Claremont Graduate University

Institute of Mathematical Sciences

Graduate Math Dissertations

Henok **Abebe** 2002
Modeling the Current-Voltage (I-V) Characteristics of the MOSFET Device with Quantum Mechanical Effects due to Thin Oxide near 'Si/SiO2' Interface using Asymptotic Methods
(JDP with CSULB) Advisor: Ellis Cumberbatch

Shaher **Abdallah** 2016
General Stability Analysis of Composite Sandwich Plates Under Thermal Load
(JDP with CSULB) Advisor: Hsin-Piao Chen

Mohammad **Abouali** 2014
Investigating Castillo-Grone's Mimetic Difference Operators in Development of Geophysical Fluid Dynamics Models Implemented on GPGPUs
(JDP with SDSU) Advisor: José Castillo

Daniel **Akech** 2023
On the Symmetric Ideals of Operators and S-Numbers
Advisor: Asuman Aksoy

Sajia **Akhter** 2013
Finding a Novel Way for Fast Sequence Alignment and Exploiting Information Theory in Bacterial Genomes and Complete Phages
(JDP with SDSU) Advisor: Robert Edwards

Abdulrahman **Alansari** 2019
Risk Assessment for Marine Construction Projects
(JDP with CSULB) Advisor: Hung Nguyen

Monairah **Alansari** 2017
Distance in Metric Trees and Banach Spaces
Advisor: Asuman Aksoy

Ahmed **Al Fares** 2022
On Multiplication Groups of Quasigroups
Advisor: Gizem Karaali

Weaam **Alhejaili** 2018
A Numerical Study of Steklov Eigenvalue Problems
Advisor: Chiu-Yen Kao

Collins **Allan** 2018
Probabilistic Microsimulation Modeling of Heterogeneous Traffic Flow
(JDP with CSULB) Advisor: Emelinda Parentela

Martin **Ambrose** 2011
Adaptive Monte Carlo Algorithms for Continuous and Discrete Transport Problems
Advisor: Jerome Spanier

Florent **Angly** 2010
A Computational Workflow for the Estimation of Environmental Viral Diversity in Metagenomes
(JDP with SDSU) Advisor: Forest Rohwer

Yontha **Ath** 2000
Stochastic Properties of Uniformly Optimally Reliable Networks (and their Graphs)
Advisor: Milton Sobel (UC Santa Barbara)

John **Aven** 2010
Stochastic Dynamics in Coupled Bistable Systems with Applications to Sensor Devices
(JDP with SDSU) Advisor: Visarath In

Mohsen **Babaeian** 2020
Modeling, Designing and Applying Machine Learning Algorithms for Driver Drowsiness Detection
(JDP with CSULB) Advisor: Mohammad Mozumdar

Dariouch Herve **Babai** 1995
Models of HIV Mutations and Interaction with the Immune System using Differential Equations: Coupling "Diffusion," Specific and Global Interaction
Advisor: Kenneth Cooke

Behrouz **Babakhani** 2017
Novel Microstrip Patch Antennas with Frequency Agility, Polarization Reconfigurability, Dual Null Steering Capability and Phased Array Antenna with Beam Steering Performance
(JDP with SDSU) Advisor: Satish Sharma

Eunsil **Baik** 2012
Dynamics of Two Components Bose-Einstein Condensates
(JDP with SDSU) Advisor: Ellis Cumberbatch

David Torres **Barba** 2011
Assessment of Functional Activity in Isolated Cardiomyocytes using Computational Methods
(JDP with SDSU) Advisor: Paul Paolini

Maximilian **Baroi** 2022
An Exponential Formula for Random Variables Generated by Multiple Brownian Motions
Advisor: Henry Schellhorn

Carlos **Bazán** 2009
PDE-Based Image and Structure Enhancement for Electron Tomography of Mitochondria
(JDP with SDSU) Advisor: Peter Blomgren

Joseph **Beasley** 2008
Performance Feedback and Control of Solar Concentrators using Wave Front Sensing Techniques
(JDP with CSULB) Advisors: Hen-Geul Yeh and Greg Dewey

Joshua **Beemer** 2020
Ensemble Learning Methods for Educational Data Mining Applications
(JDP with SDSU) Advisor: Richard A. Levine

Steven F. **Bellenot** 1974
Completeness and Reflexivity Properties in Topological Vector Spaces using Standard and Nonstandard Methods
Advisor: Sandy Grabiner

Vincent **Berardi** 2016
Analytic Framework for the Design, Implementation, and Analysis of Dynamic, Real-Time Health Interventions
(JDP with SDSU) Advisor: Ricardo Carretero

Susan Anne Elizabeth **Berggren** 2012
Computational and Mathematical Modeling of Coupled Superconducting Quantum Interference Devices
(JDP with SDSU) Advisor: Antonio Palacios

Frank **Bergmann** 2010
An Integrative Approach to Modeling in Systems Biology
(JDP with KGI) Advisor: Ali Nadim

Eric **Besnard** 1997
Prediction of High Lift Flows with Separation
(JDP with CSULB) Advisor: Tuncer Cebeci

