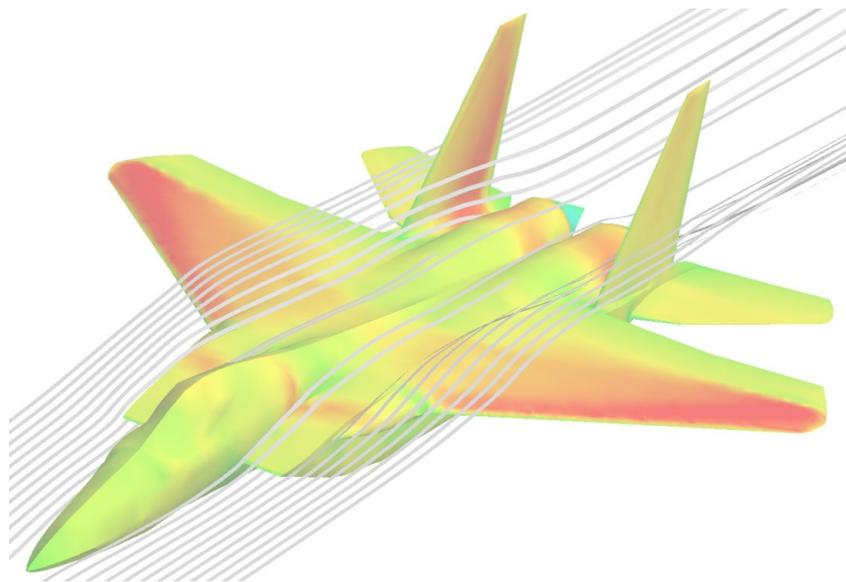*Program*

The Eighth Mississippi State – UAB Conference on Differential Equations and Computational Simulations

May 7-9, 2009

McCool Hall

Mississippi State University

Organizing Committee

Main Organizers

Ratnasingham Shivaji, MSU-Math
Bharat Soni, UAB-ME

Program Chair

Jianping Zhu, Univ. of Texas at Arlington-Math

Program Co-Chairs

Hyeona Lim, MSU-Math
Roy Koomullil, UAB-ME

Travel Support Coordinator

Hyeona Lim, MSU-Math

Registration Coordinator

Judith Goodman, MSU-Math

Local Organizing Committee

Hai Dang, MSU-Math
Sivakumar Kulasekaran, MSU- CSE
Debbie McBride, MSU- HPCC
Mehrzad M. Netadj, MSU- SSRC
Seth Oppenheimer, MSU-Math
Chuanxi Qian, MSU-Math
Mohsen Razzaghi, MSU-Math
Lauren Springer, MSU-Math
Xiangsheng Xu, MSU-Math
Xingzhou Yang, MSU-Math

Administrative & Logistics Contacts at MSU

Judith Goodman, MSU-Math

Conference Proceedings

Main Editors

John Graef, University of Tennessee at Chattanooga
Roy Koomullil, University of Alabama at Birmingham
Hyeona Lim, Mississippi State University
Ratnasingham Shivaji, Mississippi State University
Bharat Soni, University of Alabama at Birmingham
Jianping Zhu, University of Texas at Arlington

Wednesday, May 6, 2009

4:15PM & 4:45PM	Buses from Holiday Inn Express to HPCC (These buses will also pick up participants at Butler Guest House and Herbert Hall)
4:30PM-5:00PM	HPCC Tour
5:00PM-7:00PM	Hawg Cooking Barbeque Party : HPCC
7:30PM	Buses back to Holiday Inn Express
8:00PM-10:00PM	Registration/Reception : State Room, Holiday Inn Express
10:00PM	Transportation to Butler Guest House and Herbert Hall

