

7th International Conference on High Performance Scientific Computing
March 19-23, 2018 – Hanoi, Vietnam

SCIENTIFIC PROGRAM

Monday, March 19, 2018					
08:30-09:15	Registration on the 10 th floor of Ta Quang Buu Library				
09:15-09:40	Opening – Meeting hall on the 10 th floor of Ta Quang Buu Library				
	Plenary Session P1 – Meeting hall on the 10th floor of Ta Quang Buu Library Chair: H. Holden				
09:45-10:30	N. H. Risebro : <i>Models of Two Phase Flow in Porous Media</i>				
10:30-11:00	Coffee break (served on the 7 th floor)				
	Session α1 – Room 702 – MS12 Chair: V. Schulz	Session β1 – Room B4 – MS03 Chair: H. Nguyen	Session γ1 – Room C15 – MS13 Chair: F. Tröltzsch	Session δ1 – Room C2 Chair: M. Othman	Session ϵ1 – Room 721 – MS06 Chair: D.-S. Kim
11:00-11:30	A. Sommer : <i>Parameter Estimation in Multi-Dimensional Stochastic Differential Equation Models</i>	J. Lagrone, R. Cortez, L. Fauci : <i>Bacterial Motility in Confined Environments</i>	J. A. Burns : <i>High Order DG Type Methods for Control and Optimization of Convection-Diffusion Systems</i>	Y. Huang, J. Li , W. Yang: <i>Recent Advances on Finite Element Method and Simulation of Invisibility Cloaks with Metamaterials</i>	C. Song , J. Cha, M. Lee, D.-S. Kim: <i>The Geodesic among Circular Obstacles in Plane</i>
11:30-12:00	M. D. Doan : <i>A Distributed Jacobi Algorithm for Optimization Problems with Coupled Constraints</i>	S. D. Olson , M. W. Rostami: <i>Simulation of Microswimmers using the Fast Multipole Method</i>	B. T. Kien , V. H. Nhu, N. H. Son: <i>Second-order Optimality Conditions for a Semilinear Elliptic Optimal Control Problem with Mixed Pointwise Constraints</i>	S. Loisel, H. T. Nguyen : <i>On Additive Schwarz Methods for Parallel Adaptive Finite Elements</i>	S. K. Yadav , F. Paul, K. Polthier: <i>Shape Analysis of 3D SDOCT data</i>
12:00-12:30	C. Cay, J. C. Góez, I. Pólik, T. Terlaky : <i>Mixed Integer Second Order Cone Optimization (MISOCO): Conic Cuts, Warm Start, and Rounding</i>	C. Oakes , H. Nguyen, M. Koehl, L. Fauci: <i>Modeling Hydrodynamic Effects on Choanoflagellate Feeding</i>	E. Cerpa, L. Grüne, R. Guglielmi , D. Kalise: <i>Stabilizing Controllers with Improved Performance for Nonlinear PDEs: a NMPC Approach</i>	N. M. Quan , A. Peleg, H. T. Toan: <i>Collision-induced Amplitude Shifts in Fast Two-Pulse Collisions in Weakly Perturbed Linear Systems of Coupled-PDEs</i>	X. Qin, N. T. An : <i>Smoothing Algorithms for Computing the Projection onto a Minkowski Sum of Convex Sets</i>
12:30-13:30	Lunch (served on the 10 th floor)				

