

6th International Conference on High Performance Scientific Computing
March 16-20, 2015 – Hanoi, Vietnam

SCIENTIFIC PROGRAM

Monday, March 16, 2015					
08:30-09:15	Registration in the 10th floor of Ta Quang Buu Library				
09:15-09:40	Opening – Meeting hall in the 10th floor of Ta Quang Buu Library				
09:45-10:30	Plenary Session P1 – Meeting hall in the 10th floor of Ta Quang Buu Library Chair: H. G. Bock P. Bastian : <i>High-Performance Computing for Flow in Porous Media</i>				
10:30-11:00	Coffee break (served in the 7 th floor)				
	Session α1 – Room 702 – M04 Chair: V. Mehrmann	Session β1 – Room B4 – M15 Chair: S. Engell	Session γ1 – Room C15 Chair: F. Tröltzsch	Session δ1 – Room C2 Chair: Willi Jäger	Session ϵ1 – Room 721 Chair: N. T. Hung
11:00-11:30	E. B. Weinmüller : <i>Collocation - a Powerful Tool for Solving Singular ODEs and DAEs</i>	E. Kostina, H. Stibbe : <i>Robust Optimal Feedback for Optimal Control Problems under Uncertainties</i>	A. E. Kovtanyuk , A. Yu. Chebotarev, N. D. Botkin, K.-H. Hoffmann: <i>Optimal Control Problem for Complex Heat Transfer Model</i>	S. Chuai-Aree , S. Siripant, W. Jäger, H. G. Bock: <i>Fast Algorithm for Cloud Segmentation and Cloud Classification from Satellite Images and Applications</i>	C. H. Pham, T. T. Nguyen, V. L. Nguyen : <i>Electronic Band Structure of Bilayer Graphene Superlattices</i>
11:30-12:00	M. V. Bulatov , L. Solovarova: <i>Collocation-variation Approach to Numerical Solution of Differential-algebraic Equations</i>	J. L. Pitarch, C. G. Palacin, A. Merino, C. Prada : <i>Optimal Operation of an Evaporation Process</i>	A. Yu. Chebotarev , A. E. Kovtanyuk: <i>Analysis of the Problem of Natural Convection with Radiative Heat Transfer</i>	R. Buesa , S. Siripant, K. Plaimas, S. Chuai-Aree, A. Phon-On: <i>Cloud Movement and Storm Direction Analysis Using Optical Flow Method</i>	N. V. Duc, N. T. Toan : <i>DNA Looping in the Presence of Divalent Counterions, a Simulation Study using a Coarse-grained Model of DNA</i>
12:00-12:30	C. Huck, C. Tischendorf : <i>Modeling and Simulation of Network DAEs with a Switching Control Function</i>	F. Lenders , C. Kirches, H. G. Bock: <i>Sequential Linear Equality Constrained Programming Methods and Applications in Nonlinear Model Predictive Control</i>	A. E. Kovtanyuk, I. V. Prokhorov : <i>An Optical Imaging Problem of Layered Biological Tissues</i>	P. Yonthanthum , W. Jäger, H. G. Bock: <i>Mathematical Modeling and Simulation of Plant Leaf Cell Photosynthesis</i>	H. T. L. Nguyen , K. C. T. Nguyen, V. H. Nguyen, L. H. Le: <i>Generation of Oblique Ultrasonic Excitations in Bone: A Numerical Study</i>
12:30-13:30	Lunch (served in the 10 th floor)				