Thursday, May 7, 2009

7:45AM & 8:00AM	Buses from Holiday Inn Express to McCool Hall
8:00AM-5:30PM	Registration : Atrium, McCool Hall
8:00AM-8:30AM	Breakfast : Atrium, McCool Hall
8:30AM-9:00AM	**Opening Ceremony:** 124, McCool Hall Introduction:　　　　　Bharat Soni Dedication of the conference to Joe Thompson Welcoming Remarks:　Gary Butler, Interim Vice President for Research and Economic Development, MSU 　　　　　　　　　　　Gary Myers, Dean, College of Arts and Sciences, MSU 　　　　　　　　　　　Linda Lucas, Dean, School of Engineering, UAB 　　　　　　　　　　　Mohsen Razzaghi, Head, Department of Mathematics and Statistics, MSU Program Announcements: Jianping Zhu, Program Chair
9:00AM-10:00AM	**Principal Lecture 1:** 124, McCool Hall "Validation, Error Estimation, Uncertainty Quantification, and Control of Multiscale Models in Nanomanufacturing," **Tinsley Oden,** University of Texas at Austin Chaired by: Joe Thompson, Mississippi State University

10:00AM-10:15AM	Break : Atrium, McCool Hall
10:15AM-11:15AM	**Principal Lecture 2:** 124, McCool Hall "New Algorithms in Information Science," **Stanley Osher,** University of California at Los Angeles Chaired by: Jianping Zhu, University of Texas at Arlington
11:15AM-12:15PM	**Principal Lecture 3:** 124, McCool Hall "Computational approaches to the structure and dynamics of high density lipoproteins, a soft form of condensed matter easily deformable by thermal fluctuations," **Jere Segrest,** University of Alabama at Birmingham Chaired by: Roy Koomullil, University of Alabama at Birmingham
12:15PM-2:00PM	Lunch : Atrium, McCool Hall
2:00PM-3:00PM	**Principal Lecture 4:** 124, McCool Hall "Modern Boundary Conditions and Their Applications," **Gisèle Goldstein,** University of Memphis Chaired by: Seth Oppenheimer, Mississippi State University
3:00PM-3:20PM	Break : Atrium, McCool Hall
3:20PM-5:20PM	**Parallel Session A1 – A6 :** 126, 128, 130, 232, 234, 236, McCool Hall
5:50PM	Buses from McCool Hall to Hunter Henry Alumni Center
6:00PM-8:00PM	Reception : Hunter Henry Alumni Center
8:00PM	Buses back to Holiday Inn Express, Butler Guest House, and Herbert Hall

Friday, May 8, 2009

8:15AM & 8:40AM	Buses from Holiday Inn Express to McCool Hall
8:30AM-5:30PM	Registration : Atrium, McCool Hall
8:30AM-9:00AM	Breakfast : Atrium, McCool Hall
9:00AM-10:00AM	**Principal Lecture 5:** 124, McCool Hall "Hi Fi Physics Based Research for AF Applications," **John Benek,** Wright-Patterson Air Force Base Chaired by: Bharat Soni, University of Alabama at Birmingham
10:00AM-10:15AM	Break : Atrium, McCool Hall

10:15AM-11:15AM	**Principal Lecture 6:** 124, McCool Hall
	"Invariant Manifolds for PDEs and the motion of particles driven by Allen-Cahn dynamics," **Peter Bates,** Michigan State University
	Chaired by: Alfonso Castro, Harvey Mudd College
11:15AM-12:15PM	**Principal Lecture 7:** 124, McCool Hall
	"Hilbert complexes, finite element exterior calculus, and applications," **Douglas Arnold,** University of Minnesota
	Chaired by: Hyeona Lim, Mississippi State University
12:15PM-2:00PM	Lunch : Atrium, McCool Hall
2:00PM-3:00PM	**Principal Lecture 8:** 124, McCool Hall
	"Monte Carlo Simulations of Cluster Nucleation Using Quantum Mechanical Potentials," **Theresa Windus,** AMES LAB, U.S. Department of Energy
	Chaired by: Roy Koomullil, University of Alabama at Birmingham
3:00PM-4:00PM	**Principal Lecture 9:** 124, McCool Hall
	"Semilinear wave equations with nonmonotone nonlinearity," **Alfonso Castro,** Harvey Mudd College
	Chaired by: Jerry Goldstein, University of Memphis
4:00PM-4:20PM	Break : Atrium, McCool Hall
4:20PM-6:00PM	**Parallel Session B1 – B6 --** 126, 128, 130, 232, 234, 236, McCool Hall
6:15PM	Buses from McCool Hall to Hunter Henry Alumni Center
6:30PM-9:00PM	Reception and Conference Banquet : Hunter Henry Alumni Center
6:30PM-6:45PM	Reception
6:45PM-7:30PM	Opening remark by Gary Butler
	Cake presentation, champagne and toast to Joe Thompson
	Remarks by Robert Moorhead and Bharat Soni
7:30PM-8:30PM	Dinner
8:30PM -9:00PM	Banquet lecture: "Research and Training Programs of the NSF Division of Mathematical Sciences," **Tanya Kostova Vassilevska,** National Science Foundation
9:00PM	Buses back to Holiday Inn Express, Butler Guest House, and Herbert Hall

