
Doctoral Degrees Conferred

2002–2003

ALABAMA

Auburn University (7)

DISCRETE AND STATISTICAL SCIENCES

Clark, Sally Ann, Edge-color balance with respect to a partition of the vertices of K .

Holliday, Sarah Hale-Heuss, The Ship Captain's Problem.

Liatti, Mark Lloyd, Partitioning the edges of $K_{c,d}$ into copies of $K_{a,b}$.

MATHEMATICS

Charina, Maria, A MHD free boundary value problem.

Dolberry, Charles, A study of Eaton triples and reduced triples.

Popvassilev, Strashimir, Marczewski measurable sets, base-cover paracompactness and uniform base-cover paracompactness.

Tameru, Ana, A two-point boundary value problem for higher-order functional differential equations.

University of Alabama, Birmingham (1)

BIOSTATISTICS

Zheng, Shimin, Random regression for longitudinal data subject to left censoring the informative drop-outs using generalized multivariate theory.

University of Alabama, Tuscaloosa (7)

INFORMATION SYSTEMS, STATISTICS, AND MANAGEMENT SCIENCE

Carter, Christa, A Bayesian approach to control charting attribute data exhibiting process variability.

Thomas, Joseph, Interpretation of multivariate control chart systems.

Wanorie, Tekle, The effects of importation duty and currency exchange rate fluctuation on inventory control.

MATHEMATICS

Kim, Jaedeok, Rank preserving maps on CSL algebra.

Kim, Youngml, Subnormal subgroups of finite rank.

Prevo, Raynetta, Entropies of families of fuzzy random variables—an introduction to an in-depth exploration of several classes of important examples.

Ul-Haq, Irfan, Certain covering property and its application on BMO_α^p spaces.

ARIZONA

Arizona State University (7)

MATHEMATICS

Al-rabtah, Adil, Algebraic interpretation and stability of enslaved finite difference schemes.

Bekmetjev, Airat, The threshold phenomenon in random pebbling configurations.

Ha, Youngsoo, Numerical methods for supersonic astrophysical jets.

Jo, Tae-Chang, Localized solutions in physical systems.

Miller, Christian, Modeling and analysis of stoichiometric two-patch consumer-resource systems.

Mopecha, Jimmy Penn, A mathematical model for the dynamics of onchocerciasis with cross-protection.

Trahe, Markus, Attractors of 3-D fast rotating Navier-Stokes equations.

University of Arizona (8)

APPLIED MATHEMATICS

Erker, Joseph, Boundary-value problems in electrophoresis with applications to separations science.

Hacker, Wayne, An asymptotic theory for distributed receptivity in the presence of mean flow fields with nonzero pressure gradients.

McMillen, Tyler, Perversions and whips: Static and dynamic problems of elastic filaments.

Pineda-Fortin, Angel, Detection-theoretic evaluation in digital radiography and optical tomography.

Pond, Sergei, Modeling evolution of protein coding DNA sequence.

Schuster, William, Trailing edge noise produced by the scattering of turbulent boundary layer disturbances.

Walton, David Brian, Analysis of kinesin assay data.

MATHEMATICS

Alshammari, Fahd, Jacobians of plane quintic curves of genus one.

ARKANSAS

University of Arkansas (1)

MATHEMATICAL SCIENCES

McLoud-Mann, Jennifer, On a certain family of determinantal-like ideals.

CALIFORNIA

California Institute of Technology (12)

APPLIED AND COMPUTATIONAL MATHEMATICS

Fetecau, Razvan, Variational methods for nonsmooth mechanics.

Greenberg, Andrei, Chebyshev spectral methods for singular moving boundary problems with application to finance.

Howard, Elizabeth, A front tracking method for modelling thermal growth.

Hyde, E. McKay, Fast high-order methods for scattering by inhomogeneous media.

Kastner, Jason, Modeling a hox gene network: Stochastic simulation with experimental perturbation.

Mauch, Sean, Efficient algorithms for solving static Hamilton-Jacobi equations.

The above list contains the names and thesis titles of recipients of doctoral degrees in the mathematical sciences (July 1, 2002, to June 30, 2003) reported in the 2003 Annual Survey of the Mathematical Sciences by 223 departments in 160 universities in the United States. Each entry

contains the name of the recipient and the thesis title. The number in parentheses following the name of the university is the number of degrees listed for that university. A supplementary list, containing names received since compilation of this list, will appear in a summer 2004 issue of the *Notices*.

CONTROL AND DYNAMICAL SYSTEMS

- Lekien, Francois*, Time-dependent dynamical systems and geophysical flows.
Milam, Mark, Real time optimum trajectory generation for constrained dynamical systems.
Vela, Patricio, Averaging and control of nonlinear systems.

MATHEMATICS

- Dukes, Peter*, Convex cone conditions on the structure of designs.
Mei, Yajun, Asymptotically optimal methods for sequential change-point detection.
Zlatos, Andrej, Sum rules and the Szegő condition for Jacobi matrices.

Claremont Graduate University (5)

MATHEMATICS

- Escareno, Claudia Rangel*, Modeling biological responses using gene expression profiling and linear dynamical statistical models.
Horick, Christopher, Statistical and structural analysis of the Earthman perimeter measure of tooth and implant damping capacity.
Kairouz, Khalil Antoun, Numerical and experimental investigations of a turbulent junction flow with upstream ribbed surface.
Luong, Barry, Performance and reliability models for the multimedia-broadband gateway.
Nguyen, Dan Manh, A unified automated approach to surface approximation via finite element and nonuniform rational B-spline methods.

Naval Postgraduate School (2)

APPLIED MATHEMATICS

- Joolen, Vince van*, Application of Higdon nonreflecting boundary conditions to shallow water models.
Wilmer, Archie, Analytic expression of the tripping loads for stiffened plates with bulb or bulb-flat flanges.

University of California, Berkeley (34)

BIOSTATISTICS

- Brookhart, M. Alan*, Computer intensive approaches to four topics in biostatistics.
Pollard, Katherine S., Computationally intensive statistical methods for analysis of gene expression data.

MATHEMATICS

- Bang, Joon*, Sandpile problems on a steep landscape.
Barkauskas, Donald, Centralizers in fundamental groups of graphs of groups.

Barnard, Alexander, The singular theta correspondence, Lorentzian lattices, and Borcherds-Kac-Moody algebras.

Burns, Michael, Subfactors, planar algebras, and rotations.

Caicedo, Andrés, Simply definable well-orderings of the reals.

Coates, Tom, Riemann-Roch theorems in Gromov-Witten theory.

Davis, Mark, Split extensions and generalizations of injectivity.

Develin, Mike, Topics in discrete geometry.

Drozd, Elena, Curves on a nonsingular quadric hypersurface in P^4 : Existence and liaison theory.

Eisentraeger, Anne, Hilbert's tenth problem and arithmetic geometry.

Elliot, Jesse, Witt-Burnside rings.

Fraser, William, Computer assisted thermographic analysis of go endgames.

Garcia, Stephan, Conjugation, the backward shift, and Toeplitz kernels.

Harada, Megumi, The symplectic geometry of the Gelfand-Cetlin-Molev basis for representations of $Sp(2n, C)$.

Helm, David, Jacobians of Shimura curves and Jacquet-Langlands correspondences.

Hirshberg, Ilan, C^* -algebras and endomorphisms associated to systems of Hilbert modules.

Ingerman, Eugene, Modelling the loss of information in optimal prediction.

Khetan, Amit, Formulas for resultants.

Levenberg, Joshua, Accurate adaptive contour finding using $C1$ data.

Li, Hanfeng, Quantum Gromov-Hausdorff distance and continuity of Connes and Dubois-Violett's O -deformations.

Miller, Andrew, Upsiloids with nonpositive curvature.

Neumann, Genevra, Valence of harmonic functions.

Onshuus, Alf, Thorn-forking in rosy theories.

Scorpan, Alexandru, Finite subset spaces of graphs and surfaces.

Thompson, Howard, On toric log schemes.

Unver, Sinan, Ramification on arithmetic surfaces and P -adic multi-zeta values.

Whitney, Wayne, Functorial Cohen rings.

STATISTICS

Bandyopadhyay, Antar, Max-type recursive distributional equations.

Berger, Noam, Random walk on percolation clusters.

Ibser, Feltcher Hank, Legal policy and community level crime prevention: The rise and fall of crime in the United States.

Von Bing, Yap, Modeling molecular substitution.

Yu, Zhuo, Causal inference in longitudinal studies.

University of California, Davis (7)

MATHEMATICS

Abbott, Justin, Low temperature results for the Heisenberg XXZ and XY models.

Barchecheat, Alexandre, Minimal triangulations of 3-manifolds.

Dugaw, Christopher, Dynamics of a soil-dwelling parasite and its insect host.

Kim, Dongseok, Graphical calculus on representations of quantum Lie algebras.

Walsh, Genevieve, Great circle links in the three-sphere.

STATISTICS

Durbin, Blythe, Power transformations of data.

Zhong, Xiaoyun, The additive genetic gamma frailty models for genetic linkage and association analysis.

University of California, Irvine (3)

MATHEMATICS

Ishiu, Tetsuya, Club guessing sequences and filters.