Monday, March 19, 2018

	Session $\alpha 2$ – Room 702 – MS12 Chair: J. P. Schlöder	Session $\beta 2$ – Room B4 – MS03 Chair: H. Nguyen	Session $\gamma 2$ – Room C15 – MS13 Chair: F. Tröltzsch	Session $\delta 2$ – Room C2 Chair: P. K. Anh	Session $\epsilon 2$ – Room 721 – MS06 Chair: D. Wagner
14:00-14:30	Ch. Schenk, V. Schulz : Mathematical Modeling, Simulation and Optimization for Energy Optimal Wine Fermentation	H. A. Tran , C. G. Webster, G. Zhang: A Sparse Grid Method for Bayesian Uncertainty Quantification with Application to Large Eddy Simulation Turbulence Models	P. Gangl , U. Langer: A Local Mesh Modification Strategy for Interface Problems with Application to Shape and Topology Optimization	P. Q. Muoi , D. X. Hiep, P. D. Tuan: An Algorithm for Minimization Problems in l_0-Regularization for Nonlinear Inverse Problems	D.-S. Kim , Y. Cho, J. Ryu, M. Lee, J. Cha, C. Song: Molecular Geometry (MG) and MG Operating System: Software Engine Library for 2D- and 3D-sphere based Particle System
14:30-15:00	F. Bestehorn , C. Kirches: Distributed Optimization Procedures for District Heating Networks	P. L. Kelly-Zion , H. Nguyen, C. Pursell, M. Batista, G. Wassom, T. Piske: Measured Vapor Distributions Above Sessile Drops and Implications for Vapor Transport	C. Christof, J. C. de los Reyes, C. Meyer : A Trust-Region-Method for the Optimal Control of Variational Inequalities	G. A. Kurina , V. G. Zadorozhniy: Inverse Problems of the Calculus of Variations for Systems of of High Order	M. Lee , J. Ryu, J. Cha, C. Song, D.-S. Kim: Topology-oriented Construction of the Voronoi Diagram of Polygons
15:00-15:30	C. Zeile , T. Rauwolf, A. Schmeisser, F. Gnetter, S. Sager: Personalized Modeling for Cardiovascular System Dynamics and Hemodynamics: A CircAdapt Approach	H. Nguyen , L. Fauci: Hydrodynamics of Diatom Chains and Semiflexible Fibres	C. Clason, V. H. Nhu , A. Rösch: Optimal Control of a Non-smooth Quasilinear Parabolic Equation	M. Hinze, B. Kaltenbacher, T. N. T. Quyen : Identifying Conductivity in Electrical Impedance Tomography with Total Variation Regularization	J. Ryu , M. Lee, D.-S. Kim: How to Solve NP-hard Euclidean Geometry Problems: From Disk Packing Problem Point of View
15:30-16:00	Coffee break (served on the 7 th floor)				
	Session $\alpha 3$ – Room 702 – MS01 Chair: T. Koch	Session $\beta 3$ – Room B4 – MS04 Chair: R. Jeltsch	Session $\gamma 3$ – Room C15 – MS13 Chair: J. A. Burns	Session $\delta 3$ – Room C2 Chair: J. Li	Session $\epsilon 3$ – Room 721 – MS06 Chair: P. T. An
16:00-16:30	Y. Shinano : Harnessing over a Million CPU Cores to Solve a Single Hard Mixed Integer Programming Problem on a Supercomputer	A. Kurganov : Well-Balanced Schemes via Conservative Formulation Using Global Fluxes	N. H. Son , B. T. Kien, A. Rösch: Second-order Optimality Conditions for Boundary Control Problems with Mixed Pointwise Constraints	N. A. Syafiq, M. Othman , N. Senu, F. Ismail: An Adaption of Hierarchical Matrix on Explicit Group Iterative Poisson Solver	P. T. An, N. D. Hoang, N. K. Linh , N. B. Hau: The Best Restricted Area Technique for Computing the Convex Hull of a Finite Set of Points in R^n
16:30-17:00	P. Bonami, A. Lodi, J. Schweiger , A. Tramontani: Solving Standard Quadratic Programming by Cutting Planes	N. Gerhard, S. Müller : Multiwavelet-based Grid Adaption with Discontinuous Galerkin Schemes	C. Meyer, M. Sievers : Numerical Approximation of Rate-Independent Evolutions	H. Schaeffer, G. Tran , R. Ward: Learning Nonlinear Dynamical Structures Using Compressive Sensing and Sparse Optimization	P. T. An, T. V. Hoai, D.-S. Kim, K. Polthier, V. B. Thinh, D. V. Viet : Funnel Technique for Finding Shortest Paths from a Fixed Source Point to all Destination Points on a Convex Polyhedral Surface
17:00-17:30	T. Koch , D. Rehfeldt: SCIP-Jack: A Solver for Steiner Tree Problems in Graphs and their Relatives	C. Klingenberg : The Compressible Euler Equations with Gravity: Well-balanced Schemes and all Mach Number Solvers	C. Clason , F. Kruse, K. Kunisch: Total Variation Regularization of Multi-material Topology Optimization	Y. Jun : Domain Decomposition Method for Two-Dimensional Parabolic Problems	D. Wagner : Geometric DNA Alignment with Range Trees