Saturday, May 9, 2009

8:15AM & 8:40AM	Buses from Holiday Inn Express to McCool Hall
8:30AM-5:30PM	Registration : Atrium, McCool Hall
8:30AM-9:00AM	Breakfast : Atrium, McCool Hall
9:00AM-10:00AM	**Principal Lecture 10:** 124, McCool Hall "Modelling aspects of solid tumour growth," **Philip Maini,** University of Oxford Chaired by: Hyeona Lim, Mississippi State University
10:00AM-10:15AM	Break : Atrium, McCool Hall
10:15AM-11:15AM	**Principal Lecture 11:** 124, McCool Hall "A Modular Open System Architecture for Multi-disciplinary Computational Science and Engineering Simulations," **Scott Morton,** Eglin Air Force Base Chaired by: Bharat Soni, University of Alabama at Birmingham
11:15AM-12:15PM	**Principal Lecture 12:** 124, McCool Hall "Singularities of complex solutions of Burgers equation," **Peter Polacik,** University of Minnesota Chaired by: John R. Graef, University of Tennessee at Chattanooga
12:15PM-2:00PM	Lunch : Atrium, McCool Hall
2:00PM-3:00PM	**Principal Lecture 13:** 124, McCool Hall "Model of Phase Transitions with Nonsmooth Potential: Continua of High Energy Local Minimizers," **Pavel Drabek,** University of West Bohemia, Czech Republic Chaired by: Xiangsheng Xu, Mississippi State University
3:00PM-3:20PM	Break : Atrium, McCool Hall
3:20PM -5:20PM	**Parallel Session C1 – C6 :** 126, 128, 130, 232, 234, 236, McCool Hall
5:30PM-7:30PM	Dinner: Drill Field (Next to McCool Hall)
7:30PM	Buses back to Holiday Inn Express

** Herbert Hall and Butler Guest House are in walking distance to McCool Hall, conference center.

Session A1: 126, McCool Hall

Chair: Jerome Goddard, II, Mississippi State University

3:20PM-3:40PM	3:40PM-4:00PM	4:00PM-4:20PM	4:20PM-4:40PM	4:40PM-5:00PM	5:00PM-5:20PM
Jerome Goddard, II	Jinglong Ye	M. N. Nkashama	Nsoki Mavinga	Sarath Sasi	Gergely Röst
On the existence of a double S-shaped bifurcation curve	*Infinite Semipositone Systems*	*Full bounded solutions of nonlinear parabolic equations with nonlinear boundary conditions*	*Steklov-Neumann Eigenproblems and Nonlinear Elliptic Equations with Nonlinear Boundary Conditions*	*An Ecological Model with Grazing and Constant Yield Harvesting*	*Global dynamics for delayed unimodal feedback*
Mississippi State University	Mississippi State University	University of Alabama at Birmingham	University of Rochester	Mississippi State University	University of Szeged, Hungary