Ashish **Bhan** 2004
Structure of Gene Expression Networks Derived from Microarray Time Series Data
Advisor: Greg Dewey

Nasima **Bhuiyan** 2018
Towards Performance Measure Analysis: Development of a Left Turn Saturation Flow Rate Model at Signalized Intersections
(JDP with CSULB) Advisor: Emelinda Parentela

Joris **Billen** 2012
Simulated Associating Polymer Networks
(JDP with SDSU) Advisor: Arlette Baljon

David Atwood **Bliss** 2012
Periodic Boundary Value Problems and the Dancer-Fucik Spectrum Under Conditions of Resonance
Advisor: Adolfo Rumbos

Angel **Boada Velazco** 2021
High Order Mimetic Finite Differences on Non-Trivial Problems
(JDP with SDSU) Advisor: José Castillo

Theodoros Spyridon **Bolis** 1971
Differentiable Nuclear Manifolds
Advisor: Robert James

Jeremy **Bonifacio** 2019
Oscillatory Flow Driven by Cavity
(JDP with CSULB) Advisor: Hamid Rahai

Minh **Bui** 2005
Linear Phase Orthogonal Filter Bank Constructions with Applications to Image and Geometric Approximations
(JDP with CSULB) Advisor: Nick Panagiotacopulos

David **Caballero** 2011
Discrete Variable Representation of the Angular Variables in Quantum Three-Body Scattering
(JDP with CSULB) Advisor: Alfonso Rueda

Todd **Cadwallader-Olsker** 2007
Proof Schemes and Proof Writing
Advisor: John Angus

Peter **Calhoun** 2017
Novel Random Forest and Variable Importance Methods for Clustered Data
(JDP with SDSU) Advisor: Juanjuan Fan

Karen **Campbell** 2017
SEIRscape, an Agent-Based Mosquito-Human Virus Basis of Dengue Risk across Peru and Thailand
(JDP with CSULB) Advisor: C. D. Lin

Vito **Cantu Alessio Robles** 2020
Machine Learning Methods for the Analysis of Metagenomes
(JDP with SDSU) Advisor: Robert Edwards

Ronald **Caplan** 2012
Study of Vortex Ring Dynamics in the Nonlinear Schrodinger Equation Utilizing GPU-Accelerated High-Order Compact Numerical Integrators
(JDP with SDSU) Advisor: Ricardo Carretero

Juan **Cepeda-Rizo** 2006
Solid and Fluid Mechanics Case Studies in Advanced Electronic Packaging
(JDP with CSULB) Advisor: Hsien-Yang Yeh

Dwayne **Chambers** 2011
Topological Symmetry Groups of Complete Graphs
Advisor: Erica Flapan

Nicolas **Chaumont** 2014
From Brains to Populations: Modeling Animal Interactions with their Environment
(JDP with KGI) Advisor: Animesh Ray

Xiaoyu **Che** 2013
Joint Modeling and Analysis of Recurrent and Terminal Events
Advisor: John Angus

Paul O. **Chelson** 1976
Quasi-Random Techniques for Monte Carlo Methods
Advisor: Jerome Spanier

Aisha **Chen** 2019
Gait and Postural Analysis in Healthy Young Adults and People with Parkinson's Disease
(JDP with CSULB) Advisors: Shadnez Asgari and Deenila Karishnan

Jerry **Chen** 2013
Role of the MicroRNA miR-124 in the Regulatory Network Governing PNS Development in Ciona Intestinalis
(JDP with SDSU) Advisor: Robert Zeller

Yuan **Chen** 2019
Free Market on the Freeway
Advisor: Henry Schellhorn

Aisha Najera **Chesler** 2015
Non-Linear Analysis and Modeling of FHR and ECOG: Predicting Fetal Distress in Labor
Advisor: Ami Radunskaya

Michael R. **Chiaro** 1977

Patrick **Choi** 2016
Optimization of the Principal Eigenvalue of an Elliptic Operator with Application to Heat Conductor
Advisor: Chiu-Yen Kao

Todd **Coburn** 2010
Optimization: Nurbs and the Quasi-Newton Method
(JDP with CSULB) Advisor: Ortwin Ohtmer

Cherlyn Lee **Converse** 1992
Lower Bounds for the Maximum Number of Stable Pairings for the General Marriage Problem Based on the Latin Marriage Problem
Advisor: Henry A. Krieger

Kevin **Cotton** 2021
Measuring Machine Learning Model Uncertainty with Applications to Aerial Segmentation
Advisor: Allon Percus

Daniel **Cuevas** 2018
Bridging the genomic gaps: genome-scale metabolic network tools for bioinformatics analyses
(JDP with SDSU) Advisor: Robert Edwards

Jack M. **Cuzick** 1976
On the Moments of the Number of Curve Crossings by a Stationary Gaussian Process
Advisor: Jerome Spanier

Yousef **Daneshbod** 2006
Mathematical Models in Microfluidics: Capillary Electrophoresis and Sessile Drop Physics
Advisor: Ali Nadim