Simon, Ezequias, On proper harmonic maps between strictly pseudoconvex domains with Kahler metrics and harmonic functions in metrics of Bergman type in the polydisc.

Strasser-McIntosh, Jennifer, Stability of probabilistic dynamics.

University of California, Los Angeles (13)

MATHEMATICS

Better, Joel, Fixed points of equivalent homeomorphisms.

Choi, Sunhi, The lower density conjecture for harmonic measure.

Donald, John, A finite difference numerical simulation of the geodynamo.

Jung, Paul, On invariant measures of the exclusion process and related processes.

Nezzar, Suzanne, A multiscale image representation using hierarchical (BV, L^2) decompositions.

Oliver, Michael, An inquiry into the number of isomorphism classes of Boolean algebras and the Borel cardinality of certain Borel relations.

Sandberg, Berta, Active contour segmentation of multichannel images.

Song, Bing, Topics in variational PDE image segmentation inpainting and denoising.

Wu, Li-Chau, Invariant distributions for critical nearest particle systems.

Yang, Zhiging, Constructing and classifying p -adic group actions.

Yi, Peter, An algorithm for computing the Nielsen number of maps on the pants surface.

Doctoral Degrees Conferred

STATISTICS

Beddo, Vanessa, Applications of parallel programming in statistics.

Peng, Roger, Applications of multi-dimensional point process methodology to wildfire hazard assessment.

University of California, Riverside (3)

MATHEMATICS

Grantcharov, Dimitar, Weight modules of Lie superalgebras of type I.

Le, Thang, Representations of infinite dimensional Lie algebras.

STATISTICS

Jampachaisri, Katechan, An application of singular value decomposition in Bayesian analyses.

University of California, San Diego (9)

MATHEMATICS

Briggs, Karen Sue, Q -analogues and P, Q -analogues of rook numbers and hit numbers and their extensions.

Cooper, Joshua N., Quasirandom permutations.

Glickenstein, David A., Precompactness of the Ricci flow and a maximum principle on combinatorial Yamabe flow.

Loehr, Nicholas A., Multivariate analogues of catalan numbers, parking functions, and their extensions.

Lu, Linyuan Lincoln, Probabilistic methods in massive graphs and internet computing.

Rowell, Eric C., On tensor categories arising from quantum groups and BMW -algebras at odd roots of unity.

Scully, Kevin J., Finite element approximation over multiple coordinate systems.

Steiner, Jean, Green's functions, spectral invariants, and a positive mass on spheres.

Whitley, Aubin Ruth Kathleene, Skorokhod problems and semimartingale reflecting processes in an orthant.

University of California, Santa Barbara (14)

MATHEMATICS

Agh, Christopher, Resultants and the Hermite normal form.

Bice, Michael, Stability of a multigrid method for multidimensional systems of hyperbolic conservation laws.

Heinschel, Nancy, Stacks of algebras and their finitistic dimensions.

Kennedy, Lydia, Some results on Einstein metrics on two classes of quotient manifolds.

Lim, Wee Keong, One dimensional quasi-linear Schrodinger equation and related topics.

Lin, Jiayuan, Birational unboundedness of q -fano threefolds.

Manning, Jason, Geometry of pseudocharacters.

Ozonoff, Alexander, On the subgroup separability of right-angled coxeter groups.

Rosin, Amber, The structure and commutativity of certain generalizations of Boolean rings.

Saclolo, Michael P., The cone of curves of an algebraic surface.

Thomases, Becca, Global existence for three-dimensional nonlinear incompressible elastodynamics as a limit of slightly compressible materials.

Zhang, Jianying, Plate patch piezoelectric control.

STATISTICS AND APPLIED PROBABILITY

Khariton, Tatiana, Nonlinear ridge regression.

Valeva, Anna, On the bid-ask spread in asymmetric information models.

University of Southern California (5)

MATHEMATICS

Bourauz, Guillaume, Algorithms for phylogenetic tree reconstruction based on genome rearrangements.

Lai, Yinglei, Branching processes and microsatellite evolution.

Li, Xiaoman, Some statistical issues in genomics: Shotgun DNA sequence assembly and cDNA expression data.

Shamsa, Kaveh, Biomechanics of a two dimensional model of human walking: Skeletal dynamics, musculomechanics, stability analysis.

Yaralov, Georgi, Some problems in statistics of random processes arising in signal and image processing.

COLORADO

Colorado School of Mines (3)

MATHEMATICAL AND COMPUTER SCIENCES

Boleng, Jeff, Exploiting location information and enabling adaptive mobile ad hoc network protocols.

Khebchareon, Morrakot, Finite element methods for solving Schrodinger-type problems.

Relue, Richard, Developing association rules with the pattern repository.

Colorado State University (5)

MATHEMATICS

Dent, Anamaria, Variations on methods of Lorentz and Lorentz for dimensions two and three.

STATISTICS

Al-Ghamedi, Ateq, Robust estimation and testing of location for symmetric stable distributions.

Lin, Jin-Mann, Small area estimation.

McNally, Richard, Statistical issues in individual and population bioequivalence.

Wang, Ying, Modeling time series of count data.

University of Colorado, Boulder (3)

APPLIED MATHEMATICS

Perez, Cristina, Simulating interaction between intraseasonal and interannual variability in the tropical Pacific with a coupled system of nonlinear ordinary differential equations.

Wright, Eric, Modeling and analysis of aqueous chemical reactions in a diffusive environment.

Wright, Grady, Radial basis function interpolation: Numerical and analytical developments.

University of Colorado, Denver (6)

MATHEMATICS

Oliveira, Saulo, Discontinuous enrichment methods for computational fluid dynamics.

Popa, Mirela, Finite element solution of scattering in coupled fluid-solid systems.

Starrett, John, Geometric control of low-dimensional chaotic systems.

Werner, Mark, Identification of multivariate outliers in large data sets.

PREVENTIVE MEDICINE AND BIOMETRICS

Bell, Melanie, The use of maximum pseudolikelihood in generalized linear models for the analysis of replicated spatial point processes.

Webb, Tim, Exact test size and power for small samples using an internal pilot study.

University of Northern Colorado (4)

MATHEMATICAL SCIENCES

Gonske, Theresa, Relationships among mathematics anxiety, beliefs about the nature of mathematics and learning mathematics, and students' learning approaches in non-traditional aged students at the community college.

Junius, Prema, Cognitive engagement in integrating Euclidean and non-Euclidean geometry.

Miltenberger, Pamela, The effects of a physics learning community on student attitude and performance.

Tsao, Yea Ling, The number sense of pre-service elementary school teachers.

CONNECTICUT

University of Connecticut (5)

MATHEMATICS

Lee, Sungwook, Space-like surfaces of constant mean curvature in de Sitter 3-space S_1^3 .

Savvytska, Nataliya, Numerical methods for nonlinear partial differential equations of Gross-Pitaevskii type and their discrete analogues.

Zhou, Peng, Stochastic modeling of post-retirement financial planning.

STATISTICS

Cicconetti, Gregory, Contributions to sequential analysis.

Ying, Jun, Some applications of hierarchical Bayes approaches to longitudinal and time series data.

Wesleyan University (4)

MATHEMATICS

Che, Zhongyuan, Some topics in graph homomorphisms.

Gillespie, James, The flat model structure on chain complexes of modules.

Lopez, Manuel, A classification of Serre classes of Artinian modules over a Noetherian ring.

Patel, Rishiparna, Model-theoretic results on generic and random relational structures.

Yale University (9)

MATHEMATICS

Jackson, Steven Glenn, Standard monomial theory for reductive dual pairs.

Kassabov, Martin D., On the automorphism tower of free nilpotent groups.

Krutelevich, Sergei, Orbits of exceptional groups and Jordan systems.

Ni, Yilong, Sub-Riemannian geometry and analysis on the Heisenberg group.

Savage, Alistair Rowland John, Relations between algebraic and geometric constructions in representation theory.

Yoon, Youngsun, On the polynomial representations of Lie algebras.

STATISTICS

Gao, Kun, The K -means tree.

Lacey, Michelle, On convergence rates of the neighbor-joining method for phylogeny reconstruction.

Talih, Makram, Markov random fields on time-varying graphs, with an application on portfolio selection.

DELAWARE

University of Delaware (1)

MATHEMATICAL SCIENCES

Viglione, Raymond, Properties of some algebraically defined dynamics.

DISTRICT OF COLUMBIA

American University (5)

MATHEMATICS AND STATISTICS

Al-Shara, Nawar, Multivariate optimizing up-and-down design.

Evans, Brooke, Success in university-required mathematics courses: An investigation of students with learning disabilities.

Hijazi, Rafiq, Analysis of compositional data using Dirichlet covariate models.

Kittichotipanit, Nomchit, On the distribution of fixed-response covariates in logistic regression using smoothing splines.

White, Janet, Secondary mathematics teachers' beliefs regarding their preparation to teach upper-level mathematics.

George Washington University (2)

STATISTICS

Freeman, Jade Lee, An analysis of Box-Cox transformed data.

Yuan, Jinyu, Statistical studies on genetic linkage analysis based on affected sibships.

Howard University (1)

MATHEMATICS

Brooks, Sean, Mathematical modeling of solitons in optical fibers.

FLORIDA

Florida Atlantic University (1)

MATHEMATICAL SCIENCES

Abreu, Marién, Some connectivity conditions and their implications.