Session A2: 128, McCool Hall

Chair: Dhruba Adhikari, Mississippi University for Women

3:20PM-3:40PM	3:40PM-4:00PM	4:00PM-4:20PM	4:20PM-4:40PM	4:40PM-5:00PM	5:00PM-5:20PM
Dhruba Adhikari	Siming Zhao	Annita Davis	Edward Krisner	Abdelkader Boucherif	Zhivko S. Athanassov
Invariance of Domain and Eigenvalues for Perturbations of Densely Defined Linear Maximal Monotone Operators	*Nonlinear dynamics of unicycles in leader-follower formation*	*Differential Systems on Spaces of Bounded Linear Operators*	*Homoclinic orbit solutions of a one Dimensional Wilson-Cowan type model*	*Nonlocal problems for second order differential equations*	*Asymptotic Stability of General Systems*
Mississippi University for Women	Texas A&M University	University of Memphis	University of Pittsburgh at Greensburg	King Fahd University of Petroleum and Minerals, Saudi Arabia	Institute of Mathematics, Bulgarian Academy of Sciences, Bulgaria

Session A3: 130, McCool Hall

Chair: Xingzhou Yang, Mississippi State University

3:20PM-3:40PM	3:40PM-4:00PM	4:00PM-4:20PM	4:20PM-4:40PM	4:40PM-5:00PM	5:00PM-5:20PM
Lennard Bakker	Anjan Biswas	Matthew Fury	Henri Schurz	Stephen Preston	Beth Campbell-Hetrick
Linear Stability of Some Periodic Simultaneous Binary Collision Orbits in the Four-Body Problem	*The Nonlinear Schrodinger's Equation, with time-dependent Coefficients, in a non-Kerr Law Media*	*Continuous Dependence Results for Ill-Posed Evolution Problems*	*Nonlinear Stochastic Heat Equations with Q-Regular Noise in R^1*	*The motion of whips and chains*	*Quasireversibility for Inhomogeneous Ill-Posed Problems*
Brigham Young Unversity	Delaware State University	Bryn Mawr College	Southern Illinois University	University of Colorado	Gettysburg College

Session A4: 232, McCool Hall

Chair: Vasilios Alexiades, University of Tennessee

3:20PM-3:40PM	3:40PM-4:00PM	4:00PM-4:20PM	4:20PM-4:40PM	4:40PM-5:00PM	5:00PM-5:20PM
Vasilios Alexiades	Hengguang Li	Ritesh Kumar Dubey	Andras Balogh	Shruti A. Dubey	Hassan Fathallah-Shaykh
Fluid dynamical modeling of laser ablation	*A-priori Estimates and the FEM for the Neumann and Transmission Problems*	*A Composite semi-conservative central-upwind scheme for hyperbolic conservation laws*	*A Note on the Galerkin and the Eigenvalue Expansion Methods*	*Numerical solution for nonlocal Sobolev-type Differential Equations*	*Clokwork orange stabilizes the circadian clock by sustaining a chaotic attractor*
University of Tennessee	Syracuse University	Université Paul Sabatier, France	The University of Texas-Pan American	Université Paul Sabatier, France	University of Alabama at Birmingham

Session A5: 234, McCool Hall

Chair: Ciprian G. Gal, University of Missouri-Columbia

3:20PM-3:40PM	3:40PM-4:00PM	4:00PM-4:20PM	4:20PM-4:40PM	4:40PM-5:00PM	
Ciprian G. Gal	Ted Clarke	Jerry Goldstein	Naima Naheed	Chaudry Masood Khalique	
Turbulence in two-phase flows of viscous incompressible fluids	*Asymptotics of the Telegraph Equation*	*Instantaneous Blowup*	*Mathematical Contributions to Spin-Polarized Thomas-Fermi Theory*	*A Lie symmetry approach to Nonlinear Schrodinger's equation with non-Kerr law nonlinearity*	
University of Missouri-Columbia	University of Memphis	University of Memphis	University of Memphis	North-West University, South Africa	