Tuan **Dao** 2019
Solving the Prandtl Boundary Layer Equation in Fluid Dynamics via Non-Linear Numberical Optimization
(JDP with CSULB) Advisors: Christiane Beyer and Ali Nadim

Paul **David** 2019
A Riemannian Quotient Structure for Correlation Matrices with Applications to Data Science
Advisor: Weiqing Gu

Dany **De Cecchis** 2012
Development of a Parallel Coupler Library with Minimal Inter-Process Synchronization for Large-scale Computer
(JDP with SDSU) Advisor: José Castillo

An Do **Dela** 2021
Multi-Scale Modeling and Sensitivity Analysis in Biological Systems
Advisor: Blerta Shtylla

Vladimir **Delengov** 2018
Computing Eigenmodes of Elliptic Operators on Manifolds Using Radial Basis Functions
Advisor: Chiu-Yen Kao

Johnny Corbino **Delgado** 2018
SubFlow: Simulating Geological Storage of CO2 Using Mimetic Operators
(JDP with SDSU) Advisor: José Castillo

Kameryn **Denaro** 2017
Quantifying Disease Severity of Cystic Fibrosis Using Linear Quantile Mixed Models
(JDP with SDSU) Advisor: Barbara Ann Bailey

Monica **de Pass** 2006
Wavelet Feature Extraction of High-Range Resolution Radar Profiles using Generalized Gaussian Distributions for Automatic Target Recognition
Advisor: John Angus

Yujia **Ding** 2021
On Heavy-Tailed Distributions and Big Data
Advisors: John Angus, Qidi Peng, and Weiqing Gu

Son **Doan** 2020
Optimization in Engineering Applications
(JDP with CSULB) Advisor: Hen-Geul Yeh

Christina **Durón** 2019
The Distribution of Betweenness Centrality in Exponential Random Graph Models
Advisors: Ami Radunskaya and Johanna Hardin

Mohamed Osman **El-Doma** 1986
Analysis of Nonlinear Integra-Differential Equations Arising in Age-Dependent Epidemic Models
Advisor: Stavros Busenberg

Omer **Eljairi** 2020
Preliminary Study of Highway Pavement and Materials
(JDP with CSULB) Advisor: Shadi Saadeh

Azzam **Elshihabi** 1997
Disturbance Decoupling with Stability for Nonlinear Systems using Static/Output Feedback: A Geometric Approach
(JDP with CSULB) Advisor: Fumio Hamano

Luis Waldo **Escalona Galvis** 2020
Guided Wave Actuation for Enhanced Damage Identification in Carbon Fiber Reinforced Polymer Material Using Electrical Resistance Tomography
(JDP with SDSU) Advisor: Satchi Venkataraman

Mohammad (Al Ahmad) **Eyadat** 2003
Comparative Performance Evaluation of Practical Digital Watermar Embedded Schemes
(JDP with CSULB) Advisors: Samir Chatterjee, Ali Nadim, and Dar-Biau Liu

Weifu **Fang** 1990
Identification of Transistor Contact Resistivity
Advisors: Ellis Cumberbatch and Stavros Busenberg

Katherine **Fedorchuk** 2005
Condensed History Methods for Monte Carlo Solutions of Photon Transport Problems
Advisor: Jerome Spanier

Jennifer **Flenner** 2017
Deep Non-Negative Matrix Factorization
Advisor: Blake Hunter

Maxwell **Forst** 2023
Lattice Extensions and Zeros of Multilinear Polynomials
Advisor: Lenny Fukshansky

Jordan **Fox** 2022
Data-driven Methods for Low-Energy Nuclear Theory
(JDP with CSULB) Advisor: Calvin Johnson

Michael B. **Franklin** 2013
Electrowetting-Based Microfluidics: Modeling and Simulation
Advisor: Ali Nadim

Michael E. **Frantz** 1995
On the Interaction of a Cold Front with a Mountain Ridge
Advisor: Ellis Cumberbatch

Jesse Peter **Frumkin** 2012
Induction of Chromosome Instability by Gene Dosage and Over-Expression in Saccharomyces Cerevisiae
(JDP with KGI) Advisor: Animesh Ray

Samuel H. **Fryer** 1988
Mathematical Models of Typhoid Fever
Advisor: Kenneth L. Cooke

Mariangel **Garcia** 2016
Data Assimilation Unit for the General Curvilinear Environmental Model
(JDP with SDSU) Advisor: José Castillo

Cristina **Garcia-Cardona** 2013
Multiclass Learning on Graphs: Diffuse Interface Models and Beyond
(JDP with SDSU) Advisors: Allon Percus and Arjuna Flenner (NAWS China Lake)

Scott **Gasner** 2006
Cellular Pattern Formation and Noise in O(2) Symmetric Systems
Advisor: Peter Blomgren

Ruben Jeffrey **Glueck** 2013
Pseudo-Spectral and Kronecker Product Methods for Fourth Order Partial Differential Equations
Advisor: Ali Nadim

Chris Giles **Graham** 1996
Cooperative Solution Concepts for Multi-Sided Assignment Games
Advisor: William F. Lucas