Florida Institute of Technology (7)

MATHEMATICAL SCIENCES

Al-Shehri, Radfea, Readiness based decision making: A reactive decision making model for emergency supply of spare parts in a military scenario.

Alakil, Akil, Objective evaluation of nonprofit organization: An analytical hierarchy process approach.

Fauls, Mark, Bayesian sampling schemes for estimating the reliability of a series system.

Nandhakwang, Teeranan, Optimizing web server load distribution with evolutionary computation.

Rosson, Hong-Tham, Stochastic reliability and queueing system with variable resources.

Thompson, Hugh, A Bayesian model of sequential test allocation for software reliability estimation.

VanSuetendael, Richard, Applying experimental design in a debris dispersion.

Florida State University (5)

MATHEMATICS

Cruz-White, Irma, Topology of spiral waves in excitable media.

Homescu, Christian, Optimal control of continuous and discontinuous flows.

STATISTICS

Chen, Feiming, Bayesian modeling of multivariate spatial binary data with applications to the distribution of plant species.

Hall, Sandra, Generalized linear mixed effects models with applications to indoor air quality data.

Zhao, Yichuan, Empirical likelihood methods for comparison of survival functions.

University of Florida (1)

STATISTICS

Yang, James, A statistical method for identifying informative genes in microarrays.

University of Miami (1)

MATHEMATICS

Beam, John, Expectations for coherent probabilities.

University of South Florida (1)

MATHEMATICS

Appiou Nikiforou, Marina, Extensions of quandles and cocycle knot invariants.

GEORGIA

Emory University (1)

MATHEMATICS AND COMPUTER SCIENCE

Pfender, Florian, Two problems in extremal graph theory.

Georgia Institute of Technology (7)

MATHEMATICS

Agueh, Martin, Existence of solutions to degenerate parabolic equations via the Monge-Kantorovich theory.

Boczko, Erik, Polygonal approximation for flows.

Kelome, Djivède, Viscosity solutions of second order equations in a separable Hilbert space and applications to optimal control.

Khlabystova, Milena, Dynamical and statistical properties of Lorentz lattice gases.

Doctoral Degrees Conferred

Maroofi, Hamed, Applications of the Monge-Kantorovich theory.

Wang, Xuelei, Level set model of microstructure evolution in the chemical vapor infiltration process.

del Magno, Gianluigi, Dynamics of billiards.

University of Georgia (6)

MATHEMATICS

Arcara, Daniele, Moduli spaces of vector bundles on curves.

Cofer, Tanya, A class of tight contact structures on $\Sigma_2 \times 1$.

Hindman, Blake, Nilpotents of representation rings of finite p -groups.

Park, Heunggi, Kinematic formulas of real subspaces in complex space forms of dimensions 2 and 3.

Tarrant, Wayne, The Groebner fan of an ideal with particular attention to the bivariate case.

Wethington, Janice, On computing the Thom-Boardman invariant for polynomial multiplication maps.

HAWAII

University of Hawaii (1)

MATHEMATICS

Vo, Monika, New classes of finite commutative rings.

IDAHO

Idaho State University (1)

MATHEMATICS

Bessey, Kent, A neo-Luddite perspective on the use of calculators and computers in mathematics education.

ILLINOIS

Illinois State University (8)

MATHEMATICS

Cady, JoAnn, The transition from pre-service to experienced mathematics teacher: The development of practices, cognitively guided beliefs, and pedagogical content knowledge.

Dindyal, Jaguthsing, Algebraic thinking in geometry at high school level.

Galante, Dianna, Web-based mathematics: An examination of assessment strategies implemented in the online mathematics classroom.

Groth, Randall E., Development of a high school statistics framework.

Guinee, Patricia Ann, A student teaching experience that focuses on elementary students' mathematical understanding.

Jones, Shelly M., Characterization of instruction in integrated middle school mathematics and science classrooms.

Lescault, Julia M., Problem-solving: Strategies of eighth-grade accelerated mathematics students.

Zimmermann, Gwen, Students' thinking and reasoning about probability simulations during instruction.

Northern Illinois University (2)

MATHEMATICAL SCIENCES

Carvalho, Joao, State estimation and finite element model updating for vibrating systems.

Shahyrdran, Jill, The geometry of weak 2-cocycles.

Northwestern University (12)

ENGINEERING SCIENCES AND APPLIED

MATHEMATICS

Beck, Jeffrey, Modelling solid flame microstructure.

Bhatt, Sandip, Pulse dynamics driven by four wave mixing in a ring cavity.

Kukuck, Scott, Diffusive-thermal instabilities in nonpremixed combustion.

Storlarska, Magdalena, Modeling crack growth by level sets.

Tongen, Anthony, A continuum model for multigrain thin film deposition.

Topaz, Chad, Pattern formation in two-frequency forced Faraday waves.

Zhang, Jie, The dynamics of a viscous drop with a moving contact line.

MATHEMATICS

Davis, Daniel, The Lubin-Tate spectrum and its homotopy fixed point spectra.

Haesemeyer, Christian, Descent properties for homotopy k -theory.

Li, Tianhong, Euler equations and compensated compactness.

Parwani, Kamlesh, Braids for surface homeomorphisms.

Pearson, Mark, The Morava K -theory of homotopy orbit spaces: Some good results for abelian permutation groups.

University of Chicago (8)

MATHEMATICS

Behrens, Mark, Root invariants in the Adams spectral sequence.

Blander, Benjamin, Local projective model structures on simplicial presheaves.

Csima, Barbara, Applications of computability theory to prime models and differential geometry.

Gan, Wee Liang, Koszul duality for dioperads.

Gartz, Kaj, A construction of a differential graded Lie algebra in the category of effective homological motives.

Margalit, Dan, Algebra versus topology in mapping class groups.

Wortman, Kevin, Quasi-isometric rigidity of higher rank S -arithmetic lattices.

STATISTICS

Velazquez, Ricardo, Nonlinear measurement error models with multivariate and differently scaled surrogates.

University of Illinois, Chicago (14)

MATHEMATICS, STATISTICS AND COMPUTER SCIENCE

Dye, Heather, Detection and characterization of virtual knot diagrams.

Enyang, John, Bases of certain algebras associated with quantum groups.

Kasman, Reva, Trees, norms on H^1 , and the Bieri-Neumann-Strebel invariant.

Krylov, Nikolai, Mapping class groups of $(K-1)$ -connected almost parallelizable $2K$ -manifolds.

Li, Zhe, Path dependent options: The case of high water mark provision for hedge funds.

Musial, Paul, The L Henstock-Kurzeil integral.

Nie, Lei, Laplace approximation in nonlinear mixed effect models.

Pavlovic, Natasa, Use of Littlewood-Paley operators for the equations of fluid motion.

Souza, Fernando, On the 3-manifold invariants derived from Hopf objects.

Turinsky, Andrei, Balancing cost and accuracy in distributed data mining.

Wang, Shaobo, Diffeomorphic types of complements of arrangements in complex projective spaces.

Wang, Xuejun, On gly conjecture of upper estimate of positive integral points in real tetrahedra.

Zhu, Haiyuan, Optimal augmented designs and fractional factorial designs.

de Fernex, Tommaso, Birational transformations of varieties.

University of Illinois, Urbana-Champaign (25)

MATHEMATICS

Adan Bante, Edith, Products of characters and derived length of finite solvable groups.

Anderson, Mark Daniel, Stochastically stable states for perturbed repeated play of coordination games.

Bourd, Alexei, Method of averaging.

Choi, Youn-Sun, Delayed van-der Pol equation.

Davis, Craig, Conformally flat spaces with bounded curvature.

Dunphy, Brian, Uniform families: Parametricity in reflexive graphs.

Goubran, Nadar, Pointwise comparisons between ergodic averages and martingales.

Jung, Nara, Continuity properties and variational problems involving the determinant of the Hessian.

Kim, Dong-Il, Waring's problem for linear polynomials and Laurent polynomials.

Kuhnt, Thomas, Generalizations of the theorem of golod-Shafarevich applications.

Littmann, Friedrich, Entire functions majorants.

Mauer-Oats, Andrew, Goodwillie calculi.

McLaughlin, James, Aspects of continued fractions.

Musat, Magdalena, On the operator space UMD and noncommutative Martingale inequalities.

O'Bryant, Kevin, Sideon sets and Beatty sequences.

O'Bryant, Natella, A problem from Hamiltonian mechanics with time-periodic coefficients, small noise, and degeneracy.

Pelismajer, Michael, Equitable list coloring, induced linear forests, and routing in rooted graphs.

Song, Minsu, Interface dynamics.

Suh, Jiyeon, A sharp weak type inequality for Martingale transforms and other subordinate Martingales.

Tyne, James Michael, T -levels and T -convexity.

Wichiramala, Wacharin, The planar triple bubble problem.

Willett, Christopher, Groups actions on contact manifolds and reduction.

Wojtowicz, Ralph, On categories of cohesive active sets, and other dynamics.

STATISTICS

Kim, Mi-Ok, Quantile regression in a varying coefficient model.

Kocherginsky, Maria, Extensions of Markov chain marginal bootstrap.

INDIANA

Indiana University, Bloomington (12)

MATHEMATICS

Aljouiee, Abdulla, On weak 2-cocycles and their algebras.