Tuesday, March 20, 2018

<p>Plenary Session P2 – Meeting hall on the 10th floor Chair: W. Jäger</p>					
09:00-09:45	<p>A. Sequeira: Cardiovascular Modeling and Simulations: Applications to Patient-Specific Clinical Studies</p>				
09:45-10:30	<p>F. Tröltzsch: Optimal and Feedback Control of Systems of Reaction Diffusion Equations</p>				
10:30-11:00	<p>Coffee break (served on the 7th floor)</p>				
	<p>Session α4 – Room 702 – MS14 Chair: S. Pickenhain</p>	<p>Session β4 – Room B4 – MS04 Chair: E. Tadmor</p>	<p>Session γ4 – Room C15 Chair: O. Davydov</p>	<p>Session δ4 – Room C2 – MS07 Chair: M. Q. Phan</p>	<p>Session ϵ4 – Room 721 Chair: T. Q. Bui</p>
11:00-11:30	<p>A. Britzelmeier, M. Gerdt: Model Predictive Control of Connected, Autonomous Cars in a Road Network</p>	<p>S. Jin: Uncertainty Quantification for Multiscale Kinetic Equations with Uncertain Coefficients</p>	<p>D. T. Oanh, O. Davydov, H. X. Phu: Adaptive Meshless Refinement for RBF-FD Method or Elliptic Problems with Point Singularities in 2D</p>	<p>X. Ji, R. W. Longman: The Insensitivity to Initial Condition of a New Stable Inverse</p>	<p>M. D. Thanh: Computing Solutions of the Riemann Problem for the Ripa System</p>
11:30-12:00	<p>A. Fleig, L. Grüne, R. Guglielmi: Model Predictive Control of Stochastic Processes via Probability Density Functions</p>	<p>D. K. Mao: Godunov Schemes with Augmented Quantities</p>	<p>O. Davydov, N. M. Tuong, D. T. Oanh: Meshless Finite Difference Method for Elliptic Equations on Complicated 3D Domains</p>	<p>B. Wang, R. W. Longman: Adaptive One-Step Ahead Control of Systems with Unstable Discrete-Time Inverse</p>	<p>H. T. Pham, L. Müller, J. Weber, D. T. Nguyen: Numerical Study of the Pressure Distribution in the Internal Gear Motor/Pump</p>
12:00-12:30	<p>L. Grüne, S. Pirkelmann: Numerical Optimal Control of Time-Varying Dynamical Systems with Applications in Building Operation</p>	<p>J. Sukys, C. Linares, U. Rasthofer, P. Hadjidoukas, F. Wermelinger, S. Mishra, Ch. Schwab, M. Castro, P. Koumoutsakos: Uncertainty Quantification using Parallel Multi-level Monte Carlo: Applications to Shallow Water, Euler, Magnetohydrodynamics, and Multi-phase Cavitation Flows</p>	<p>O. Davydov: Consistency Estimates for Meshless Finite Difference Methods and Selection of Sets of Influence</p>	<p>P. L. Cui, G. Zhang, Q. R. Wang, Z. Y. Liu, S. Li: Harmonic Current Suppression of MSR System Via Odd-Harmonic Fractional Repetitive Control</p>	<p>T. Q. Bui: Numerical Simulation of Failure in Quasi-brittle Materials by a Novel Regularized Damage Model</p>
12:30-13:30	<p>Lunch (served on the 10th floor)</p>				