Gregory **Green** 1992
Confidence Bounds on Functions of Parameters
Advisor: Janet Myhre

Zhengji **Guo** 2019
A Full Asymptotic Series of European Call Option Prices in the SABR Model with Beta = 1
Advisor: Henry Schellhorn

Melodie **Hallett** 2015
Novel Random Forest and Variable Importance Methods for Correlated Survival Data, with Applications to Tooth Prognosis
(JDP with SDSU) Advisor: Juanjuan Fan

Hamza Abid-ali **Hamza** 1997
Multi-Person Cooperative Games: The Nucleoli Approach Assignment Games
Advisor: William F. Lucas

Carole **Hayakawa** 2001
Perturbation Monte Carlo Methods for the Solution of Inverse Problems
Advisor: Jerome Spanier

Lingjun **He** 2016
Semiparametric Varying-Coefficient Mixed Effects Modeling Approaches to Longitudinal Data
(JDP with SDSU) Advisor: Jianwei Chen

Shuan **He** 2019
QoE Driven Multimedia Service Schemes in Wireless Networks Resource Allocation: Evolution from Optimization, Game Theory, to Economics
(JDP with SDSU) Advisor: Wei Wang

David **Heckman** 2014
Variations on Markov Chain Monte Carlo Methods: Continuous and Discrete Optimization of Scheduling Problems
Advisor: Alpan Raval

Susan Kay **Herring** 1992
Statistical Tests for Stochastic Dominance
Advisor: Henry A. Krieger

Daniel **Herrlin** 2016
Forecasting MLB Performance Utilizing a Bayesian Approach in Order to Optimize a Fantasy Baseball Draft
(JDP with SDSU) Advisor: Richard Levine

Huy **Hoang** 2002
Experimental and Numerical Investigations of Steady Turbulent Jets from Round Ribbed Tubes
(JDP with CSULB) Advisor: Hamid Rahai

Uyen **Hoang** 2019
Applications of Machine Learning in Cancer Prediction: Renal Cell Carcinoma and Glioblastoma Multiforme
(JDP with SDSU) Advisor: Usha Sinha

Alexander **Holland** 2019
Modeling and Analysis of Quasi-periodic Signals with Application to Hemodynamics
(JDP with CSULB) Advisors: Ali Nadim and Shadnaz Asgari

Christopher **Hovick** 2002
Statistical and Structural Dynamic Analysis of the Darthman Periometer Measure of Tooth and Implant and Damping Capacity
(JDP with CSULB) Advisors: Ortwin Ohtmer and John Angus

Wenzhang **Huang** 1990
Studies in Differential Equations and Applications
Advisor: Kenneth L. Cooke

Alice A. **Huffman** 1975
Lifting Isomorphisms Between k-Ideals of ϕ-Algebras
Advisor: Melvin Henriksen

(Anthony) Kwok **Hui** 2009
Risk Analysis of Software Development using Bayesian Belief Network and Non-Linear Programming Methods
(JDP with CSULB) Advisors: Dar-Biau Liu and Alpan Raval

Vigen **Isayan** 2010
t-copula Based Credit Risk Modeling in a Network Economy
Advisor: Henry Schellhorn

Thomas E. **Iverson** 1975
Extensions of the Theory of the Fractional Calculus with an Application
Advisor: Jerome Spanier

Afrooz **Jahedi** 2020
Novel Random Forest Methods and Algorithms for Autism Spectrum Disorders Research
(JDP with SDSU) Advisors: Ralph A. Muller and Juanjuan Fan

Sammuel **Jalali** 2012
A New Approach in Blind Equalization of Multipath Wireless Channels
(JDP with CSULB) Advisor: Rajendra Kumar

Saeid **Janani** 2020
Numerical Simulations of Multi-Confined Jets in Crossflow at Supercritical Pressure
(JDP with CSULB) Advisor: Hamid Rahai

Zhixuan **Jia** 2023
Optimization and Machine Learning Applied to Inverse Problems in Partial Differential Equations
Advisors: Ali Nadim and Marina Chugunova

Sixian **Jin** 2017
Martingale Representation Theorems Based on Malliavin Calculus
Advisor: Henry Schellhorn

Casey **Johnson** 2020
Spectral Analysis of Complex Dynamical Systems
Advisor: Marina Chugunova

Kevin **Joiner** 2018
Modeling Phage-Bacteria Dynamics in Mucus: An Agent Based Approach to Phage Therapy
(JDP with SDSU) Advisor: Antonio Luque

Richard L. **Jow** 1983
Some Contributions to the Theory of Random Sets
Advisor: Richard Vitale

Khalil Antoun **Kairouz** 2002
Numerical and Experimental Investigations of a Turbulent Junction Flow with Upstream Ribbed Surface
(JDP with CSULB) Advisor: Hamid R. Rahai

Martin **Kandes** 2016
Modeling the Effects of Inertial Forces on Bose-Einstein Condensates in Rotating Frames of Reference
(JDP with SDSU) Advisor: Ricardo Carretero