Bloch, Karl, Homology of branched cyclic covers of S^3 and R^3 .

Emmons, Brad, Products of Hecke eigenforms.

Ewald, Brian, Numerical methods for stochastic differential equations in the geosciences.

Hu, Changbing, Control and analysis for PDEs in fluid mechanics and geoscience.

Humpherys, Jeffrey, Spectral energy methods and the stability of shock waves.

Hwang, Eunju, Nonparametric estimation for nonlinear autoregressive processes.

Lyng, Gregory, One dimensional stability of detonation waves.

Montero Zarate, Jose Alberto, Stable vortex solutions to the Ginzburg Landau energy.

Scherrer, Chad, Multivariate circular symmetry models.

Toth, Daniell, A random field driven model of term structure.

Vukadinovic, Jesenko, On the backwards behavior of the solutions of the 2D periodic Kelvin filtered Navier-Stokes equations.

Indiana University-Purdue University (2)

MATHEMATICAL SCIENCES

Melton, Raymond, Positive operators in the functional calculus.

Sirotkin, Gleb, Compact-friendly operators.

Purdue University (18)

MATHEMATICS

Chen, Jiun-Ming, Algebraic aspects of multivariate cryptosystems based on tame transformations.

Chiang-Hsieh, Hung-Jen, A numerical criterion for simultaneous normalization.

Dhillon, Ajneet, Hodge theory for algebraic stacks and the cohomology of the moduli space of stable bundles.

Krishnamurthy, Muthukrishnan, Weak Asai lift to $GL(4)$.

Li, Cheng-Che, Mathematical modeling of schistosomiasis.

Lomont, Chris, Error correcting codes on algebraic surfaces.

Park, Moongyu, Development and analysis of higher order finite volume methods for elliptic equations.

Puthenpurakal, Tony, Hilbert functions of Cohen-Macaulay modules.

Sega, Liana, Cohomology of finite modules over local rings.

Sezer, Mufit, Effective generation of rings of invariants of finite groups.

Zell, Thierry, Quantitative study of semi-Pfaffian sets.

Zhang, Chaogui, An extension of the Dickman function.

STATISTICS

Amewou-Atisso, Messan (Charles), Bayesian analysis of nonparametric regression problems.

Black, Michael, Statistical issues in the design and analysis of spotted microarray experiments.

Chen, Lin, On some empirical Bayes and statistical selection and ranking procedures.

Kim, Young-Ju, Smoothing spline regression: Scalable computation and cross ventilation.

Qu, Leming, On semiparametric regression via wavelets.

Wang, Jingyuan, Penalized likelihood density estimation: Cross ventilation and some small theories.

University of Notre Dame (4)

MATHEMATICS

Buckles, Mark, Homogeneous schemes of fat points in the projective plane with the points in general position.

Byers, Peter, The bilinear estimate for a KdV Type Equation and a critical index.

Kopelevich, Dmitry, Transport in nanoscale materials due to thermal noise and deterministic dynamics.

Maze, Gerard, Algebraic methods for constructing one-way trapdoor functions.

IOWA

Iowa State University (11)

MATHEMATICS

Zerr, Ryan, Partial dynamical systems and AF C^* -algebras.

Zhu, Wenxiang, Modelling, analysis, numerical approximations of the forced Fisher equation and related control problems.

STATISTICS

Chen, Peiqi, Genetic improvement of lean growth rate and reproductive traits in pigs.

Dietz, Zachariah E., Large deviations of a class of non-homogeneous Markov chains.

Eickhoff, Jens C., Generalized linear intent variable modeling analysis for multi-group studies.

Nordman, Daniel John, On nonparametric methods for strongly and weakly dependent lattice data.

Park, Mingue, Regression estimation of the mean in survey sampling.

Qu, Yongming, Estimation for the nonlinear errors-in-variables model.

Wright, James H., An investigation of sampling excluding adjacent units.

Zhang, Yao, Bayesian design for life testing and accelerated life testing.

Zhao, Yan, Likelihood based procedures for general nonlinear structural equation analysis.

University of Iowa (18)

APPLIED MATHEMATICAL AND COMPUTATIONAL SCIENCES

Benjelloun, Imad, A dynamic programming model integrating the analytical hierarchy process and treating the transition probabilities as estimates.

Cartwright, Christopher, A parallel algorithm for matrix assembly in meshfree methods.

Seol, Jaehoon, Analysis of the radiosity equation using the collocation method.

Zhang, Qinghong, The interior point method for variational inequalities and perfect duality for semidefinite programming.

BIostatistics

Allen, Jeff M., Frequentist performance of Bayesian models for bivariate longitudinal data with two informative drop-out times.

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Benjelloun, Imad, A dynamic programming model integrating the analytic hierarchy process and treating the transition probabilities as estimates.

Byun, Sun-Sig, Optimal wl, p regularity theory of elliptic and parabolic equations.

Cartwright, Christopher, A parallel algorithm for matrix assembly in meshfree methods.

Johnson, Paul, Contributions to the hidden subgroup problem.

McLendon, Michael, The Hochschild homology of skein algebras.

Morales, Leonardo, Generators for repeated-root cyclic codes.

Seol, Jaehoon, Analysis of the radiosity equation using the collocation method.

Svidersky, Oleg, Spectra of Dirac and Rarita-Schwinger operators on the compactified Minkowski space.

Zhang, Qinghong, The interior point method for variational inequalities and perfect duality for semidefinite program.

STATISTICS AND ACTUARIAL SCIENCE

Aspelund, Thor, Nonlinear association-marginal models for multivariate categorical data with application to ordinal receiver operating characteristics analysis.

Larson, Michelle, Two-shaped likelihood ratio tests of dispersion between probability vectors using order-restricted techniques.

Lu, Nelson, Tests on multiplicative covariance structures.

Meyers, Troy, Frequentist properties of Bayesian credible intervals for functions of two parameters.

KANSAS

Kansas State University (4)

MATHEMATICS

Shahin, Sami, A non-linear elliptic system with degenerate diffusions.

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Al-Haj Ebrahim, Mohammed, Nonparametric accelerated degradation models in life-testing.

Malone, Christopher, The analysis of location and dispersion effects in unreplicated 2^K factorial experiments.

McGaughey, Karen, Variance testing with data depth.

University of Kansas (4)

MATHEMATICS

Braman, Karen, Toward a recursive QR algorithm.

Hukle, Marian, Real and topological stable rank.

Theodorescu, Emanoil, Derived functors and Hilbert polynomials.

Yao, Yongwei, Finite F -representation type and primary decomposition.

Wichita State University (1)

MATHEMATICS AND STATISTICS

Almefleh, Hasan, Asymptotic behavior of solutions of elliptic partial differential equations.

KENTUCKY

University of Kentucky (6)

MATHEMATICS

Bullock, Christopher, Chain numbers of modules.

Huang, Mojia, A statistical continuum theory on constitutive relations of elastic polycrystals.

Motley, Mark, Isomorphism classes of elliptic and hyperelliptic function fields.

Robbins, Jakayla, On orientations of the free spikes.

Schmidt, Laura, On f -vectors of regular triangulations.

Walters, Karen, Variable order cascadic multigrid.

LOUISIANA

Louisiana State University, Baton Rouge (5)

MATHEMATICS

Cardetti, Fabiana, Properties of linear control systems on Lie groups.

Kang, Changheon, Exotic integral Witt equivalence of algebraic number fields.

Murray, Brian, Explicit multiplicative relations between Gauss sums.

Nelson, Victor Samuel, Racks, quandles and virtual knots.

Slay, David, Group automorphisms and the decomposition of Plancherel measures.

Tulane University (1)

BIOSTATISTICS

Ogden, Lorraine Garratt, An empirical study of confounder-selection strategies using logistic regression.

University of Louisiana at Lafayette (3)

MATHEMATICS

Christou, Marios, Fourier-Galerkin spectral method for localized solutions of nonlinear equations.

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MARYLAND

Johns Hopkins University (8)

BIOSTATISTICS

Blades, Natalie, Statistical methods for serial analysis of gene expression.

Boyd, Felicity, Methods of learning in statistical education: Design and analysis of a randomized trial.

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DeVinney, Jason, The class cover problem and its applications in pattern recognition.

Kapur, Nevin, Additive functionals on random search trees.

Lin, Anhua, Projection algorithms in nonlinear programming.

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Cha, Byungchul, Vanishing of some cohomology groups and bounds for the order of Shafarevich-Tate groups of elliptic curves.

Gajcovski, Nicholas, Cohomology and quadratic forms.

Metcalf, Jason, Global strichartz estimates for solutions of the wave equation exterior to a convex obstacle.

University of Maryland, Baltimore (4)

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Bassu, Devasis, Adaptive or risk-sensitive identification of systems by neural networks.

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Osmou Khina, Anna, Nonparametric measures of dependence for biometric data studies.

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Powell, Alexander, The uncertainty principle in harmonic analysis and Bourgain's theorem.

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Stantchev, Gueorgui, Dynamics of the modular group acting on the $GL(2, R)$ character varieties of a once-punctured torus.

Sterbenz, Jacob, Besov well-posedness for high dimensional wave equations.

Thuo, Gikiri, Extensions of spatial theory for at-large elections through analysis and simulation.