Tuesday, March 20, 2018

	Session $\alpha 5$ – Room 702 – MS14 Chair: M. Quincampoix	Session $\beta 5$ – Room B4 – MS04 Chair: S. Jin	Session $\gamma 5$ – Room C15 – MS10 Chair: W. Jäger	Session $\delta 5$ – Room C2 – MS07 Chair: P. Cui	Session $\epsilon 5$ – Room 721 – MS05 Chair: V. L. Nguyen
14:00-14:30	O. Bokanowski , A. Désilles, J. Zhao, H. Zidani: High Performance Computing for HJB Equations and Application to Optimal Control	J. Hu , R. Shu, X. Zhang: Asymptotic-preserving and Positivity-preserving Implicit-Explicit Schemes for the Stiff BGK Equation	T. Stiehl : White Blood Cell Dynamics in Health and Disease - Insights from Mathematical Modeling	M. Q. Phan , S. M. B. Azad: Nonlinear Feedback Stabilization of Bilinear Systems by Model Predictive Control and Q-Learning	H. T. Diep , M. Kaufman, S. Kaufman: Social Conflicts: A Statistical Physics Approach
14:30-15:00	O. Bokanowski, A. Désilles, H. Zidani : Trajectory Optimization for State-constrained Control Problems Based on Hamilton-Jacobi Approach	J. Liu, M. Tang, L. Wang , Z. Zhou: Accurate Front Capturing Schemes for Tumor Growth Models Equation with a Free Boundary Limit	L. T. T. An , W. Jäger, M. Neuss-Radu: Modeling and Analysis of Structured Population: Drug Resistance in Malaria	P. Prasitmeeboon , R. W. Longman: Dissecting the Influence of Parasitic Poles on Compensator Design in Repetitive Control	H. A. Le, V.-N. Do : Method of Time Evolution of Quantum States in Real Space for Calculation of Electronic and Optical Properties of Twisted Bilayer Graphene
15:00-15:30	R. Ferretti , O. Junge: An Adaptive Multilevel Radial Basis Function Scheme for the HJB Equation	D. Ray , J. S. Hesthaven: An Artificial Neural Network for Detecting Discontinuities	O. Richter , H. A. Nguyen: Dynamics of Insecticide Resistance in Mosquitoes	D.-H. Tseng , M. Q. Phan, R. W. Longman: Physical Parameter Identification Using Sensors that Combine Different Degrees of Freedom	V. T. N. Huyen , K. Yamauchi, F. Kuroda, M. Suzuki, T. Oguchi: Magnetic Symmetry Analysis and Ab-initio Calculation of Anomalous Hall Conductivity in Co₂TiSn
15:30-16:00	Coffee break (served on the 7 th floor)				
	Session $\alpha 6$ – Room 702 – MS14 Chair: R. Ferretti	Session $\beta 6$ – Room B4 – MS04 Chair: A. Kurganov	Session $\gamma 6$ – Room C15 – MS10 Chair: A. Sequeira	Session $\delta 6$ – Room C2 – MS07 Chair: P. Prasitmeeboon	Session $\epsilon 6$ – Room 721 – MS05 Chair: V.-N. Do
16:00-16:30	V. Basco, P. Cannarsa, H. Frankowska : Necessary Optimality Conditions for Infinite Horizon Control Problems under State Constraints	U. Fjordholm, S. Mishra, E. Tadmor : Computation of Entropy Measure-Valued Solutions	W. Jäger : Mathematical Modelling and Simulation of Inflammation as Immune Response - The Role of Hypoxia	A. Meyer, H. G. Bock, C. Kirches , A. Potschka: Numerical Solution of Optimal Control Problems with Explicit and Implicit Switches	N. T. T. Nguyen , D. D. Linh, N. H. Chau, V. L. Nguyen: Quasi-bound States in Axially Symmetric Graphene Nanostructures
16:30-17:00	S. Pickenhain , V. Lykina: Asymptotic Controllability and Infinite Horizon Optimal Control – A Weighted Sobolev Space Approach	U. Fjordholm, K. Lye , S. Mishra: Computing Statistical Solutions of Hyperbolic Conservation Laws	T. Silva , W. Jäger, M. Neuss-Radu, A. Sequeira: The Influence of Endothelial Dysfunction in Atherosclerosis: Mathematical Modeling and Simulation	C. Jia , R. W. Longman: Adaptive Smooth Second-Order Sliding Mode Repetitive Control Method and Its Application to a Hydraulic System	L. Dang : Supersolid and Superglass: the Role of Localization
17:00-17:30	P. D. Khanh , T. H. Mo, T. T. T. Trinh: Necessary and Sufficient Conditions for Qualitative Properties of Infinite Dimensional Linear Programming	M. Gokiel, N. Kenmochi, M. Niezgodka : New Class of Mathematical Models for Biomass Development and Processing	M. Gahn , M. Neuss-Radu, P. Knabner: Effective Models for Reaction-Diffusion Processes including Membrane Transport and Metabolic Channeling	A. Pimienta-Penalver , J.-N. Juang: A Robust Predictive Control Formulation for Heliogyro Blade Stability	H. T. Diep : Spin Transport in Magnetic Materials: Monte Carlo Simulation