Di **Kang** 2018
Modeling and Analysis of Thin Viscous Liquid Films in Spherical Geometry
Advisors: Ali Nadim and Marina Chugunova

Priscilla **Kelly** 2019
Ultrashort Pulse Shaping Multilayered Aluminum-doped Zinc Oxide Metamaterials
(JDP with SDSU) Advisor: Lyuba Kuznetsova

Alice M. **King** 1975

Gene **Ko** 2015
Computational Approaches for Descriptor Optimization and Model Development for HIV-1 Drug Design
(JDP with SDSU) Advisor: Sunil Kumar

Darin **Koblick** 2017
Re-Purposing the Advanced Solar Photon Thruster as a Constellation of Solar Reflectors to Track Debris in Geosynchronous Earth Orbit
(JDP with CSULB) Advisor: Praveen Shankar

David **Kogan** 2022
On Coherence and the Geometry of Certain Families of Lattices
Advisor: Lenny Fukshansky

Rong **Kong** 1999
Transport Problems and Monte Carlo Methods
Advisor: Jerome Spanier

Yongzeng **Lai** 1999
Monte Carlo and Quasi-Monte Carlo Methods and their Applications
Advisor: Jerome Spanier

John Patrick **Lambert** 1982
Some Developments in Optimal and Quasi-Monte Carlo Quadrature and a New Outlook on a Classical Chebyshev Problem
Advisor: Jerome Spanier

Suzanne L. **Larson** 1984
Convexity Conditions on a Class of Lattice Ordered Rings
Advisor: Melvin Henriksen

Eugene **Lavretsky** 1999
Neural Networks for Function Approximation and Control System Design
Advisor: Robert Williamson

Hieu **Le** 2004
A Method to Detect Single and Multiple Delamination Problems using a Combined Neural Network Technique and Genetic Algorithm Optimization
(JDP with CSULB) Advisor: Ellis Cumberbatch

Jeffrey **Ledahl** 2016
Bayesian Join Modeling of Longitudinal Visual Field Data with Correlated Binary and Survival Outcomes
(JDP with SDSU) Advisor: Richard Levine

Kimberly **Leung** 2016
Stochastic Models for Precipitable Water in Convection
(JDP with SDSU) Advisor: Samuel Shen

Steve **Lewis** 2007
Bayesian Parameter and Order Estimation in Profile Hidden Markov Models
Advisor: Alpan Raval

Liming **Li** 1995
Quasi-Monte Carlo Methods for Transport Equations
Advisor: Jerome Spanier

Luo **Li** 2020
Causal Effect Random Forest of Interaction Trees for Learning Individualized Treatment Regimes in Observational Studies: With Applications to Education Study Data
(JDP with SDSU) Advisor: Juanjuan Fan

Alfonso **Limon** 2009
A Multilevel Framework for PDEs whose Solution Exhibits Fast Transitions
(JDP with SDSU) Advisor: Ellis Cumberbatch

Aggie Gloria Ho **Liu** 1978
Trees, Tree-Like Structures, and Extreme Points in Banach Spaces
Advisor: Robert James

Chen **Liu** 2016
Monte Carlo Algorithms for American Option Pricing: An Analysis of Convergence Rates and the Application for Backward Taylor Expansion on Variance Reduction Techniques
Advisor: Henry Schellhorn

Zheng **Liu** 2014
A Bond Option Pricing Formula in the Extended CIR Model
Advisor: Henry Schellhorn

Shinen **Lo** 2012
A Fire Spread Model Using Levet Set Methods
(JDP with CSULB) Advisor: Burkhard Englert

Patrick **Longhini** 2005
Nonlinear Dynamics Design and Operation of Advanced Magnetic Sensors
(JDP with SDSU) Advisor: Antonio Palacios

Gabriel **Lopez-Garza** 2003
Resonance and Strong Resonance for Semilinear Elliptic Equations in RN
Advisor: Adolfo Rumbos

Haisheng **Luo** 1995
Curve Estimation and Graduation
Advisor: John Angus

Barry **Luong** 2003
Evaluation Modeling in Performance and Resource Allocation for Residential Broadband Gateways
(JDP with CSULB) Advisor: John Angus

José Alberto **Luzardo-Flores** 1997
Neural Networks for Approximation and Control of Continuous Time Nonlinear Systems
(JDP with CSULB) Advisor: A. G. Chassiakos

Anna **Ma** 2018
Stochastic Iterative Algorithms for Large-scale Data
(JDP with SDSU) Advisor: Deanna Needell

José **Macias** 1998
An Approximation Method for Solving Non-Homogeneous Wave Equations and Related Inverse Problems
Advisor: Ellis Cumberbatch

Earl H. **Maize** 1981
Contributions to the Theory of Error Reduction in Quasi-Monte Carlo Methods
Advisor: Jerome Spanier

Barah **Makhdum** 2023
Dynamics and Equilibria of N Point Charges on a 2D Ellipse or a 3D Ellipsoid
Advisor: Ali Nadim

Kun **Marhadi** 2010
Investigation of Progressive Failure Robustness and Alternate Load Paths for Damage Tolerant Structures
(JDP with SDSU) Advisor: Satchi Venkataraman