Monday, March 16, 2015

	Session $\alpha 2$ – Room 702 – M06 Chair: P. Bastian	Session $\beta 2$ – Room B4 – M15 Chair: C. Prada	Session $\gamma 2$ – Room C15 Chair: A. Yu. Chebotarev	Session $\delta 2$ – Room C2 Chair: R. Schultz	Session $\epsilon 2$ – Room 721 Chair: V. L. Nguyen
14:00-14:30	J. Mikyska : <i>Is Darcys Law Applicable for Modeling of Multicomponent Mixtures in Porous Media when Diffusion Is Not Neglected?</i>	S. Subramanian , S. Lucia , S. Engell : <i>Economic Multi-stage Output Feedback Nonlinear Model Predictive Control Based on the Innovations Sampling Using Unscented Kalman Filter</i>	K. Manickam , P. Prakash : <i>Finite Element Approximations for</i> <div style="border: 1px solid black; padding: 5px; text-align: center; color: red;">The talk was neither cancelled nor presented.</div>	J. Klein , C. Schlechtriem , R. Schultz : <i>Computation of Maximal Dietary Burden for Fish Metabolism</i>	N. T. Hung , H. L. Nguyen : <i>Reasonable Distance between the Groynes on the Concave Bank</i>
14:30-15:00	P. Hron , P. Bastian : <i>Operator Splitting Methods in Modelling of Multiphase Multicomponent Reactive Flow in Porous Media</i>	A. Buchner , A. Potschka : <i>Towards Real-time Optimization for PDEs</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>	D. M. Nguyen , F. Dambreville , A. Toumi , J. C. Cexus , A. Khenchaf : <i>A Column Generation Approach for Coordination and Control of Multiple UAVs</i>	N. T. Long , V. C. Hoa , T. T. Thien , T. Q. Phong , N. L. Dung : <i>Mechanical Computations on Metal Matrix Composite Material</i>
15:00-15:30	C. Bringedal , I. Berre , F. A. Radu , I. S. Pop : <i>Pore Scale Models for Non-Isothermal Mineral Precipitation and Dissolution</i>	J. Gutekunst , A. Potschka : <i>Leaping Horizons Model Predictive Control for Periodic and Switched Processes</i>	M. Hladik : <i>The Effect of Hessian Evaluations in the Global Optimization αBB Method</i>	C. Khim , W. Jäger , H. G. Bock : <i>Image Analysis of Khmer Inscriptions</i>	T. T. Tran , W. R. Hwang : <i>Extensional Stress Investigation of Bubble Bursting for Design and Optimization a Bioreactor for Animal Cell Culture</i>
15:30-16:00	Coffee break (served in the 7 th floor)				
	Session $\alpha 3$ – Room 702 – M06 Chair: J. Mikyska	Session $\beta 3$ – Room B4 Chair: A. Trykozko	Session $\gamma 3$ – Room C15 Chair: N. Q. Thuan	Session $\delta 3$ – Room C2 Chair: M. Théra	Session $\epsilon 3$ – Room 721 Chair: D. Q. A
16:00-16:30	T. Migot , J. Erhel : <i>About Some Numerical Models for Geochemistry</i>	M. Niezgodka : <i>High-performance Data Analytics and Computing in Personalized Medicine: Some Challenges for Modellers and Mathematicians</i>	P. T. An , N. N. Hai , T. V. Hoai , L. H. Trang : <i>Multiple Shooting Approach for Computing Geometric Shortest Paths on Polytopes</i>	V.-T. Than , D. Hernandez , J.-H. Huang : <i>A Simple Analytical Model for Predicting Frequency Response Function of a Spindle</i>	D. L. Minh : <i>Regenerative Gibbs Samplings for Bayesian Networks</i>
16:30-17:00	M. Wlotzka , V. Heuveline : <i>Parallel Multi-physics Simulations using OpenPALM with Application to Hydro- biogeo-chemistry Coupling</i>	J. Kratzke , V. Heuveline : <i>Enhancing Imaging in Medical Engineering using HPC: Application to an Aortic Phantom</i>	T. D. Quynh , P. N. B. Thang , N. Q. Thuan : <i>Optimization of Traffic Signals In Networks Considering Rerouting</i>	T.-T. Ngo , J.-H. Huang , C.-C. Wang : <i>Hybrid Spline Difference Method for Heat Transfer in Ultrasonic Welding</i>	A. Maududie , W. C. Wibowo : <i>The Enhancement of Rebuilding Centroid in K-Means Algorithm through Minimum Graph Forest</i>