Wednesday, March 21, 2018

<p>Plenary Session P3 – Meeting hall on the 10th floor Chair: R. Jeltsch</p>					
09:00-09:45	<p>E. Tadmor: Emergent Behavior in Self-Organized Dynamics: from Consensus to Hydrodynamic Flocking</p>				
09:45-10:10	<p>Coffee break (served on the 7th floor)</p>				
	<p>Session α7 – Room 702 – MS14 Chair: H. Zidani</p>	<p>Session β7 – Room B4 – MS08 Chair: P. Bastian</p>	<p>Session γ7 – Room C15 – MS02 Chair: U. Ascher</p>	<p>Session δ7 – Room C2 – MS16 Chair: R. Schultz</p>	<p>Session ϵ7 – Room 721 – MS05 Chair: H. T. Diep</p>
10:10-10:40	<p>D. Grass, V. Lykina: Optimal Control Problem of Metronomic Chemotherapy</p>	<p>C. Dawson, C. Michoski, M. Bremer, K. Kazhyken: High Performance Computing and Algorithms for Hurricane Storm Surge Modeling: Current State and Future Outlook</p>	<p>R. Estrin, D. Orban, M. A. Saunders: LSLQ: An Iterative Method for Linear Least-Squares with an Error Minimization Property</p>	<p>J. Burtscheidt, M. Claus: Structure and Stability Results for a Risk Averse Linear Bilevel Problem under Stochastic Uncertainty</p>	<p>B. Davier, J. Larroque, P. Dollfus, J. Saint-Martin: Heat Transport in Silicon Nanowires within Full-band Phonon Monte Carlo Approach</p>
10:40-11:10	<p>S. Pickenhain, K. Kolo: Approach of an Epidemic Model by the Usage of a Dual Based Pseudospectral Method for Infinite Horizon Optimal Control Problems</p>	<p>L. Rannabauer, M. Bader, K. Duru, A.-A. Gabriel: ExaHyPE - An Exascale Hyperpolc PDE Engine: Seismic Wave Propagation in the Alps High Performance Scientific Computing</p>	<p>P. Xu, F. Roosta, M. Mahoney: Efficient Second-Order Optimization Methods for Machine Learning</p>	<p>G. C. Slevogt: Direction Determination of Flows and its Application in Stochastic Network Optimization</p>	<p>J. Bowler, T. T. Nguyen, P. Sacks: Estimation of Electrical Conductivity and Magnetic Permeability of Metals from Surface Voltage Measurements</p>
11:10-11:40	<p>R. F. Hartl, P. M. Kort, A. Seidl: Decisions on Pricing, Capacity Investment, and Introduction Timing of New Product Generations in a Durable-good Monopoly</p>	<p>S. Mütling, P. Bastian, R. Heß, D. Kempf, M. Piatkowski: Efficient Matrix-Free Discontinuous Galerkin Assembly: To Hand-Write Or to Generate?</p>	<p>E. Kostina: Numerical Optimization Methods for Significance Analysis of Parameters in Dynamical Systems</p>	<p>M. Claus, R. Schultz, K. Spürkel: Strong Convexity in Stochastic Programs with Deviation Risk-Measures</p>	<p>N. T. Ngoc, I. Witt: Radiation Conditions for Periodic Potentials</p>
11:40-12:10	<p>H. Maurer: Theory and Application of Time Delayed Optimal Control Problems with State Constraints</p>	<p>R. Heß, D. Kempf, S. Mütling, P. Bastian: Achieving Sustainable SIMD Performance for High Order DG Methods through Code Generation</p>	<p>U. Ascher: Numerical Analysis in Visual Computing: not too little, not too much</p>	<p>R. Schultz: Algebraic Techniques for Stochastic Programming</p>	<p>D. L. Minh: Bayesian Networks: The Edge Addition Method to Convert a Directed Acyclic Graph into a Polytree</p>
12:10-13:00	<p>Lunch (served on the 10th floor)</p>				

Wednesday, March 21, 2018, Afternoon

Excursion

Start from [Ta Quang Bui Library \(Thư viện Tạ Quang Bửu\)](#) at 13:00

Thursday, March 22, 2018

<p>Plenary Session P4 – Meeting hall on the 10th floor Chair: M. Niezgodka</p>					
09:00-09:45	<p>E. Kostina: Optimization-Based Model Validation – a Mathematical Technology of High Economic Impact</p>				
09:45-10:30	<p>M. Anitescu: Scalable Stochastic Programming for Energy Systems</p>				
10:30-11:00	<p>Coffee break (served on the 7th floor)</p>				
	<p>Session α8 – Room 702 – MS14 Chair: H. Maurer</p>	<p>Session β8 – Room B4 – MS08 Chair: S. Müthing</p>	<p>Session γ8 – Room C15 Chair: G. A. Kurina</p>	<p>Session δ8 – Room C2 – MS11 Chair: G. Reinelt</p>	<p>Session ϵ8 – Room 721 Chair: H. V. Ngai</p>
11:00-11:30	<p>W. Alt, C. Y. Kaya, C. Schneider: Dualization and Discretization of Linear-Quadratic Control Problems with Bang-Bang Solutions</p>	<p>C. Klingenberg: The Universe in a Computer: How Mathematical and Numerical Methods Are Essential</p>	<p>D. Dung, Ch. Schwab, J. Zech: High Dimensional Multilevel Smolyak Approximation</p>	<p>R. Burlacu, B. Geißler, A. Morsi, L. Schewe, M. Schmidt: Exact and Heuristic MIP Methods for the Solution of MINLP with Examples from Gas Transport Optimization Problems</p>	<p>H. V. Ngai, N. H. Tron, M. Thera: Directional Hölder Metric Regularity and Applications</p>
11:30-12:00	<p>V. M. Veliov: On Regularity and Discretization of Affine Optimal Control Problems</p>	<p>O. Klein: Orthonormal Residuals for Large-Scale Geostatistical Model Validation</p>	<p>D. T. Pham, D. Dung: Adjusted Sparse Tensor Product Spectral Galerkin Method for Solving Pseudodifferential Equations on the Sphere with Random Input Data</p>	<p>G. Rinaldi: Quadratic Unconstrained Binary Optimization: Solution Techniques and Challenging Instances</p>	<p>D. T. V. An, N. D. Yen: Differential Stability Analysis via Multiplier Sets</p>
12:00-12:30	<p>P. T. Vuong: Gradient-types Methods Revisited in Optimal Control Problems with Bang-Bang Solutions</p>	<p>P. Bastian, C. Kamthorncharoen: Modified RASPEN and Its Application to Discontinuous Galerkin Discretisation for Richards Equation in Porous Media Flow</p>	<p>S. Chuai-Aree, S. Siripant, W. Jäger, H. G. Bock: Fast Algorithm for Hourly Solar Energy Map Approximation Using Satellite Image Processing and Applications</p>	<p>D. Aßmann, F. Liers, M. Stingl, J. Vera: Robust Solution Methods for Challenging Gas Network Operation Problems</p>	<p>N. T. V. Hang, B. S. Mordukhovich, M. E. Sarabi: Second-Order Variational Analysis in Second-Order Cone Programming</p>
12:30-13:30	<p>Lunch (served on the 10th floor)</p>				