Sean **Matz** 2020
Detection and Localization of Linear Features Based on Image Processing Methods
Advisor: Marina Chugunova

Philip W. **McCartney** 1978
On Some Banach Space Properties Related to the Radon-Nikodým Property
Advisor: Robert James

Matthew **Michal** 2016
Analytical and Numerical Analysis of Lubrication Coating Flow Models
Advisor: Marina Chugunova

Raymond **Moberly** 2012
Quantization of a Low-Density Parity-Check (LDPC) Decoder
(JDP with SDSU) Advisor: Michael E. O'Sullivan

Jeffrey Louis **Molony** 1997
Studies of the Geometric Theory: Nonlinear Dynamical Systems
Advisor: Courtney Coleman

Hana **Moshirvaziri** 2019
Prediction of the Outcome in Cardiac Arrest Patients Undergoing Hypothermia Using EEG Wavelet Entropy
(JDP with CSULB) Advisor: Shadnaz Asgari

Imad **Muhi El-Ddin** 2009
Watermarking Schemes Robust against Affine Attacks: Applied Mathematics, An Application of Digital Image Processing in Information Technology
Advisor: Hedley Morris

Ionela **Munayco** 2022
An Iterative Method for Canonical Polyadic Decomposition of Tensors
Advisors: Ali Nadim, Marina Chugunova, and Lorne Olfman

Susan **Nachawati** 2013
DNA Visualization with Sacks Spiral Method: An Application in Genomic Engineering
(JDP with CSULB) Advisor: Forouzan Golshani

Hai Ah **Nam** 2010
Ab Initio Nuclear Shell Model Calculations of Some Light Nuclei with a Three-Nucleon Force
(JDP with SDSU) Advisor: Calvin Johnson

Hareshram **Natarajan** 2020
High Order Explicit Semi-Lagrangian Method for the Solution of Lagrangian Transport and Stochastic Differential Equations
(JDP with SDSU) Advisor: Gustaaf Jacobs

Rafael **Navarro** 2012
Dynamical Properties of Bose-Einstein Condensates
(JDP with SDSU) Advisor: Ricardo Careterro

Rodrigo **Negreiros** 2010
Numerical Study of the Properties of Compact Stars
(JDP with SDSU) Advisor: Fridolin Weber

Dan Manh **Nguyen** 2002
An Unified Automated Approach to Surface Approximation via Finite Element and Non Uniform Rational B-spline Methods
(JDP with CSULB) Advisors: Ortwin Ohtmer and Ellis Cumberbatch

Dong **Nguyen** 2000
Reliability Modeling and Evaluation in Computer Networks and Distributed Systems
(JDP with CSULB) Advisors: John Angus and Dar-Biau Liu

Huu **Nguyen** 2018
Efficient Digital Image Reconstruction/Restoration Using a Novel Application of Markov Random Fields
Advisor: John Angus

James **Nguyen** 2009
A Hardware Implementation of the Level Set Method for Robotic Path Finding with Multiple Obstacle Avoidance
(JDP with CSULB) Advisor: Ali Nadim

Tien Manh **Nguyen** 1995
Mathematical Modeling and Digital Signal Processing Techniques for Modern Digital Communication Systems
(JDP with CSULB) Advisor: Hen-Geul Yeh

Kieran **Nolan** 2009
Meta-Scheduling of Level-Set Methods in a Grid Computing Environment
(JDP with CSULB) Advisors: Dar-Biau Liu and Ali Nadim

Giray **Ökten** 1997
Contributions to the Theory of Monte Carlo and Quasi-Monte Carlo Methods
Advisor: Jerome Spanier

Kim Joseph **Olszewski** 1998
Concatenated Reed-Solomon and Reed-Muller Codecs with Blind Adaptation for CDMA Antenna Array Systems
(JDP with CSULB) Advisor: R. Kumar

Fred **Ovadia** 1978
Contributions to the Theory of Fractional Difference Operators
Advisor: Jerome Spanier

Seethal **Paluri** 2016
Cross-Layer Schemes for Enhancing H.264/AVC Video Quality over Wireless Channels
(JDP with SDSU) Advisor: Sunil Kumar

Wen **Pan** 2019
Data Management on Non-volatile Memory: from Mobil Applications to Large-scale Databases
(JDP with SDSU) Advisor: Tao Xie

Christopher **Paolini** 2007
A Service-Oriented Architecture for Thermochemical Computation
(JDP with SDSU) Advisor: Subrata Bhattacharjee

Jeho **Park** 2009
Applications of Cluster Systems
(JDP with CSULB) Advisor: John Angus

Moein **Parsinia** 2019
Distributed Mode Selection and Cross-layer Routing Protocol for FDD Nodes in Mobile Ad Hoc Networks
(JDP with SDSU) Advisor: Sunil Kumar

Julien **Pierret** 2018
Climate Data Computing: Optimal Interpolation, Averaging, Visualization and Delivery
(JDP with SDSU) Advisor: Samuel Shen