Tuesday, March 17, 2015

	Plenary Session P2 – Meeting hall in the 10th floor Chair: M. Niezgodka				
09:00-09:45	B. Engquist : Wasserstein Metric and Seismic Exploration				
09:45-10:30	M. Labbé : Bilevel Programming and Price Optimization Problems				
10:30-11:00	Coffee break (served in the 7 th floor)				
	Session α4 – Room 702 – M04 Chair: R. März	Session β4 – Room B4 – M03 Chair: K. Mombaur	Session γ4 – Room C15 – M05 Chair: C. Kirches	Session δ4 – Room C2 Chair: S. Chuai-Aree	Session ε4 – Room 721 Chair: N. D. Yen
11:00-11:30	V. H. Linh , N. D. Truong: Some Efficient Schemes for Numerical Integration of Strangeness-free Differential-algebraic Equations	M. Engelhart , N. Said, D. Holt, C. Kirches, S. Koerkel: Mathematical Formalization and Parameter Estimation for Cognitive Models with Instance-based Learning	E. Guerrero , T. Hehn, C. Kirches: Modeling and Simulation of a Heat Recovery Cycle for Heavy Duty Trucks	A. Trykozko , B. Luczak-Wilamowska: Computational Modeling of Flows at Pore Scale with Application to Study Properties of Landfills Isolations	P. K. Anh , D. V. Hieu: Parallel Hybrid Methods for Variational Inequalities, Equilibrium Problems and Common Fixed Point Problems
11:30-12:00	N. T. Hoai , G. A. Kurina: Asymptotic Solution of Singularly Perturbed Optimal Problem in the case of Intersection of Solutions of Degenerate Problem	N. Schoch , S. Engelhardt, N. Zimmermann, S. Speidel, R. De Simone, I. Wolf, V. Heuveline: Cognition-guided Surgery or How to Integrate Surgical Expert Knowledge into an HPC-based FEM Surgery Simulation?	J. Thiedau, M. C. Steinbach : Minimum Cost Gas Transport with Renewable Electric Energy	N. Q. Vinh , N. D. Anh: Simulating Calculation of the Firefighting Water Flow by using the ANSYS Software	R. Burachik, J. E. Martinez-Legaz, M. Rezaei, M. Théra : Enlargements and Autoconjugate Representations of Maximally Monotone Operators
12:00-12:30	D. E. Schwarz, R. Lamour : Discovery of Singular Points in DAE Models	A. Schubert , K. Mombaur: Analyzing Dynamic Motions in Artistic Contexts	C. Kirches , F. Ding, C. Xiang, R. Longman: Numerical Methods for NMPC Based Operation of Hybrid Electric Vehicles	L. Berenguer, D. Tromeur-Dervout : Numerical and Parallel Efficiency of Sparse-Aitken Schwarz Solver for Large-scale Groundwater Flow Problems	L. D. Muu : On the Tikhonov and Proximal Point Regularization Methods for Pseudomonotone Equilibrium Problems
12:30-13:30	Lunch (served in the 10 th floor)				