Torcaso, Caroline, Periodic behavior for time dependent Hamiltonians.

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Arnold-Berkovits, Ilona, Structural modeling with ordered polytomous and continuous variables: A simulation study comparing full-information Bayesian estimation to correlation covariance methods.

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Bradley, Brendan, Extremes, dependence and asset allocation.

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Liao, Hsini, Comparison of clustering algorithms for gene expression microarray data.

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Teodorescu-Frumosu, Alexandra, Unbounded itineraries for the exponential family.

Walter, Stephan, Optimal consumption-portfolio choices and retirement planning.

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Lee, Jongmin, Relative canonical sheaves of a family of curves.

Xu, Dapeng, Generalizations of two-stack sortable permutations.

Zhou, Ping, Application of computer algebra to the theory of hypergeometric series.

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Brown, Elizabeth, Bayesian methods for jointly modeling longitudinal and survival data.

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Houseman, Eugene Andres (Andy), Distribution diagnostics for time series and clustered outcomes with applications to environmental data.

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Stubbendick, Amy, Likelihood-based inference for longitudinal models with nonignorable missing response and covariate data.

Tadesse, Mahlet, Bayesian models for gene expression analysis.

Tseng, Chien-Cheng, Low-level analysis, supervised and unsupervised machine learning, and related issues in microarray analysis.

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Hunsberger, Luke, Group decision making and temporal reasoning.

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Qian, Dahong, Integrated photonic devices in switched networks.

Sander, Pedro, Sampling-efficient mesh parametrization.

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Karigiannis, Spiro, Deformations of G_2 and $Spin(7)$ structures on manifolds.

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Lucianouic, Mark, Quaternion rings, Fernaly quadratic forms, and Fourier coefficients of modular forms on $PGSp(6)$.

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Esch, David, Applications and extensions of three statistical models.

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Protassov, Rostislav, An application of missing data methods: Testing for the presence of a spectral line in astronomy and parameter estimation of the generalized hyperbolic distributions.

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Ghitza, Alexandru, Siegel modular forms (mod p) and algebraic modular forms.

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Lakos, Gyula, Smooth K -theory and locally convex algebras.

Lee, Eun Soo, A new structure on Khovanov's homology.

McNamara, Peter, Edge labellings of partially ordered sets.

Nguyen, Baochi, Experimental and theoretical studies of elastic instability in growing yeast colonies and thin sheets.

O'Donnell, Ryan, Computational applications of noise sensitivity.

Raynor, Sarah, Regularity of Neumann solutions to an elliptic free boundary problem.

Sheppard, David, Towards characterizing morphisms between high dimensional hypersurfaces.

Tataru, Grigore Raul, Adiabatic limit and Szegő projections.

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Al-Assaf, Abdulaziz, Some parameters of hypercubes.

Johnston, Christopher, Periodic solutions of a delay equation with three delays.

Lovett, Stephen, Orbits of orthogonal and symplectic representations of symmetric quivers.

Lu, Minggen, Statistical estimation and simulation studies.

Milatovic, Ognjen, On the essential self-adjointness of Schrödinger-type operators on Riemannian manifolds.

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Manstavicius, Martynas, The p -variation of strong Markov processes.

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Li, Wenjun, Use of random permutation model in rate estimation and standardization.

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Ecke, Volker, Symbolic model checking using algebraic geometry.

Heller, Ulrich, Construction, transformation, and visualization of Willmore surfaces.

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Central Michigan University (3)

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Al-Quran, Marwan, Analytical and numerical solution to continuous delay partial differential equations.

Ramirez, Sonia, The Navier-Stokes/Euler coupled equations and numerical algorithms.

Rawashdeh, Edris, Numerical solutions, stability criteria, and applications of integro-differential equations.

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Roudenko, Svetlana, The theory of function spaces with matrix weights.

Vautaw, William, Abelian subgroups and automorphisms of the Torelli group.

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Cheng, Fuxia, Error density and distribution function in nonparametric regression models.

Kong, Fanzhi, Bayesian modeling on inhomogeneous point patterns via independent increment random measures.

Li, Linyuan, Nonlinear wavelet based curve estimation under random censorship and inference on long memory processes.

Makhnin, Oleg, Filtering for some stochastic processes with discrete observation.

Ni, Pingping, Minimum distance regression and autoregressive model fitting.

Xia, Yichuan, Internal estimation for the difference of two binomial proportions in nonadaptive and adaptive designs.

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Kanaana, Izabela, Tight incomplete block designs.

Paez Osuna, Octavio, An algebraic function field approach to the Stohr-Voloch bound and its applications.

Oakland University (1)

MATHEMATICS AND STATISTICS

Roy, Anuradha, Some contributions to discrimination and classification with repeated measures data with special emphasis on biomedical applications.

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Carlson, Nichole, A pulsatile association model of two hormones using a Bayesian approach.

Epstein, Michael, Statistical methods in gene mapping of familial traits.

Li, Chun, Association methods for mapping genes for complex diseases.

Pan, Wenquin, Transition measurement error models for longitudinal data.

Wang, Yue, Statistical methods utilizing biomarkers.

Yu, Jian, Prosper function analysis for organ allocation, a counting process and Martingale approach.

Zheng, Hui, Penalized spline nonparametric regression methods for survey samples with potentially unequal probabilities of inclusion.

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Bills, Morgen, On homomorphisms of Brauer algebra modules in the non-semisimple case.

Chan, Tszho, Pair correlation and distribution of prime numbers.

Choi, Seung-Il, Degenerate principal series for exceptional p -adic groups.

Chung, Dean, Computation of cache misses in matrix multiplication.

Correl, William, Jr., The Smith normal form and kernel of the Varchenko matrix.

Gordon, Julia, Some applications of motivic integration to the representation theory of P -adic groups.

Haas, Daniel, A geometric study of the toric varieties determined by the root system A_n , B_n , and C_n .

Ibragimov, Zair, The Apollonian metric sets of constant width and mobius modulus of ring domains.

Irgens, Marius, Properties of square integrable holomorphic functions.

Kirr, Eduard, Resonances in Hamiltonian partial differential equations.

Korman, Jonathan, A character formula for compact elements using the building.

Lafont, Jean-Francois, Rigidity results for singular metric spaces.

Liang, Jianfeng, Nonlinear hyperbolic smoothing at a focal point.

Otero, Jesse, Bounds for the heat transport in turbulent convection.

Pitkin, Joel Hyuck-Choon, A twisted Kazhdan density theorem: An application of the stabilized twisted trace formula.

Rogalski, Daniel, Examples of generic noncommutative surfaces.

Rogovin, Kevin, Local compactness and closedness of families of A -harmonic functions.

Sidman, Jessica, On the Castelnuovo-Mumford regularity of subspace arrangements.

Stephen, Tamon, The distribution of values in combinatorial optimization problems.

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Alvarez, Enrique, Likelihood based estimation of stationary semi-Markov processes under window censoring.

Hung, Ying-Chao, Modeling and analysis of stochastic networks with shared resources.

Mentz, Graciela, Longitudinal data analysis using growth curve models.

Qu, Xianggui, Some problems in the theory and construction of fractorial designs.

Sousa, Bruno, A contribution to the estimation of the tail index of heavy-tailed distributions.

Stuff, Mark, Derivation and estimation of Euclidean invariants of far field range data.

Vengazhiyil, Roshan, Modeling and optimization for robust parameter design.

Zhang, Tonglin, Report on problems in restricted parameter spaces.

Western Michigan University (6)

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Abebe, Asheber, Nonlinear regression based on ranks.

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Anderson, Kirk, Robust residuals and diagnostics in autoregressive time series.

Crimin, Kimberly, Visualization methods: A comparative study of new traditional, and robust procedures.

Cucos, Diana, On rank-based considerations for generalized linear models and generalized estimating equation models.

Shomrane, Ali, A comparison of different schemes for selecting and estimating score function based on residuals.

MINNESOTA

University of Minnesota, Minneapolis (14)

MATHEMATICS

Alayont, Feryal, Residues of Eisenstein series.

Berndt, Ryan, Singular integrals with new singularities.

Erdmann, Grant, A primal-dual interior-point trust-region algorithm for discrete nonconvex minimax optimization and its application.

Kim, Seick, On the regularity of solutions to second-order equations and systems.

Leykin, Anton, Algorithms in computational algebraic analysis.

Lopez, Alejandro, Homological algebra for graded-commutative rings.

Ortigoza, Gerardo, The Runge-Kutta discontinuous Galerkin method for Maxwell equations.

Seo, Seung Suk, Regularity theory for Landau Lifshitz equations.

STATISTICS

Bulaevskaya, Vera, A penalized likelihood approach to image reconstruction for MRI data.

Haran, Murali, Efficient perfect and MCMC sampling methods for Bayesian spatial and components of variance models.

Li, Lexin, Dimension reduction with applications to large scale data problems.

Ni, Liqiang, Dimension reduction with inverse regression: A minimum discrepancy approach.

Setodji, Messan, Multivariate dimension reduction and graphics.

Zhu, Haihong, Invariant predictive inferences and some applications in the general multivariate normal model.

MISSISSIPPI

Mississippi State University (3)

MATHEMATICS AND STATISTICS

Caldwell, Patrick, Positive solutions for classes of nonlinear reaction diffusion equations.