Claudia L. **Pinter** 1987
The Average Error from the Approximation of Functions and Integrals
Advisor: Robert Williamson

Carlos Orrala **Poveda** 2004
Numerical and Experimental Investigations of Two Side-by-Side Turbulent Jets in a Cross Flow
(JDP with CSULB) Advisor: Hamid R. Rahai

Jerry Emmett **Purcell** 1995
Allpass Filters
(JDP with CSULB) Advisor: Ellis Cumberbatch

Saravana **Raman** 2017
Simulation of Plethysmographic Environment in Pulmonary Function Studies
(JDP with CSULB) Advisor: Christopher Druzgalski

Claudia **Rangel Escareno** 2003
Modeling Biological Responses Using Gene Expression Profiling and Linear Dynamical Statistical Models
Advisors: John Angus and David Wild (KGI)

Nan **Rao** 2019
Cluster Analysis on Stochastic Processes
Advisors: Qidi Peng and Allon Percus

Leandro **Recova** 2014
Applications of Morse Theory to Semilinear Elliptic Boundary Value Problems
Advisor: Adolfo Rumbos

Norman **Richert** 1981
Diophantine Approximation of Complex Numbers
Advisor: Jerome Spanier

Beltran **Rodriguez-Brito** 2010
A Metagenomic Examination of a Solar Saltern in Southern California
(JDP with SDSU) Advisor: Forest Rohwer

Otilio **Rojas Ulacio** 2009
Modeling of Rupture Propagation under Different Friction Laws using High-Order Mimetic Operations
(JDP with SDSU) Advisors: Steven Day and José Castillo

Julia **Rossi** 2016
Non-Conservative Variational Approximation for Nonlinear Schrodinger Equations and its Applications
(JDP with CSULB) Advisor: Hamid Rahai

Mary **Royston** 1995
Three-Sided Assignment Games
Advisor: William F. Lucas

Yadong **Ruan** 2020
Modeling and Analysis of Falling Liquid Films
Advisors: Ali Nadim and Marina Chugunova

Eduardo **Sanchez** 2015
Mimetic Finite Differences and Parallel Computing to Stimulate Carbon Dioxide Subsurface Mass Transport
(JDP with SDSU) Advisor: José Castillo

Thomas R. **Savage** 1997
On Some Problems in the Theory of Von Neumann Regular Rings
Advisor: Melvin Henriksen

Robert Armin **Schmieder** 2012
A Framework for Identifying Antibiotic Resistance in the Human Microbiome
(JDP with SDSU) Advisor: Robert Edwards

Adeline **Schmitz** 2007
Constructive Neural Networks for Function Approximation and their Application to CFD Shape Optimization
(JDP with CSULB) Advisor: Hamid Hefazi

Henry J. **Schultz** 1974
Banach and Frechet Algebras of Power Series
Advisor: Sandy Grabiner

Micah **Schuster** 2015
Systematic Investigation of Operators in Nuclear Systems
(JDP with SDSU) Advisor: Calvin Johnson

Pouye **Sedighian** 2022
Investigation of Neutrophil-Like HL-60 Cell Migration in a 3D Collagen Matrix
(JDP with CSULB) Advisor: Perla Ayala

Sarun **Seepun** 2021
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Advisor: Allon Percus

Victor **Seguritan** 2013
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(JDP with SDSU) Advisor: Anca Segall

John **Sepikas** 2011
Enhanced Lattice Methods for High Dimensional Quadrature Applications
Advisor: Jerome Spanier

Lucie **Sharpsten** 2013
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(JDP with SDSU) Advisor: Juanjuan Fan

Jody Hewychun **Shu** 2013
Autonomous Voice and Motion Controlled Video Camera System for Instructional Technology
(JDP with CSULB) Advisor: John Angus

Genivaldo **Silva** 2017
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(JDP with SDSU) Advisor: Robert Edwards

Colette **Smirniotis** 2018
Transformation and Parameterization in LatticeKrig
(JDP with SDSU) Advisor: Barbara Ann Bailey

Jean Suarez **Solano** 2015
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(JDP with SDSU) Advisor: Gustaaf Jacobs

Xiaojia **Song** 2019
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William **Spinella** 2017
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(JDP with SDSU) Advisor: Fridolin Weber

Xun **Sun** 2015
On the Geometry of Cyclic and Permutation Invariant Lattices
Advisor: Lenny Fukshansky

Hiroki **Sunahata** 2006
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(JDP with CSULB) Advisor: Alpan Raval

Jennifer **Switkes** 2000
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Advisor: Michael Moody

Shahab **Taherian** 2015
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(JDP with CSULB) Advisor: Hamid Rahai

Siddhi **Tavildar** 2020
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(JDP with SDSU) Advisor: Ashkan Ashrafi

Allen **Teagle-Hernandez** 2013
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(JDP with CSULB) Advisor: Ellis Cumberbatch

Ali Fadaei **Tehrani** 2019
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(JDP with CSULB) Advisor: Hen-Geul Yeh

Ying **Teng** 2005
Modeling and Simulation of Aeroservoelastic Control with Multiple Control Surfaces Using μ-Method
(JDP with CSULB) Advisor: H. P. Chen