Tuesday, March 17, 2015

	Session $\alpha 5$ – Room 702 – M04 Chair: C. Tischendorf	Session $\beta 5$ – Room B4 – M14 Chair: F. Vicario	Session $\gamma 5$ – Room C15 – M09 Chair: S. Pickenhain	Session $\delta 5$ – Room C2 Chair: N. Thoai	Session $\epsilon 5$ – Room 721 Chair: P. K. Anh
14:00-14:30	V. Mehrmann, D. D. Thuan : Stability Analysis of Implicit Difference Equations under Restricted Perturbations	H. G. Bock, A. Cadi, R. W. Longman, J. P. Schlöder : Energy Conservation in Subway Operation by Optimal Scheduling	J. Blot : Necessary Conditions of Optimality for Infinite-horizon Problems	C. Itoh, S. Fujino : Parallelism of IDR(s) Method based on an Extended Secant Method by Means of Cache-Cache [ka] ka] Balance	L. Marek , M. Vrabec : Confidence Interval for Relative Frequency - Sampling with Replacement
14:30-15:00	V. N. Phat , N. H. Muoi, M. V. Bulatov: Finite-time Stability and Control of Linear DAEs with Delays	E. Kostina, G. Kriwet : Multilevel Iterations for Optimal Feedback Control of Partial Differential Equations	S. Pickenhain , A. Burtchen: An Indirect Pseudospectral Method for the Solution of Infinite Horizon Optimal Control Problems	K. Iwasato , S. Fujino , K. Murakami : A Strategy for Reduction of Number of Synchronization Points of Parallel Krylov Subspace Methods	D. M. Dang : A Novel Monte-Carlo Method for Pricing Options under the Heston-Hull-White Jump Diffusion Model
15:00-15:30	R. März : Differential-Algebraic Operators with Normally Solvable Linearizations and Optimization with DAEs	J. S. Chen, J. N. Juang, L. W. Tsai : Dynamics of a Spinning Structure Subjected to a Uniform Pressure	N. Tauchnitz : Pontryagins Maximum Principle for Infinite Horizon Optimal Control Problems with State Constraints	T. D. Nguyen , S. J. Plimpton: Implementing Dissipative Particle Dynamics for Hybrid Supercomputers	K. K. Thampi : Asymptotics of Randomly Weighted Sums of Dependent Heavy Tailed Random Variables with Regular Variation
15:30-16:00	Coffee break (served in the 7 th floor)				
	Session $\alpha 6$ – Room 702 – M04 Chair: V. H. Linh	Session $\beta 6$ – Room B4 Chair: O. Richter	Session $\gamma 6$ – Room C15 – M09 Chair: J. Blot	Session $\delta 6$ – Room C2 Chair: S. Fujino	Session $\epsilon 6$ – Room 721 Chair: K. K. Thampi
16:00-16:30	G. A. Kurina : Decomposition of Discrete Linear-Quadratic Optimal Control Problems for Two-Step Descriptor Systems	R. Paulen , S. Engell: Design of Guaranteed Extended Kalman Filter Using Set Inversion Techniques	M. Strehler : Combining Optimal Control and Combinatorial Optimization Approaches for Energy-efficient Routing of Hybrid Vehicles	N. L. Huynh, N. M. Ho, N. Thoai : Scientific HPC Applications in Cloud Computing Environment: A Trend of Containerization	F. Mollaamin : Computing a Potential Bio-fuel Cell of BNNT-FAD Complex by Modeling Methods
16:30-17:00	P. Kunkel , V. Mehrmann: Optimal Control for DAEs, Formal Adjoints and Formal Optimality Conditions	L. H. Chuong , H. G. Bock, J. P. Schlöder: Structure of Optimal Samples in Continuous Nonlinear Experimental Design for Parameter Estimation	A. Burtchen , S. Pickenhain : Optimal Energy Control of Hybrid Vehicles	J. Jablonsky : Solving large-scale DEA Models using Modelling Languages	M. Monajjemi : A Nano-motor Simulation of BnNn (Rotor) and BN(-,0,+) B (stator) Applying for Detecting Biological Molecules in IR Regions