Thursday, March 22, 2018

	Session $\alpha 9$ – Room 702 – MS14 Chair: V. M. Veliov	Session $\beta 9$ – Room B4 – MS08 Chair: O. Klein	Session $\gamma 9$ – Room C15 Chair: S. Engell	Session $\delta 9$ – Room C2 – MS11 Chair: E. Kostina	Session $\epsilon 9$ – Room 721 Chair: N. D. Yen
14:00-14:30	A. L. Dontchev : The Radius of Good Behavior	D. Arndt , R. Grove, G. Kanschat: Schwarz Smoothers for Conforming Stabilized Discretizations of the Stokes Equations	A. G. Marchetti, G. François, T. Faulwasser, D. Bonvin : Modifier Adaptation for Real-Time Optimization – Basic Idea and Recent Developments	M. Santis, F. Rendl, A. Wiegele : Improving Alternating Direction Augmented Lagrangian Methods for Solving SDP by a Dual Step	L. C. Hegerhorst : Optimality Conditions for Optimization Problems with Nonsmooth Constraints
14:30-15:00	A. Marigonda, M. Quincampoix : Optimal Control Problem with Probabilistic Uncertainty on Initial Positions and Velocities	A. Reinartz, R. Scheichl, L. Seelinger : GenEO Spectral Coarse Space Robust Preconditioner and Coarse Model	A. Ahmad , W. Gao, S. Engell: Handling Model Inadequacy in Iterative-Real-Time Optimization	C. Buchheim , R. Kuhlmann, C. Meyer: Binary Programming with Semilinear Elliptic PDE-constraints	S. Adly, H. V. Ngai, N. V. Vu : Riemannian Newton and Quasi-Newton Type Schemes
15:00-15:30	P. Albano, P. Cannarsa, T. Scarinci : On the Regularity and the Singular Support of the Minimum Time Function with Hörmander Vector Fields	P. Bastian , D. Kempf, E. H. Müller, S. Müthing, M. Piatkowski: Efficient Implementation of High-order Discontinuous Galerkin Methods	R. Hernandez, S. Engell : A Fast RTO Algorithm for the Optimal Operation of Slow Processes	J. Kallrath , R. Blackburn: Polyolithic Modeling and Solution Approaches for Hard Mixed Integer Optimization Problems Exploiting Multi-Grid Parameter Techniques	H. H. Vui : The Threshold for the Existence of a Global Holderian Error Bound of a Polynomial Function
15:30-16:00	Coffee break (served on the 7 th floor)				
	Session $\alpha 10$ – Room 702 Chair: R. F. Hartl	Session $\beta 10$ – Room B4 Chair: Z. Xiao	Session $\gamma 10$ – Room C15 – MS10 Chair: O. Richter	Session $\delta 10$ – Room C2 Chair: J. Kallrath	Session $\epsilon 10$ – Room 721 Chair: N. H. Tron
16:00-16:30	G. Fabrini , L. Iapichino, S. Volkwein: Greedy Controllability of Reduced-Order Linear & Dynamical Systems	L. Failer , T. Wick: Time Adaptivity for Optimal Control of Nonlinear Fluid-Structure Interaction	F. Jost , E. Schalk, K. Rinke, T. Fischer, S. Sager: Towards Personalised and Mathematically Optimised Chemotherapy in Acute Myeloid Leukemia	S. Knust , S. Waldherr: Synchronous Flow Shop Scheduling Problems	P. K. Anh, T. N. Hai : Splitting Extragradient-like Algorithms for Strongly Pseudomonotone Equilibrium Problems
16:30-17:00	B. Pablos , M. Gerdt: Optimal Control of Re-entry Aircraft Trajectories with Minimum Heating	L. Failer, D. Meidner, K. Singhammer , B. Vexler: Goal-oriented Error Estimation of Stationary Fluid-Structure Interaction with Partitioned Methods	P. Lilienthal , M. Tetschke, S. Sager: Mathematical Modelling and Personalized Simulations of Erythropoiesis in the Context of Polycythemia Vera	X. T. Le , S. Knust: Robust Solutions to Storage Loading Problems under Uncertainty	P. N. Anh : Modified Basic Projection Methods for a Class of Equilibrium Problems
17:00-17:30	A. De Marchi , M. Gerdt: Multiscale Model of the Traffic Flow in a Roundabout with Optimal Velocity Control	Z. Xiao , L. Chen, Y. Shi: Reynolds-constrained Subgrid-scale Modelling for Large-eddy Simulation of Turbulent Wall Flows	H. A. Nguyen , O. Richter: Upscaling Methods for Environmental Research	V. H. Nguyen , P. Wenig: An Efficient Primal-Dual Algorithm for Fair Combinatorial Optimization	T. H. Cuong, J.-C. Yao, N. D. Yen : Qualitative Properties of the Minimum Sum-of-Squares Clustering Problem
17:30-18:00	S. L. Tilahun : Paralle/ Metaheuristic: Towards Balancing Intensification and Diversification		O. Tal : Kelly Gambling, Information Rate Bet Hedging in Evolutionary Models		