Session A6: 236, McCool Hall

Chair: Alexander Alekseenko, California State University, Northridge

3:20PM-3:40PM	3:40PM-4:00PM	4:00PM-4:20PM	4:20PM-4:40PM	4:40PM-5:00PM	5:00PM-5:20PM
Alexander Alekseenko	M. Faridul Alam	Brian Moore	Henry A. Boateng	Phu Vu	Ashish Awasthi
High Order Discrete Velocity Method for Model Kinetic Equations of Gas Dynamics	*Preliminary Results for a New Two-Parameter Hybrid RANS-LES Model*	*Propagation Failure of Traveling Fronts in Discrete Inhomogeneous Media*	*Molecular Dynamics Simulation of liquid Methyl Chloride with a treecode Ewald Summation Method*	*3D surface meshless approximation of local quantities and evolution problem using a novel high order, maker particle method*	*Modified Upwind Difference Scheme for Time-Dependent Singularly Perturbed Convection-Diffusion Equations on Shishkin Mesh*
California State University, Northridge	CAVS/SimCenter, Mississippi State University	University of Central Florida	University of Michigan	State University of New York at Buffalo	Upper Austria university of Applied Sciences, Austria

Session B1: 126, McCool Hall

Chair: Eunkyung Ko, Mississippi State University

4:20PM-4:40PM	4:40PM-5:00PM	5:00PM-5:20PM	5:20PM-5:40PM	5:40PM-6:00PM
Eunkyung Ko	John R. Graef	Haiyan Wang	Yubing Wan	Carlos Aranda
A multiplicity result for a class of infinite positone problems	*Positive solutions to a nonlinear third order three-point boundary value problem*	*Traveling waves for delayed reaction-diffusion equations*	*Reaction-diffusion Systems with A Nonlinear Rate of Growth*	*Infinite multiplicity of positive solutions for singular nonlinear elliptic equations with convection term and related supercritical problems*
Mississippi State University	University of Tennessee at Chattanooga	Arizona State University	University of Texas-Pan American	Formosa National University, Argentine

Session B2: 128 McCool Hall

Chair: Eric R. Kaufmann, University of Arkansas at Little Rock

4:20PM-4:40PM	4:40PM-5:00PM	5:00PM-5:20PM	5:20PM-5:40PM	5:40PM-6:00PM
Eric R. Kaufmann	Necibe Tuncer	Lianwen Wang	W. Xie	Anatoli F. Ivanov
Impulsive Periodic Boundary Value Problems for Dynamic Equations on Time Scale	*A two strain SIS model with diffusion*	*Approximate controllability for semilinear delay systems with boundary control*	*A Nonlinear System Describing an Irreversible Process*	*Global Stability and Periodic Solutions in a Class of Differential Delay Equations*
University of Arkansas at Little Rock	University of Florida	University of Central Missouri	Cal Poly Pomona	Pennsylvania State University

Session B3: 130 McCool Hall

Chair: Zhifu Xie, Virginia State University

4:20PM-4:40PM	4:40PM-5:00PM	5:00PM-5:20PM	5:20PM-5:40PM	5:40PM-6:00PM
Zhifu Xie	Jing Zhang	Yongjin Lu	Mikheil Tutberidze	Panigrahi Saroj
Inverse Problem of Central Configurations and Singular Curve in n-body Problem	*Min-max game theory problems for coupled systems of PDEs and associated non-standard differential Riccati equation*	*Strong Stability of a Nonlinear Coupled System of PDEs with Noncompact Resolvent*	*The Comparison and Convergence Theorems for the Discrete Analogous of Initial-Boundary Problem to One Parabolic Equation*	*Liapunov Type Inequality on Time Scales*
				University of Hyderabad, India
Virginia State University	University of Virginia	University of Virginia	Ilia Chavchavadze State University, Georgia	

Session B4: 232 McCool Hall

Chair: Zachariah Sinkala, Middle Tennessee State University

4:20PM-4:40PM	4:40PM-5:00PM	5:00PM-5:20PM	5:20PM-5:40PM	5:40PM-6:00PM
Zachariah Sinkala	Jianping Zhu	Jigarkumar Patel	Ray Treinen	Harihar Khanal
Dynamics of prostate cancer stem cells with diffusion and organism response	*Two fourth-order numerical algorithms for one-dimensional Burgers' equation*	*Dynamic Contact Problems*	*On a conjecture for the Stefan Problem*	*Solitary waves and periodic solutions to the BBM equation modified by viscosity*
		University of Texas at Dallas		
Middle Tennessee State University			Kansas State University	Embry-Riddle Aeronautical University
	University of Texas at Arlington			

