., *Risk of Stein type estimators and applications to forestry inventory.*

McKnight, Barbara, *Testing for differences in tumor incidence.*

Soares, José Francisco, *Some restricted randomization rules with applications to the design of clinical trials.*

Verrill, Steve Patrick, *Some asymptotic results concerning Shapiro-Wilk tests of fit.*

WYOMING

University of Wyoming
(4;0,4,0,0,0,0)

STATISTICS

Butler, Susan Ann, *Some aspects of line intercept sampling.*

Foy, John Drewery, III, *Admissibility and preferability for certain randomized response estimators.*

Hagan, Randy Lee, *Application of spectral theory and analysis in mining geostatistics and statistical linear wave theory.*

Novotny, Timothy Joseph, *Model selection using significance levels.*

CANADA

Carleton University
(5;3,0,0,1,1,0,0)

MATHEMATICS AND STATISTICS

Assem, Ibrahim, *Iterated tilted algebras.*

Min, Kyung-Chan, *Categorical aspects of ordered vector structures.*

Roohy-Laleh, Ebrahim, *Improvements to the theoretical efficiency of the network simplex method.*

Shiao, Long-Shung, *Baer ordered $*$ -rings.*

Tan, Jimmy Jiann-Mean, *Matroid 3-connectivity.*

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

MATHEMATICS

Jesuraj, Ramasamy, *Continuous functions and exceptional sets in potential theory.*

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

MATHEMATICAL SCIENCES

Carr, Donna Marie, *Ineffability properties of $P_{\kappa\lambda}$.*

Hahn, Gena, *Directed hypergraphs: The group of their composition.*

Memorial University of Newfoundland
(1;1,0,0,0,0,0)

MATHEMATICS AND STATISTICS

Bencivenga, Roberto, *On the groves of automorphisms of principal and fibre bundles.*

Queen's University
(2;2,0,0,0,0,0)

MATHEMATICS AND STATISTICS

Leung, Tat-Wing, *Quotient algebras of certain quiver algebras.*

Nashier, Budh S., *Efficient generation of ideals in polynomial rings.*

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

MATHEMATICS

Gegenberg, Jack David, *On the stationary Einstein-Maxwell-Klein-Gordon equations.*

Nicklason, Gary Robert, *Further results relating to the weakly non-linear wave equation of van der Pol type.*

Université de Montréal
(3;2,1,0,0,0,0)

MATHÉMATIQUES ET STATISTIQUE

Belinsky, Morton, *Quelques problèmes d'estimation pour les distributions multidimensionnelles.*

El Hallabia, Khalifa, *Continuité des opérateurs polynomiaux dans les espaces vectoriels topologiques.*

Savoie, Jean, *Résolution numérique d'un système d'équations non linéaires déterminé par un système de Tchebycheff.*

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

MATHEMATICS

Rai, Bindhyachal, *O.D.E. models of a mutualist interacting in ecological systems.*

University of British Columbia
(3;2,0,1,0,0,0)

COMPUTER SCIENCE

Sinha, Prem Swarup, *Load control in interactive computing systems.*

MATHEMATICS

Renner, Lex Ellery, *Algebraic monoids.*

Zeidan, Vera, *Sufficient conditions for optimal control and the generalized problem of Bolza.*

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

MATHEMATICS AND STATISTICS

Wiens, Douglas Paul, *Robust estimation of multivariate location and scale in the presence of asymmetry.*

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

STATISTICS

Howlader, Hatem, *On the study of the posteriors of parameters of some well-known distributions under proper and improper priors.*

Mugisha, Rujagaata Xavier, *Some applications of estimates of a probability density function and its derivatives in nonparametric inference.*

University of Toronto
(11;3,2,5,1,0,0,0)

COMPUTER SCIENCE

Christodoulakis, Stavros, *Selectivities in data bases.*

Graham, Marc Henry, *Satisfying database states.*

Lengauer, Christian, *A methodology for programming with concurrency.*

Levesque, Hector J., *A formal treatment of incomplete knowledge bases.*

Magalhaes, Geovane C., *Improving the performance of data base systems.*

INDUSTRIAL ENGINEERING

Sim, Soon Hock, *On multi-vehicle transportation systems with queue-dependent dispatching policies.*