Oruganti, Shobha, Positive solutions for classes of nonlinear elliptic boundary value problems.

Yang, Bo, Boundary value problems for ordinary differential equations.

University of Mississippi (2)

MATHEMATICS

McMurray, Nolan, On largest circuits and cocircuits in matroids.

Olivier, Jake, Home range techniques utilizing spatial correlation.

MISSOURI

St. Louis University (2)

MATHEMATICS AND COMPUTER SCIENCE

Ashford, Katrina, A Plancherel formula for homogeneous spaces.

Redden, Joanne, The nonabelian tensor square of the free 2-Engel group of rank n .

University of Missouri, Columbia (3)

MATHEMATICS

Budden, Mark, On the local coefficients of principal series representations of metaplectic groups.

Hoffmann, Mark, Topics in complex analysis and function spaces.

Kashcheyeva, Olga, Monomialization of strongly prepared morphisms.

University of Missouri, Kansas City (2)

MATHEMATICS AND STATISTICS

Caughron, Alietia, Some dimension results for graphs of continuous functions.

Smith, Charles, Variation on a theme by Herstein.

University of Missouri, Rolla (2)

MATHEMATICS AND STATISTICS

Dik, Filiz, Tauberian theorems for convergence and subsequential convergence of sequences with controlled oscillatory behavior.

Dik, Mehmet, Tauberian theorems for sequences with moderately oscillatory control moduli.

Washington University (1)

MATHEMATICS

Jury, Michael, Matrix products and interpolation problems in Hilbert function spaces.

MONTANA

Montana State University (6)

MATHEMATICAL SCIENCES

Chomtee, Boonorm, Comparison of design optimality criteria of reduced models for response surface designs in a spherical design region.

Koonprasert, Sanoe, The sinc-Galerkin method for problems in oceanography.

Parker III, Albert, Symmetry breaking bifurcation of the information distortion.

Riley, Kathy, An investigation of prospective secondary mathematics teacher's conceptions of proof and refutation.

Shvetsov, Yurii, Rotation of flows on generalized solenoids.

Turk, Philip, A surface response approach to assessing the relative efficiency of adaptive cluster sampling.

NEBRASKA

University of Nebraska, Lincoln (4)

MATHEMATICS AND STATISTICS

Arnavut, Meral, The projective line over the integers and decompositions of modules over one-dimensional rings.

Crittenden, Paul, Electromagnetic sensing of chiral materials.

Messer, Kirsten, Dynamic equations on time scales.

Wolesensky, William, Mathematical models of digestion modulation in grasshoppers.

NEW HAMPSHIRE

Dartmouth College (3)

MATHEMATICS

Balof, Barry, Free triangle orders: Characterizations and generalizations.

D'Agostino, Susan, Classifying additive codes.

Proctor, Emily, Isospectral metrics on classical compact simple Lie groups.

University of New Hampshire (1)

MATHEMATICS AND STATISTICS

Grundmeier, Todd, The effects of providing mathematical problem posing experiences for K-8 pre-service teachers: Investigating teachers' beliefs and characteristics of posed problems.

NEW JERSEY

New Jersey Institute of Technology (3)

MATHEMATICAL SCIENCES

Barannyk, Lyudmyla, Fully nonlinear interfacial waves in a bounded two-fluid system.

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Princeton University (6)

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Cisternas, Jaime, Modeling and bifurcation analysis of mechano-chemical oscillations.

Drakakis, Konstantinos, A detailed mathematical study of several aspects of the internet.

Ma, Junling, Evolutionary branching and its application to resource adaptation.

Malvaadkar, Urmila, Variation in Diel vertical migration of zooplankton: Causes and consequences.

Mitchener, William G., A mathematical model of human languages: The interaction of game dynamics and learning processes.

Plotkin, Joshua, Aggregation in ecology and evolutionary biology.

Rutgers University, New Brunswick (8)

MATHEMATICS

Chavez, Madalena, Observer design for a class of nonlinear systems, with applications to chemical and biological networks.

Dupaigne, Louis, Linear and semilinear elliptic equations with a singular potential.

Galvin, David, Two problems involving the notion of phase transition.

Hong, Jooyoun, Rees algebra of conormal modules.

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Rutgers University, Newark (2)

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Diao, Guo-An, Is a finite graph of finitely generated free group free? An algorithm.

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Stevens Institute of Technology (4)

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Ahn, Changbo, Making optimization of stochastic timed Petri net using stochastic programming.

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NEW MEXICO

New Mexico State University (1)

MATHEMATICAL SCIENCES

Bataineh, Khaled, Finite-type invariants for knots in the solid torus.

University of New Mexico (6)

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Braz e Silva, Pablo, Stability of plane covette flow: The resolvent method.

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Kapitula, Laura, Diagnostics for two-stage regression models and growth charts.

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NEW YORK

City University of New York, Graduate Center (6)

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Cornell University (15)

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Camacho, Erika, Mathematical models of retinal dynamics.

Carver, Sean, Control of a spring-mass hopper.

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Phipps, Eric, Taylor series integration of differential algebraic equations: Automatic differentiation as a tool for simulating rigid body mechanical systems.

Rowell, Jonathan, Diffusive food webs and signaling dynamics of populations.

Sundell, Nancy, Two mathematical problems from genetics and ecology.

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Budney, Ryan, Representations of mapping class groups via topological constructions.

Demlow, Alan, Estimates for and properties of mixed finite element methods for elliptic problems.

Gerlits, Ferenc, Some computations in graph homology.

Hruska, Christopher, Nonpositively curved spaces with isolated flats.

Leah, Gold, Homological results in commutative algebra.

Lynch-Hruska, Suzanne, Hyperbolicity in the complex Henon family.

Mahajan, Swapneel, Shuffles, shellings, and projections.

Miller, Joseph, Pi-0-1 classes in computable analysis and topology.

Revelle, David, Random walks on solvable groups.

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Borisyyuk, Alla, Mathematical modeling of neural responses in the inferior colliculus to dynamic stimuli.

Capistran, Marcos, On the numerical solution of the inverse obstacle scattering problem.

Ding, Pisheng, Topological obstructions to certain group actions on manifolds.

Dragnev, Dragomir, Fredholm theory and transversality for noncompact pseudoholomorphic maps.

Fisher, Michael, Contributions to the method of entropy calibration in financial modeling.

Jacobson, Tivon, Mixing and shocks in geophysical shallow water models.

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Polytechnic University (1)

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Pranayanuntana, Poramate, Elliptic Brunn-Minkowski theory.

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Clark, Antwan, Barotropic instability in shallow-water.

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Nebus, Joseph, Monte Carlo simulations, statistical mechanics, and ground states of the logarithmic potential.

Rinaldi, Billie, A cellular automaton inverse problem.

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Clouse, Daniel, A dual representation of Boolean semirings in a category of structured topological spaces.

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Joita, Daniela, Numerical and asymptotic analysis of the meniscus shape at a sharp corner.

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Chiang, Jung-Tsung, Multiple outlier detection in linear models through data-splitting.

Cho, Seung Yeon, Predictability of stochastic reservoir and scale-up.

Garber, William, Parallel computation of radiative heat transfer in an axisymmetric closed chamber: An application to crystal growth.

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Ju, Charles, Magnetically driven Rayleigh-Taylor instability.

Kang, Yunghee, Estimation of computational simulation errors in gas dynamics.

Kim, Inbumn, The fluid flow through a rock fracture using finite difference lattice Boltzmann method.

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Marchese, Andréa, Fluid mixing: Rayleigh-Taylor mixing rate and diesel fuel injection spray.

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Buse, Olquta, Relative parametric Gromov-Witten invariants and symplectomorphisms.

Coffey, Joseph, A symplectic Alexander trick and spaces of symplectic sections.

Dearricott, Owen, Canonical variation and positive sectional curvature.

McIntyre, Andrew, Analytic torsion and Faddeev-Popov ghosts.

Perez, Rodrigo, Dynamics of quadratic polynomials: Geometry and combinatorics of the principal nest.

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Hallagan, Jean, Teachers' models of student responses to middle school algebraic tasks.

Rollin, Linda, Selection and testing designs for selecting one among K normal populations, provided it is better than a standard.

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Eapen, Sara, Some issues in the analysis of cross-over trials: Order-restricted inference and survival methods.

Feng, Changyong, Combining stratified and unstratified log-rank tests for correlated survival data.

Wang, Antai, Parameter estimation in bivariate copula models.

Wilding, Gregory, A study of two consistent tests of bivariate independence and some applications.

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Mustafaev, Zokhrab, Some geometric inequalities in Minkowski spaces.

Voloshina, Maria Sergeevna, On the holomorph of a discrete group.

NORTH CAROLINA

Duke University (12)

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Oldson, Darren, Flow perturbations in a mathematical model of the tubuloglomerular feedback system.

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Calder, Catherine, Exploring latent structure in spatial temporal processes using process convolutions.

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Paulo, Rui Miguel, Problems on the Bayesian/frequentist interface.

Ponisciak, Stephen, Bayesian analysis of teacher effectiveness.

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ter Horst, Enrique, A Lévy generalization of compound Poisson processes in finance: Theory and applications.

North Carolina State University, Raleigh (29)

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Mawhinney, Katherine, Characteristics of complexity within the lattice of compactifications.