Wednesday, March 18, 2015

	Plenary Session P3 – Meeting hall in the 10th floor Chair: R. Longman				
09:00-09:45	P. Maaß : Parameter Identification and Sparsity Constraints with Applications in Imaging				
09:45-10:10	Coffee break (served in the 7 th floor)				
	Session α7 – Room 702 – M13 Chair: A. Rösch	Session β7 – Room B4 – M02 Chair: U. Ascher	Session γ7 – Room C15 – M07 Chair: C. Stangl	Session δ7 – Room C2 Chair: M. C. Delfour	Session ϵ7 – Room 721 Chair: M. V. Bulatov
10:10-10:40	M. Mateos, I. Neitzel : A Priori Finite Element Discretization Error Estimates for Dirichlet Optimal Control Problems with Control and State Constraints	K. Hatz, J. P. Schlöder, H. G. Bock : Efficient Numerical Methods for Solving Inverse Optimal Control Problems and Recent Computational Results for Modeling Human Locomotion	B. Hiller, R. Schwarz, C. Stangl : Building Nominations for Real-Life Gas Transportation Networks	C. Carstensen : Rate Optimality of Adaptive Algorithms	D. Q. A, T. H. Hai , V. V. Quang: Computational Techniques for Fourth Order Semilinear Elliptic Boundary Value Problems
10:40-11:10	Th. Apel, M. Mateos, J. Pfefferer , A. Rösch : Finite Element Error Estimates for Dirichlet Control Problems in Convex and Non-convex Domains	M. Nattermann, E. Kostina : Numerical Methods of Optimum Experimental Design Based on a Second-Order Analysis of Parameter Estimates	B. Hiller, R. Schwarz , C. Stangl : Bilevel Optimization Models for Flow Commitment Contracts in Gas Transmission Planning	D. T. Oanh , H. X. Phu: A New Stencil Selection Algorithm for RBF-FD Methods to Solve Poisson Equation	A. Husain , A. Khan : Preconditioners for Spectral Element Methods for Fourth Order Elliptic Problems
11:10-11:40	B. T. Kien, V. H. Nhu , A. Rösch : Lower Semicontinuity of the Solution Map to a Parametric Elliptic Optimal Control Problem with Mixed Pointwise Constraints	U. Ascher , F. Roosta-Khorasani : Algorithms that Satisfy a Stopping Criterion, Probably	R. Gollmer , R. Schultz , C. Stangl : An Approach to Nomination Validation in Gas Networks	A. Steinbrecher : QUALIDAES - A Software Package for the Numerical Integration of Quasi-Linear DAEs	P. T. Cuong , J. A. Teixeira de Freitas , R. Faria : Modelling of Heat and Moisture Transport in Concrete since Its Early Ages Using Hybrid Finite Elements
11:40-12:10	U. Aßmann , A. Roesch : Regularization in Sobolev Spaces with Fractional Order	F. Roosta-Khorasani , G. J. Szekely, U. Ascher : Assessing Stochastic Algorithms for Large Scale Nonlinear Least Squares Problems	R. Henrion, R. Schultz : Nomination Validation in Gas Networks under Uncertainty	A. Hay , D. Pelletier , A. Garon : Computationally Efficient Time-integration of the Navier-Stokes Equations by Automatic Stepsize and Order Selection	M. V. Bulatov, P. M. Lima , D. T. Thanh: Numerical Solution of the Density Profile Equation Using an Integral Method
12:10-13:00	Lunch (served in the 10 th floor)				

Wednesday, March 18, 2015, Afternoon

Excursion to [Do Temple](#) and [Phat Tich Pagoda](#)