Friday, March 23, 2018

	Plenary Session P5 – Meeting hall on the 10th floor Chair: H. G. Bock				
09:00-09:45	J. A. Carrillo : <i>Repulsive-Attractive Models in Collective Behavior and Applications</i>				
09:45-10:30	W. Cook : <i>The Traveling Salesman Problem with Road Distances</i>				
10:30-11:00	Coffee break (served on the 7 th floor)				
	Session α11 – Room 702 – MS09 Chair: P. Maass	Session β11 – Room B4 Chair: L. Failer	Session γ11 – Room C15 Chair: T. K. Dang	Session δ11 – Room C2 – MS15 Chair: A. Schubert	Session ϵ11 – Room 721 Chair: N. T. T. Thuy
11:00-11:30	D. N. Hao , N. T. N. Oanh, P. X. Thanh: <i>Determination of the Initial Condition in Parabolic Equations</i>	N. Arbu , A. Lim, D. McNeil: <i>Forecasting Age-Specific Fertility</i>	M. T. Chung, K. T. Pham , M. T. Nguyen, N. Thoai: <i>SCOUT: Scheduling Core Utilization to Optimize the Performance of Scientific Computing Applications on CPU/Coprocessor-based Cluster</i>	M. Harant , M. Sreenivasa, M. Millard, N. Sarabon, K. Mombaur: <i>Modeling and Optimal Control of Human Lifting Motions</i>	P. M. Duc , L. D. Muu, N. V. Quy: <i>Solution-Existence and Algorithms with Their Convergence Rate for Strongly Pseudomonotone Equilibrium Problems</i>
11:30-12:00	Y. C. Hernandez , T. Boskamp, P. Maass: <i>Targeted NMF for Tumor Classification</i>	M. Mahyeng , S. Chuai-Aree, N. McNeil: <i>Statistical Modeling for Wind Direction and Velocity in Utradhith, Thailand</i>	T. D. Diep, M. T. Nguyen , N.-Y. Nguyen-Huynh, M. T. Chung, M. T. Nguyen, N. Q. Hung, N. Thoai: <i>Chainer-XP: A Flexible Framework of Neural Networks for the Intel® Xeon Phi™ Coprocessor</i>	A. Huber , M. Gerdt: <i>Optimal Control Approaches for Online Control of Vehicles</i>	P. T. Hieu , N. T. T. Thuy, J. J. Strodiot: <i>Explicit Iteration Methods for Solving Variational Inequalities in Banach Spaces</i>
12:00-12:30	H. T. Nguyen , P. Maass, D. N. Hao: <i>On a Mathematical Model of Lithium/Air Batteries</i>	I. Sharma , P. Tongkumchum, A. Ueranantasun: <i>Modeling of NDVI and LST to Identify and Compare the Changing Trends in Nepal by Using GEE</i>	T. Q. Luu , H. V. Luu, T. T. N. Nguyen, H. Q. Bui: <i>Distributed Computing Framework for Ship Detection from Panchromatic VNREDSat-1 Satellite Images</i>	M. Kudruss, P. Manns : <i>Efficient Derivative Evaluation for Rigid-Body Dynamics</i>	L. H. Yen , N. T. T. Huyen, L. D. Muu: <i>A Subgradient Algorithm for a Class of Nonlinear Split Feasibility Problems</i>
12:30-13:30	Lunch (served on the 10 th floor)				