Person, Axelle, Solving fourth order linear differential equations in terms of equations of lower order.

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Anstrom, Kevin, Utilizing propensity scores to estimate average causal treatment effects from observational studies with right-censored data.

Bodily, Chris, Numerical differentiation using statistical design.

Czika, Wendy, Accounting for within- and between-locus dependencies in marker association tests.

Dougherty, Daniel, Deterministic and semi-mechanistic approaches in predictive fermentation microbiology.

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Sen, Kapildeb, Unit root test in time series and stochastic volatility models.

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Mela, Xavier, Dynamical properties of the Pascal adic and related systems.

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University of North Carolina, Charlotte (1)

MATHEMATICS

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NORTH DAKOTA

North Dakota State University (1)

STATISTICS

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OHIO

Bowling Green State University (2)

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Elec, Bernarda, Locking-free dual mixed finite elements for thin shells.

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Case Western Reserve University (16)

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Daley, Denise, Identification susceptibility for cancer in a whole genotype scan utilizing novel phenotypes with the assumption of heterogeneity.

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Ohio State University (16)

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Ohio University (2)

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University of Cincinnati (2)

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University of Toledo (1)

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Mahler, Andreia, Bianchi-Baecklund transformations for constant mean curvature surfaces with umbilic: Theory and applications.

OKLAHOMA

Oklahoma State University (2)

MATHEMATICS

Al-Sabbagh, Mutaz, Equivariant cohomology of a B-variety and Betti numbers with application.

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OREGON

Oregon State University (2)

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Kang, Dong-Seung, Trace forms and self-dual normal bases in Galois field extensions.

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University of Oregon (6)

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Elce, Kimberly, The Dieudonné ring for ordinary homology.

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PENNSYLVANIA

Carnegie Mellon University (9)

MATHEMATICAL SCIENCES

Atkinson, Geoffrey, b -independent sets in random graphs.

Krueger, John, Saturated ideals.

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Parekh, Ojas, Polyhedral techniques for covering in graphs.

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Paciorek, Christopher, Nonstationary Gaussian processes for regression and spatial modelling.

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Frommeyer, John, Arithmetic on free Abelian groups.
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Dryakhlov, Alexander, On Hausdorff dimension of random fractals.
Gunesch, Roland, Precise asymptotics for periodic orbits of the geodesic flow in nonpositive curvature.
Hawkins, Eli, Quantization of multiply connected manifolds.
Long, Ling, Modularity of elliptic surfaces.
Roth, Kimberly, Geometry of the Julia set for some maps with invariant circles.
Windsor, Alistair, Liouville phenomena in smooth ergodic theory.
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Boomer, Karen, Parameterization and estimation of the multivariate normal model in the presence of incomplete and censored data for the methacholine challenge.
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Maples, Jerry, A semiparametric mixed effects model with marginal means structure.
Shaffer, Michele, Supplementing the intent-to-treat analysis for treatment failures in clinical trials.
Simon, Laura, Paired two-by-two crossover models for complete, missing-at-random, and nonignorable-missing data.

Temple University (8)

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Birmajer, Daniel, Polynomial detection of matrix subalgebras.
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Pathak, Jawahar, The Cohen-Macaulay property of multiplicative invariants.
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Russo, Daniel, Hecke-Weil correspondence on conjugate groups.
Tournier, Federico, $W^{2,p}$ estimates for linearized Monge-Ampère equations.

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Chervoneva, Inna, Semiparametric two-stage models for multi-level clustered non-Gaussian data.
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University of Pennsylvania (5)

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Beh, Jeffrey, Strong asymptotics of ultraspherical polynomials with varying weights using Riemann-Hilbert techniques.
Jaggard, Aaron, Involutions in the symmetric group: Containment properties and parallels to general permutations.
Kang, Hyunsuk, Polynomial hulls and relative indices in dimension one.
Khuri, Marcus, The local isometric embedding in R^3 of two-dimensional Riemannian manifolds with Gaussian curvature changing sign to finite order on a curve.
Yin, Cui, The mapping class group and special loci in moduli of curves.

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Al-Attas, Husain, Enhancing reliability of porous media flow through sensitivity computation.
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Curtu, Rodica, Waves and oscillations in model neuronal networks.
Guaintance, Jocelyn, Proper $m \times n$ arrays: Geometric and algebraic methods of classification.
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Salter, Mary, Degree theory for compact perturbations of Fredholm maps of index zero.
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RHODE ISLAND

Brown University (15)

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Jackson, Russell, Multiple pulses in nonlinear optical systems.
Kirby, Robert, Toward dynamic spectral/hp refinement: Algorithms and applications to fluid-structure interaction.
Lu, Jinbo, Generalized harmonic maps.
Michel Jean, Jean-Michelet, Silnikov homoclinic orbits in the equations for a semiconductor laser subject to optical injection and detuning.
Min, Mi-sun, Spectral method for discontinuous problems: Applications in electro-magnetic problems and image reconstruction.
Ryan, Jennifer, Extension of a lost-processing technique for the discontinuous Galerkin finite element methods for hyperbolic equations.
Sebastian, Kurt, Multidomain weighted essentially nonoscillatory (WENO) method with interpolation of subdomain interfaces.
Zhang, Yong-Tao, Topics in structured and unstructured weighted ENO schemes.

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Brubaker, Benjamin, Analytic continuation for cubic multiple Dirichlet series.
Jafari, Amir, Framed mixed Hodge structures associated to iterated integrals and strong Suslin reciprocity law on curves.
Lin, Zhiwu, Stability and instability of equilibria in collisionless plasma and ideal plane flows.

Munson, Brian, Embeddings in the $3/4$ range.

Pacelli, Allison, The structure of the class group in global function fields.

Volic, Ismar, Finite type knot invariants and calculus of functors.

University of Rhode Island (4)

MATHEMATICS

Costa, Stephanie, Specializations of whist tournament designs.

Gibbons, Carol, Periodicity, convergence, and boundedness of some difference equations.

Overdeep, Carol, Global behavior of some nonlinear difference equations.

Predescu, Mihaela, Global behavior of some nonlinear difference equations.

SOUTH CAROLINA

Clemson University (5)

MATHEMATICAL SCIENCES

Forrester, Richard, Addressing formulation size, strength, and mathematical structure in modeling discrete decision problems.

Hutson, Kevin, Stochastic minimum spanning trees.

McNelis, Erin, Using a circadian rhythms model to identify optimal shift work schedules.

Miles, William, Modeling time-dependent, multicomponent, viscoelastic fluid flow.

Villalpando, John, Graph parameters: Channel assignment as related to $L(2, 1)$ -coloring and domination parameters.

Medical University of South Carolina, Columbia (1)

MATHEMATICS

Coco, Michael, Structures in Banach spaces: Biorthogonal systems and forms.

Medical University of South Carolina (1)

BIOMETRY AND EPIDEMIOLOGY

Mueller, Martina, Predicting extubation success from mechanical ventilation in premature infants using a computational model.

University of South Carolina, Columbia (2)

STATISTICS

Miller, Carl, Varying coefficient models for periodic water quality data.

Simmons, Susan, Data mining for mutagenic potency estimation in hierarchical linear models.

TENNESSEE

University of Memphis (4)

MATHEMATICAL SCIENCES

Anwar, Ashraf, Sparse distributed memory for conscious software agents.

González, Fabio, A study of artificial immune systems applied to anomaly detection.

Keleman, Arpad, Constraint satisfaction as a support for decision making in software agents.

Zhu, Junhong, Estimation of parameters for cell population.

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MATHEMATICS

Hetzel, Andrew, On properties related to going-up for commutative rings.

Siopsis, Maria, An individual based model of the toxic algae species *Pseudo-nitzschia multiseries*.

Vanderbilt University (5)

MATHEMATICS

Cole, James, Residuated lattice orders on cancellation monoids.

Galatos, Nikolaos, Varieties of residuated lattices.

King, Erika, Characterizing and comparing some subclasses of well-covered graphs.

Markovic, Petar, Strongly nilpotent finite algebras.

O'Hara, Karen, A model of HIV-1 disease progression and treatment: The subclass of latently infected CD4 + T cells becomes undetectable when both IL-2 and Haart are used.

TEXAS

Baylor University (3)

STATISTICS

Barnes, Sunni, Missing data in clinical trials.

Hamilton, Cody, Bayesian procedures for ranking normal means.

Natanegara, Fanni, Bayesian models for circular data.

Rice University (11)

COMPUTATIONAL AND APPLIED MATHEMATICS

Abramson, Mark, Pattern search algorithm for mixed variable general constrained optimization problems.

Berrier, Keith, Improving the electrocardiographic inverse solution by Kalman filtering.

Christian, William, Linear-time algorithms for graphs with bounded branchwidth.

Melara, Luis, Computational modeling of internal surface in Austenite-Martensite system.

Reynolds, Daniel, A nonlinear thermodynamic model for phase transitions in shape memory alloys.

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Earles, Christopher, Partial umbilics of hypersurfaces and repeated eigenvalue currents.

Huff, Robert, Flat structures, soap films, and capillary surfaces.

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Miller, John, Venture capital, entrepreneurship, and long-run performance prediction: An application of data mining.