Session B5: 234 McCool Hall

Chair: Xiaoming He, Virginia Tech

4:20PM-4:40PM	4:40PM-5:00PM	5:00PM-5:20PM	5:20PM-5:40PM	5:40PM-6:00PM
Xiaoming He	Ellina Grigorieva	Dean W. Gull	Guangyue Gao	Mohan K Kadalbajoo
Electrostatic levitation of lunar dust: a new challenge for efficiently solving elliptic interface PDEs on structured meshes instead of body-fitting meshes	*Optimal control of an activated sludge process*	*Global Linearization of Deficiency Zero Chemical Reaction Network Dynamics*	*Force-free Duffing-van der Pol Oscillator*	*A Higher Order Parameter Uniform Scheme for Solving Singularly Perturbed Parabolic Problems with Small Parameters*
	Texas Woman's University	Pacific Northwest National Laboratory	University of Texas-Pan American	
Virginia Tech				I.I.T. Kanpur, India

Session B6: 236 McCool Hall

Chair: C. Wayne Mastin, University of Alabama at Birmingham

4:20PM-4:40PM	4:40PM-5:00PM	5:00PM-5:20PM	5:20PM-5:40PM	5:40PM-6:00PM
C. Wayne Mastin	Chuan Li	Volodymyr Hrynkiv	Changbing Hu	Nachiketa Mishra
Truncation Error for Finite Volume Approximations on Unstructured Grids	*Comparison of time stepping schemes on the cable equation*	*Optimization of a heat transfer coefficient in a thermistor problem*	*Navier Stokes Equation in 3D thin domains under physically relevant boundary conditions*	*Sixth order SRECHOS for two-dimensional convection-diffusion equations*
University of Alabama at Birmingham	The University of Tennessee, Knoxville	University of Houston-Downtown	University of Louisville	IIT Madras, India

Session C1: 126 McCool Hall
Chair: Eun Kyoung Lee, Mississippi State University

3:20PM-3:40PM	3:40PM-4:00PM	4:00PM-4:20PM	4:20PM-4:40PM	4:40PM-5:00PM	5:00PM-5:20PM
Eun Kyoung Lee	Stephen Robinson	Mythily Ramaswamy	Jean-Pierre Gossez	Paul G. Schmidt	Hermann J Eberl
Positive Solutions for Infinite Semipositone Problems with Falling Zeros	*Freholm Alternative Results for the Fucik Spectrum*	*Variational method for data assimilation problem*	*Principal eigenvalues for some non selfadjoint elliptic problems and applications.*	*Oscillatory entire solutions for a subcritical biharmonic equation*	*The Thing With The Bees: a differential equations point of view on honeybees, varroa destructor, associated deadly viruses, and colony collapse disorder*
Mississippi State University	Wake Forest University	T.I.F.R Centre for Applicable Mathematics, India	Université Libre de Bruxelles, Belgium	Auburn University	University of Guelph, Canada

Session C2: 128 McCool Hall
Chair: Xiangsheng Xu, Mississippi State University

3:20PM-3:40PM	3:40PM-4:00PM	4:00PM-4:20PM	4:20PM-4:40PM	4:40PM-5:00PM	5:00PM-5:20PM
Xiangsheng Xu	Nicoleta Eugenia Tarfulea	Nickolai Kosmatov	Shripad Kulkarni	Farzaneh Khosravianarab	Shahnaz Khosravianarab
Local Regularity Theorems for the Stationary Thermister Problem with Oscillating Degeneracy	*A reaction-diffusion model for in vitro tumor- induced angiogenesis*	*A fractional order initial value problem with impulsive effects*	*A subclass of multivalent functions defined by using a familiar fractional derivative operator*	*Starlikeness Conditions for a new class of functions defined by differential subordination*	*Some properties of fractional calculus and linear operators associated with certain subclass of multivalent functions*
Mississippi State University	Purdue University Calumet	University of Arkansas at Little Rock	Fergusson College, India	University of Pune, India	University of Pune, India