Friday, March 23, 2018

	Session α12 – Room 702 – MS09 Chair: D. N. Hao	Session β12 – Room B4 Chair: S. Chuai-Aree	Session γ12 – Room C15 Chair: T. Akhtar	Session δ12 – Room C2 – MS15 Chair: A. Schubert	Session ϵ12 – Room 721 Chair: P. D. Khanh
14:00-14:30	J. Adler , O. Verdier: What Can We Expect? Computable Upper Bounds to Machine Learning in Inverse Problems Using MCMC	K. O. Pham Le, T. A. Nguyen , T. A. N. Nguyen, B. T. Tran: Numerical Simulation of Dye Removal by Scallop Shell in Fixed Bed Column	A. Phan , M. D. Chuc, B. Q. Hung, N. T. N. Thanh: Coastal Change Detection Using Distributed Computing	S. Lindner , C. Seitz, K. Mombaur: Online Optimal Controlled Mapping for Offline 3D Reconstruction	P. T. Nam , H. Trinh, P. N. Pubudu: Reachable Set Bounding for Some Classes of Perturbed Positive Time-Delay Systems
14:30-15:00	E. Kobler , T. Klatzer, K. Hammernik, T. Pock: Variational Networks: Connecting Variational Methods and Deep Learning	C. Strohm , C. Tischendorf: Coupled Electromagnetic Field & Electric Circuit Simulation: Monolithic vs. Co-Simulation Approach	T. N. Hung , D. V. Trung: Modeling Radiative Transfer in Astrophysics using MPI	M. M. Sauter : Simultaneous Direct Approaches for Inverse Optimal Control Problems	T. Nguyen , A. Siconolfi: Asymptotic Behavior of Singularly Perturbed Control Systems
15:00-15:30	J. Adler, A. R Singh , J. Karlsson: Convex Optimization for Inverse Problems Using Convolutional Neural Networks	S. Ulfah , S. Chuai-Aree, C. Bekoe: 2D Advection-diffusion Model for Simulation and Visualization The Distribution of Air Pollution	T. V. Anh : A Parallel Method for Variational Inequalities with the Multiple-sets Split Feasibility Problem Constraints	A. Schubert , K. Mombaur: Optimal Control Based Analysis of Human Painting Motions	N. K. Son , N. T. Hong: Radius of Approximate Controllability in the Function State Space of Retarded Systems Described by Linear Functional Differential Equations
15:30-16:00	Coffee break (served on the 7 th floor)				
	Session α13 – Room 702 – MS09 Chair: J. Adler	Session β13 – Room B4 Chair: Y. C. Hernandez	Session γ13 – Room C15 Chair: T. D. Tran	Session δ13 – Room C2 Chair: V. H. Linh	Session ϵ13 – Room 721 Chair: V. N. Phat
16:00-16:30	D. Otero , I. Piotrowska-Kurczewski, P. Maass: Inverse Problems in Designing New Materials	R. Saelim , M. Eso, K. Damchoom: Application of Monte Carlo Method on Parameter Estimates for Merton-Jump Diffusion Model: Evidence from the Unrest Situations of the Southern Provinces of Thailand	T. Akhtar , C. A. Shoemaker: Efficient Multi Objective Watershed Model Calibration Using a Synchronous Global Surrogate Algorithm	D. Q. A. , N. T. Huong: Existence Results and Numerical Solution for a Fourth Order Elliptic Equation of Kirchhoff Type	N. T. Thanh , V. N. Phat: Finite-time Stability of Singular Nonlinear Switched Time-Delay Systems: A Singular Value Decomposition Approach
16:30-17:00	S. Lunz , J. Adler, O. Öktem, C. Schönlieb: Learned CT Reconstruction and Segmentation	S. Musikasuwat , S. Chuai-Aree, N. McNeil: The Performance of Non-Stationary Fuzzy Systems on Mackey-Glass Time-Series Prediction	N. T. Dung , N. L. Son, H. A. Tuan, G. Yin: A Numerical Scheme for Solutions of Hybrid Systems	T. Streubel , C. Tischendorf, A. Griewank: High Order Taylor-like Expansions of Piecewise Smooth Functions and Their Application to DAEs	N. T. Qui , D. Wachsmuth: Full Stability for a Class of Control Problems of Semilinear Elliptic Partial Differential Equations
17:00-17:30	S. R. Panic , H. Milosevic, B. Princević, V. Petrović, O. Taseiko: Performance Analysis of FSO Transmission of Halftoned Image over Double Ricean Turbulence Channel	B. C. Cuong , L. H. Son, P. H. Thong: Picture Fuzzy Rough Soft Sets – A New Concept for Soft Computing Problems	T. D. Tran : A Long Time Behavior of the Wright-Fisher Model with Recombination	V. H. Linh , N. D. Truong: Efficient Half-explicit Methods for a Class of Structured Delay Differential-Algebraic Equations	T. H. Cuong , J.-C. Yao, N. D. Yen: On Some Incremental Algorithms for the Minimum Sum-of-Squares Clustering Problem