Mary **Thomas** 2014
Parallel Implementation of the Curviliniar Ocean and Atmospheric (UCOAM) Model and Supporting Computational Environment
(JDP with SDSU) Advisor: José Castillo

Duc **Tran** 2019
Model Predictive Energy Management for Building Microgrids with IoT-based controllable Loads
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Kristy **Tran** 2019
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(JDP with CSULB) Advisor: Fumio Hamano

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Advisor: William F. Lucas

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Gregg **Turner** 1991
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Advisor: Kenneth Cooke

James **Turtle** 2016
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(JDP with SDSU) Advisor: Antonio Palacios

Manuel **Valera** 2021
Mimetic Coastal Ocean Modeling in General Coordinates and using Machine Learning Based Predictions
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Timothy **Vanderbeek** 2019
Analysis and Optimization of Chassis Movements in Transportation Networks with Centralized Chassis Processing Facilities
(JDP with CSULB) Advisor: Anastasios Chassiakos

Esteban **Vazquez-Hidalgo** 2021
Force Regulation in Contractile Cells by Chemical and Mechanical Signaling
(JDP with SDSU) Advisor: Parag Katira

Jorge Xicotencatl **Velasco-Hernandez** 1991
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Advisor: Stavros Busenberg

Diana W. **Verzi** 2001
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Advisors: Ellis Cumberbatch and Steve Baer (ASU)

Minaya **Villasana de Villagas** 2001
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Advisor: Ami Radunskaya

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Problems in GPS Accuracy
Advisor: John Angus

Rudolf **Volz** 1982
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Advisor: Kenneth Cooke

Huy Khanh **Vu** 2011
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(JDP with SDSU) Advisors: Antonio Palacios and Visarath In

Hsi-Ching **Wang** 2011
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(JDP with CSULB) Advisor: Subhash Rajpoot

Jean H. M. **Wang** 1981
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Advisor: Jerome Spanier

Wei **Wang** 2015
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Bruce **Wilcox** 2018
A Time Series Data Mining and Unobserved Component Modeling Approach to Credit Risk Correlation Modeling
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Jonathan Louis **Wilson** 2013
Advancements in the Elicitation, Aggregation, and Forecasting of Probability Distributions Under Time Constraints
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Mark **Wilson** 2015
Structure and Rheological Properties of Self-Associating Polymer Networks
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Tina **Woolf** 2017
Practical Compressed Sensing
Advisor: Deanna Needell

Chao-Jen **Wong** 2005
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Advisor: Ali Nadim

Binghui **Wu** 1992
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Advisor: Stavros Busenberg

Kaiqi **Xiong** 1997
Analysis of a Class of Nonlinear Dynamical Systems and Applications to Neural Networks
Advisors: Jerome Spanier and Ellis Cumberbatch

Dong **Xu** 2008
Femvib, an Ab Initio Multi-Dimensional Solver for Probing Vibrational Dynamics in Polyatomic Molecules and Free Radicals
(JDP with SDSU) Advisor: Andrew Cooksy

Qian **Xu** 2017
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Shujing **Xu** 2014
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Advisor: Ali Nadim

Rong **Zablocki** 2017
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(JDP with SDSU) Advisor: Richard Levine

Thomas M. **Zacharia** 1984
Stochastic and Deterministic Sets
Advisor: Richard A. Vitale

Peter **Zajac** 2013
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(JDP with SDSU) Advisor: Andrew Cooksy

Roja **Zakeri** 2020
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(JDP with CSULB) Advisor: Praveen Shankar

Sarah **Zarei** 2012
Mathematic Modeling of Cystic Fibrosis
(JDP with SDSU) Advisor: Peter Salamon

Frederick P. **Zemke** 1975
Subrecursive Hierarchies
Advisor: Alden Pixley

Peng **Zhao** 2015
Novel Random Forest Methods Applied to Medical Studies
(JDP with SDSU) Advisor: Juanjuan Fan

Ran **Zhao** 2021
Essays on Credit Derivatives and Credit Risk Modeling
Advisor: Henry Schellhorn

Deng **Zhou** 2017
I/O Stack Optimization for Non-Volatile Memory Based Storage Systems
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Ming **Zhou** 2010
A Mathematical Analysis of Vesicle Shapes
(JDP with CSULB) Advisor: Hsien-Yang Yeh

Bing **Zhu** 2008
Computational Modeling and Bifurcation Analysis of Bubbling Fluidized Processes
(JDP with SDSU) Advisor: Antonio Palacios

Lixia **Zhu** 2018

The Efficiency, Robustness and Carry-over under the Crossover Designs with Binary Outcomes

(JDP with SDSU) Advisor: Kung-Jong Lui

Lu **Zhu** 2014

First Passage Times and their Application to Credit Default Swap Pricing with Counterparty Risk

Advisor: Henry Schellhorn

Omair **Zubairi** 2015

An Investigation of Deformation of the Stellar Structure of Neutrons Stars

(JDP with SDSU) Advisor: Fridolin Weber

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