Session C3: 130 McCool Hall

Chair: Shantia Yarahmadian, Indiana University

3:20PM-3:40PM	3:40PM-4:00PM	4:00PM-4:20PM	4:20PM-4:40PM	4:40PM-5:00PM	5:00PM-5:20PM
Shantia Yarahmadian	Dumitru Motreanu	Antonio Vitolo	Seshadev Padhi	S. N. Pandey	Ruediger Landes
Pointwise Green Function Bounds and Long-Time Stability of Large-Amplitude Noncharacteristic Boundary Layers	*Nonlinear Dirichlet problems with asymmetric forcing term*	*Pointwise and gradient bounds for solutions of second order elliptic equations*	*Dynamics for Time-Varying Fishing Model with delay*	*Painlevé analysis, symmetry and integrability aspects of damped nonlinear oscillator equation*	*Subsolutions for parabolic problems with a nonlinear boundary condition*
Indiana University	University of Perpignan, France	University of Salerno, Italy	Birla Institute Of Tehnology, India	Motilal Nehru National Institute of Technology, India	University of Oklahoma

Session C4: 232 McCool Hall

Chair: Alfonso Limon, Pomona College

3:20PM-3:40PM	3:40PM-4:00PM	4:00PM-4:20PM	4:20PM-4:40PM	4:40PM-5:00PM	5:00PM-5:20PM
Alfonso Limon	Yun-Qiu Shen	Xingzhou Yang	Shan Zhao	Adrian Sescu	Jianzhong Wang
On the development of a parallel adaptive multilevel grid refinement scheme	*Bifurcation onto an affine subspace for separable parameterized equations*	*Computer Simulations on Ciliary Beating*	*High order vectorial analysis of optical waveguides with curved dielectric interfaces*	*Numerical Solution to Nonlinear Tricomi Equation Using Weighted Essentially Non-Oscillatory Schemes*	*On Adaptive Kernels for Partial Differential Equation Models in Image Denoising*
Pomona College	Western Washington University	Mississippi State University	University of Alabama	University of Toledo	Sam Houston State University

Session C5: 234 McCool Hall

Chair: Nitin Bhagat, University of Alabama at Birmingham

3:20PM-3:40PM	3:40PM-4:00PM	4:00PM-4:20PM	4:20PM-4:40PM	4:40PM-5:00PM	
Nitin Bhagat	Yas Alsultanny	Deepak Kini	Gerard Awanou	Erik Winardi	
Influence of Remeshing and Subdivision on the Order of Accuracy	*Software Complexity Metrics with Study the Affect of Time Processing*	*Exploring use of Weighted Essentially Non-Oscillating schemes for generalized meshes*	*Finite Elements for Symmetric Tensors in Three dimensions on Rectangular Meshes*	*Heat Transfer Preditions for High Speed Flow using Overset Mesh Technique*	
University of Alabama at Birmingham	Arabian Gulf University, Bahrain	University of Alabama at Birmingham	Northern Illinois University	University of Alabama at Birmingham	

Session C6: 236 McCool Hall

Chair: Kumnit Nong, George Mason University

3:20PM-3:40PM	3:40PM-4:00PM	4:00PM-4:20PM	4:20PM-4:40PM	4:40PM-5:00PM	
Kumnit Nong	Mallory Frederick	Diane Denny	Adnan A. Khan	G.S. Samra	
Distributed Control for Coupled Problem of Nonlinear Fluid Structure Interaction	*A mathematical model of biofilm growth, quorum sensing, and cell-cell communication in biofilm communities*	*Existence of a solution to equations modeling fluid flow with capillary stress effects*	*Non Standard Homogenization Theory for Transport by a Strong Mean Flow and Periodic Fluctuations*	*Differential instability of Walter, s visco-elastic fluid permeated with suspended particles*	
George Mason University	University of Guelph, Canada	Texas A&M University-Corpus Christi	Lahore University of Management Sciences, Pakistan	Lyallpur Khalsa College, Jalandhar, Punjab, India	