MATHEMATICS

Steprāns, Juris, *Some results in set theory.*

Watson, W. Stephen, *Applications of set theory to general topology.*

Weiss, Asia, *Polytopes, honeycombs, groups and graphs.*

STATISTICS

Brant, Rollin, *Some statistical methods based on transforms.*

Minkin, Salomon, *Assessing the quadratic approximation to the log-likelihood function in nonnormal linear models.*

University of Waterloo

(11;1,1,2,1,1,0,5)

APPLIED MATHEMATICS

Mesluk, Raymond Edward, *The modeling of ionic flows in excitable cells.*

COMBINATORICS AND OPTIMIZATION

Akgul, Mustafa, *Topics in relaxation and ellipsoidal methods.*

Cameron, Kathleen Barbara, *Polyhedral and algorithmic ramifications of anti-chains.*

Devitt, John Stanley, *The algebraic manipulation of certain enumerative constructions.*

Fuji-Hara, Ryoh, *Doubly resolvable designs from finite geometries.*

Robinson, John Michael, *Scotch pebbles.*

Steiner, George, *Machine scheduling with precedence constraints.*

COMPUTER SCIENCE

Cunha, Paulo R.F., *Design and analysis of message oriented programs.*

Ziviani, Nivio, *The fringe analysis of search trees.*

PURE MATHEMATICS

Tay, Tiong-Seng, *Rigidity problems in bar and joint frameworks and linkages of rigid bodies.*

STATISTICS

Teo, Kar Seng, *Topics in the analysis of categorical data.*

University of Western Ontario

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

STATISTICAL AND ACTUARIAL SCIENCES

Balasoorya, Uditha, *Data analysis and robust statistical inference.*

Duong, Quang Phuc, *Shrinkage, order selection, threshold.*

Li, Wai Keung, *Topics in time series modelling.*

University of Windsor

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

MATHEMATICS

Abd-El-Malek, Mina Badie, *Boundary integral methods and free surface problems.*

Lee, Hyunshik, *Robust procedures for multi-sample location problems.*

Samaan, Jacob Eshak, *Some problems of statistical estimation in the theory of queues.*

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edited by Olli Lehto

The Proceedings of the International Congress of Mathematicians held in Helsinki, August 15-23, 1978, are in two volumes. Volume 1 contains an account of the Congress, the list of members, presentations of the works of the Fields medallists, the plenary one-hour addresses, and the invited addresses in sections 1-5. Volume 2 contains the invited addresses in sections 6-19. A complete index is included in both volumes.

On the decision of the Fields Medals Committee, the works of the Fields medallists were presented as follows:

N. M. Katz: *The work of Pierre Deligne*

L. Carleson: *The work of Charles Fefferman*

J. Tits: *The work of Gregori Aleksandrovitch Margulis*

I. M. James: *The work of Daniel Quillen*

The invited one-hour plenary addresses included follow:

L. V. Ahlfors, *Quasiconformal mappings, Teichmüller spaces, and Kleinian groups*

A. P. Calderón, *Commutators, singular integrals on Lipschitz curves and applications*

A. Connes, *von Neumann algebras*

R. D. Edwards, *The topology of manifolds and cell-like maps*

D. Gorenstein, *The classification of finite simple groups*

M. Kashiwara, *Micro-local analysis*

N. N. Krasovskii, *Control under incomplete information and differential games*

R. P. Langlands, *L-functions and automorphic representations*

Ju. I. Manin, *Modular forms and number theory*

S. P. Novikov, *Linear operators and integrable Hamiltonian systems*

R. Penrose, *The complex geometry of the natural world*

W. Schmid, *Representations of semisimple Lie groups*

A. N. Shiryaev, *Absolute continuity and singularity of probability measures in functional spaces*

A. Weil, *History of mathematics: why and how*

S.-T. Yau, *The role of partial differential equations in differential geometry.*

In addition there were 120 invited forty-five-minute addresses divided into nineteen sections. The sections follow:

1. Mathematical logic and foundations of mathematics
2. Algebra
3. Number theory
4. Geometry
5. Topology
6. Algebraic geometry
7. Lie groups, algebraic groups, automorphic functions
8. Real and functional analysis
9. Complex analysis
10. Operator algebras and group representations
11. Probability and mathematical statistics
12. Partial differential equations
13. Ordinary differential equations and dynamical systems
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- Fukuda, Komei, *Oriented matroid programming.*
 Korach, Ephraim, *On dual integrality, min-max equalities and algorithms in combinatorial linear programmes.*
 Locke, Stephen Charles, *Extremal properties of paths, cycles and K-colourable subgraphs of graphs.*
 Mandel, Arnaldo, *Topology of oriented matroids.*
 Roy, Bimal Kumar, *On isomorphic subgraphs having minimum intersection.*

PURE MATHEMATICS

- Amer, Khaled, *Commutative monoids with monus.*
 Ralph, William James, *Variants of the singular complex and their connections with Banach algebras, Čech cohomology and co-products.*

STATISTICS

- Desmond, Francis Anthony, *Local maxima of stationary stochastic processes and stochastic modelling of fatigue.*

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

APPLIED MATHEMATICS

- Wilkinson, Steven Ray, *Boundary layer flow in streamwise concave corners.*

MATHEMATICS

- Sayte, John Edward, *Generalized Hausdorff matrices with applications to strong and absolute summability.*

University of Windsor

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

MATHEMATICS

- Srivenkataramana, Talapady, *Contribution to sampling theory and practice using auxiliary information.*

Doctoral Degrees
 Conferred 1981-1982

Supplementary List

The following entry supplements the list of thesis titles published in the November 1982 *Notices*, pages 639-653, and in the April 1983 *Notices*, page 359.

WISCONSIN

University of Wisconsin, Madison

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

MATHEMATICS

- Kosciuk, Steven A., *Non-standard stochastic methods in diffusion theory.*



CONTEMPORARY MATHEMATICS

Symposium on Algebraic Topology
 in Honor of José Adem

Samuel Gitler, Editor

CONTENTS

- Samuel Gitler, *José Adem's contribution to algebraic topology*
 J. F. Adams, *Graeme Segal's Burnside ring conjecture*
 Enrique Antoniano, *Sections for bundles over projective spaces*
 Luis Astey, *An integrality theorem for K-theory Chern classes*
 José L. Arraut and Duane Randall, *Index of tangent fields on compact manifolds*
 M. G. Barratt and W. R. Miller, *On the antiautomorphism of the Steenrod algebra*
 Charles Boyer, *On the structure of supermanifolds*
 Javier Bracho, *Strong classification of Haefliger structures*
 Edgar H. Brown, *Smooth n-manifolds immerse in $\mathbb{R}^{2n-\alpha(n)}$*
 F. R. Cohen and M. E. Mahowald, *Unstable properties of $\Omega^n S^{n+k}$*
 Donald M. Davis, *On the cohomology of $MO\langle 8 \rangle$*
 Albrecht Dold, *Fixed point theory and homotopy theory*
 Mauricio Gutierrez, *On crossed modules*
 A. Haefliger and K. Sitanantana, *A proof that Br_1^c is 2-connected*
 J. H. V. Hunt, *Branched coverings as uniform completions of unbranched coverings*

- S. Y. Hussein, *Zeros of equivariant S^3 -maps*
 James P. Lin, *Some theorems about the mod 2 cohomology of a finite H-space*
 Arunas Liulevicius, *Finite G sets and Hopf algebras of representation rings*
 Emilio Lluís-Puebla, *On K_3 of the dual numbers*
 W. S. Massey, *A generalization of the Alexander duality theorem*
 J. P. May, *Equivariant homotopy and cohomology theory*
 R. James Milgram, *A survey of the compact space form problem*
 Luis Montejano, *β -homotopy equivalences*
 Jack Morava, *Cohomology of some improper group actions*
 S. de Neymet de Christ and F. Gonzalez A., *A generalization of Fox's spread completion*
 F. P. Peterson, *Self maps of loop spaces of spheres*
 D. Ravenel, *Morava K-theories and finite groups*
 José A. Seade, *Invariant framings of quotients of $SL_2(\mathbb{R})$ by discrete subgroups*
 Victor Snaitch and Jorgen Tornehave, *On $\Pi_*^S(BO)$ and the Arf invariant of framed manifolds*
 E. Spanier, *Cohomology isomorphisms*
 Oscar Valdivia G., *S-productos vectoriales: Teoría algebraica y topológica*
 Alberto Verjovsky, *Cobordism of three dimensional spheres*
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