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Swartz, Richard, Applications of Bayesian sequential decision theory to medical decision making.

Southern Methodist University (2)

MATHEMATICS

Garrett, Bentley, Wavelets and boundary value problems.

STATISTICAL SCIENCE

Vijverberg, Chu-Ping, Discrete multiplicative stationary processes.

Texas A&M University (10)

MATHEMATICS

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Flanagan, Michael, Optimal shape design of a layered periodic structure.

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Nam, Haewon, Ultrasound-modulated optical tomography.

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STATISTICS

Gaile, Daniel Patrick, Development of statistical tools with applications in radiation hybrid and linkage mapping.

Jo, Chan-Hee, Topics in Bayesian modeling and its applications.

Kim, Inyoung, Statistical methods for matched case-control studies and cDNA microarray.

Pounds, Stanley, Cluster analysis of AFLP data.

Rose, Nicholas, Locally adaptive modeling using stochastic complexity.

Texas Tech University (5)

MATHEMATICS AND STATISTICS

- Arciniega, Armando*, Extrapolation of difference methods in option valuation, rounding error in numerical solution of stochastic equations, and shooting methods for stochastic boundary problems.
- Drews, Kimberly*, Nonparametric analysis of treatment effects with missing observations.
- Kirupaharan, Nadarajah*, Deterministic and stochastic epidemic models with multiple pathogens.
- Martin, Cynthia*, Asymptotic, spectral, and numerical analysis of aircraft wing model in subsonic flow.
- Ornas, Gerard*, Maximum distortion results for hyperbolically convex functions.

University of Houston (3)

MATHEMATICS

- Alford, John*, Computation of bifurcating rotating waves for the Fitz-Hugh Nagumo equations on circular domains of one and two dimensions.
- Bokil, Vrushali*, Computational methods for wave propagation problems on unbounded domains.
- Dyadechko, Vadim*, Geometrically adapted meshes and iterative solvers for elliptic problems.

University of North Texas (2)

MATHEMATICS

- Hoq, Enamul*, Quantization of spin direction of solitary waves in a uniform magnetic field.
- Valdez, Leroy*, Analysis of sequential barycenter array random probability measures via finite construction.

University of Texas at Dallas (1)

MATHEMATICAL SCIENCES

- Flores, Kathryn*, Classical and quantum controls from decompositions of unitary matrices.

University of Texas, Austin (11)

MATHEMATICS

- Gonzalez, Alexander*, An application of the continuity method for an equation on line bundles.
- Kim, In-Won*, Uniqueness and existence results on viscosity solutions of some free boundary problems.
- Mandolesi, Andre*, Adiabatic limits of the Hermitian-Yang-Mills equations on slicewise stable bundles.
- Neira, Ana*, Power series in roots of unity.

Oehrtman, Michael, Collapsing dimensions, physical limitation, and other student metaphors for limited concepts.

Pal, Mihaela, Theory of principal component filter banks with applications to multicomponent imagery.

Savin, Ovidiu, Phase transitions: Regularity of flat level sets.

Slepcev, Dejan, On level set methods to motion of manifolds of arbitrary codimension.

Terhune, David, Evaluations of multiple L -values and double zeta values of quadratic fields.

Tiu, Christian, On the Merton problem in incomplete markets.

Vano, John, A Nash-Moser implicit function with Whitney regularity and applications.

UTAH

Brigham Young University (1)

MATHEMATICS

Noble, Nephi, The expansion of graphs along integer eigenvalues.

University of Utah (6)

MATHEMATICS

- Alibegovic', Emina*, Makamin-Razborov diagrams for limit groups.
- Cogan, Nick*, A model of biofilm growth and structural development.
- Mustata, Anca-Magdalena*, Degree 1 curves on the d work pencil and on the mirror family.
- Mustata, Dragos-Andrei*, Intermediate moduli spaces of stable curves.
- Rudd, Matthew*, Nonlinear constrained evolution in Banach spaces.
- Thornton, Blake*, Asymptotic curves of symmetric spaces.

VIRGINIA

Old Dominion University (2)

MATHEMATICS AND STATISTICS

- Islas, Alvaro*, Multisymplectic integrators for nonlinear wave equations.
- Reck, Brian*, Nearly balanced and resolvable block designs.

University of Virginia (10)

MATHEMATICS

- Bowling, James*, The ring of fractions of a quadratic Jordan algebra.
- Despeaux, Sloan*, The development of a publication community: 19th century mathematics in British scientific journals.
- Erovenko, Igor*, Bounded generation of S -arithmetic orthogonal groups.

Hammond, Christopher, On the norm of a composition operator.

Hatfield, Leslie, Words of small weight in the dual codes of projective planes of orders 9 and 25.

Klintworth, Karen, Affine remoteness planes.

Moorhouse, Jennifer, C^∞ -algebraic relations and component structure of composition operators.

Stanish, Karen, A radical structure for some rings with partial identities.

Toews, Carl, Topological structures on sets of composition operators.

STATISTICS

Kayis, Aliye Atay, Non-decomposable graphical models.

Virginia Commonwealth University (2)

BIOSTATISTICS

- Casey, Michelle*, Statistical methodology for exploiting the use of Ray designs in studies of polychemical mixtures.
- Ingrissrisawang, Lily*, Mixed effects regression model for estimating the effects of combination drug treatment on the severity of HIV infection in person in Virginia.

Virginia Polytechnic Institute and State University (5)

MATHEMATICS

Siehler, Jacob, Near group categories.

STATISTICS

- Boone, Edward*, Bayesian methodology for ecological data.
- Otieno, Bennett*, An alternative measure of preferred direction for circular data.
- Wang, Yanping*, Optimal experimental designs for the Poisson regression model in toxicity studies.
- Zahran, Alyaa*, On the efficiency of designs for linear models in nonregular regions and the use of standard designs for GLM.

WASHINGTON

University of Washington (17)

APPLIED MATHEMATICS

- Coughlin, Kathleen*, Stratospheric and tropospheric signals extracted using the empirical mode decomposition method.
- Hammond, Rebecca*, A dynamic game for managing a conservative pollutant in an estuary.
- Kusiak, Steven*, The scattering support and the inverse scattering problem at fixed frequency.

BIostatistics

- Chen, Jinbo*, Semiparametric efficient and inefficient estimation for the auxiliary outcome problem with the conditional mean model.
- Damian, Doris*, Bayesian approach to estimating heterogeneous spatial covariances.
- Johnson, Laura Lee*, Incorporating death into the statistical analysis of categorical longitudinal health.
- Kurland, Brenda*, Analysis of binary longitudinal data with dropout and death.
- Moskowitz, Chaya*, Quantifying and comparing the predictive accuracy of prognostic factors.
- Zheng, Yingye*, Semiparametric methods for longitudinal diagnostic accuracy.

Mathematics

- Chappa, Eduardo*, The X-ray transform of tensor fields.
- Fox, Daniel Jeremy Forrest*, Contact projective structures and contact path geometries.
- Mailhot, James*, Selmer groups for elliptic curves with isogenies of prime degree.
- Mouat, Robert*, Finitary isomorphisms with finite expected coding times of Markov chains.

Statistics

- Ali, Rebecca Ayesha*, Applying graphical models to partially observed data-generating processes.
- Nelson, Kerrie P.*, Generalized linear mixed models: Development and comparison of different estimation methods.
- Steele, Russell J.*, Practical importance sampling methods for finite mixture models and multiple imputation.
- Tantrum, Jeremy M.*, Model based and hybrid clustering of large data sets.

Washington State University (2)

Mathematics

- Remaley, Eric*, Complete qualitative analysis of controllability for planar, time-invariant bilinear systems of ordinary differential equations with scalar control.
- Tabor, Wayne*, Collinear scaling algorithms for optimization using line-searches and trust regions.

WEST VIRGINIA

West Virginia University (1)

Mathematics

- Sarra, Scott*, Chebyshev collocation method for conservation laws with source terms and applications to multiphase flow.

WISCONSIN

Medical College of Wisconsin (1)

BIostatistics

- Hayat, Matthew*, Bayesian methods for longitudinal data.

University of Wisconsin, Madison (18)

Mathematics

- Alkan, Emre*, Multiplicative number theory with applications to modular forms and enumeration of groups.
- Bharali, Gautam*, On smooth peak-interpolation sets for weakly pseudoconvex domains.
- Boylan, Matthew*, Congruences for the Fourier coefficients of modular forms with applications.
- Cookson, Timothy*, Independence from cardinal arithmetic and random \times random forcing.
- Garcia, Jorge*, A large deviation principle for stochastic integrals.
- Gerber, Kenneth*, On the chromatic sum, strength, and weakness of graphs.
- Givens, Berit*, Hypergraphs and chromatic numbers, with applications to the Bohr topology.
- Hu, Shengda*, Semi-stable degeneration of Toric varieties and their hypersurfaces.
- Hwang, Seok*, Kinetic decomposition of approximate solutions to conservation laws.
- Miller, Daniel*, A preparation theorem for Weierstrass systems.
- Mortenson, Eric*, The modularity of a certain Calabi-Yau threefold and supercongruences for truncated hypergeometric functions.
- Voelker, Meta*, Optimization of slice models.
- Yang, Chan Woo*, L^p estimates for some classes of Radon transforms and oscillatory integral operators.

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