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

Thursday, March 19, 2015

<p>Plenary Session P4 – Meeting hall in the 10th floor Chair: R. Jeltsch</p>					
09:00-09:45	<p>M. J. Gander: Five Decades of Time Parallel Time Integration</p>				
09:45-10:30	<p>C. Schütte: Optimal Control of Complex Molecular Processes: A Mathematical Challenge</p>				
10:30-11:00	<p>Coffee break (served in the 7th floor)</p>				
	<p>Session α8 – Room 702 – M13 Chair: I. Neitzel</p>	<p>Session β8 – Room B4 – M14 Chair: M. Q. Phan</p>	<p>Session γ8 – Room C15 – M16 Chair: R. Schultz</p>	<p>Session δ8 – Room C2 Chair: C. Carstensen</p>	<p>Session ϵ8 – Room 721 Chair: N. T. T. Thuy</p>
11:00-11:30	<p>T. Wick, W. Wollner: Differentiability of Fluid-Structure Interaction Problems with Respect to the Data</p>	<p>F. Ding, C. Xiang, R. Longman: A Model-Predictive-Control-Based Power Management Strategy for a Powersplit Hybrid Electric Vehicle</p>	<p>M. Claus, V. Kraetschmer, R. Schultz: Psi-Weak Continuity of Stochastic Functionals</p>	<p>M. C. Delfour, A. Garon: Three-dimensional Models of Paclitaxel Release from Biodegradable Polymer Films in the Wall/lumen System of Blood Vessels</p>	<p>J. L. Gracia, N. Madden, T. A. Nhan: Applying a Patched Mesh Method to Efficiently Solve a Singularly Perturbed Reaction-diffusion Problem</p>
11:30-12:00	<p>B. T. Kien, A. Rösch, D. Wachsmuth: Necessary Optimality Conditions for Optimal Control Problem Governed by 3-Dimensional Navier-Stokes Equations with Pointwise Constraints</p>	<p>K. H. Koch, K. Mombaur: Optimizing Design and Control of Lower Limb Exoskeletons for Paraplegic Patients</p>	<p>R. Schultz, T. Wollenberg: Risk Averse Decision Making for Unit Commitment Under Uncertainty in ACGrids via Stochastic Semidefinite Programming</p>	<p>N. H. N. Minh, L. M. Duc, C. Baril, V. Gascon, D. B. Tien: Heuristics to Solve Appointment Scheduling Problems</p> <div style="border: 1px solid black; padding: 5px; text-align: center; color: red;"> The talk was neither cancelled nor presented. </div>	<p>H. H. Nguyen: Ruin Probabilities for Risk Models with Constant Interest</p> <div style="border: 1px solid black; padding: 5px; text-align: center; color: red;"> The talk was cancelled in March 18, 2015. </div>
12:00-12:30	<p>A. Fleig, L. Gruene, R. Guglielmi: Model Predictive Control for Probability Density Functions</p>	<p>R. Longman: Optimizing Design Choices in Repetitive Control Systems for Convergence Robustness</p>	<p>N. Wollenberg, M. Gendreau, W. Rei, R. Schultz: Reverse Logistics under Uncertainty</p>	<p>I. P. Yarovenko: The Method for Detection the Surface of Activity Discontinues in Positron Emission Tomography</p>	<p>Y. Cho, J.-K. Kim, J. Ryu, M. Lee, J. Cha, C. Song, D.-S. Kim: Molecular Geometry Operating System via Bull! Library</p>
12:30-13:30	<p>Lunch (served in the 10th floor)</p>				

Thursday, March 19, 2015

	Session α9 – Room 702 – M13 Chair: W. Wollner	Session β9 – Room B4 – M14 Chair: R. Longman	Session γ9 – Room C15 – M08 Chair: N.-D. Hoang	Session δ9 – Room C2 – M10 Chair: M. J. Gander	Session ϵ9 – Room 721 – M12 Chair: T. Richter
14:00-14:30	G. A. Müller , A. Schiela: Optimal Control of Dynamic Contact and Application to Knee Joint Prostheses	F. Vicario, A. Albanese, D. Wang, N. Karamolegkos, N. W. Chbat : Simultaneous Parameter and Input Estimation of a Respiratory Mechanics Model	X. Liu : Optimization Based Approaches for Partial Eigenvalue Decomposition	M. J. Gander, L. Halpern , V. Martin: A new Algorithm Based on Factorization for Heterogeneous Domain Decomposition	S. Frei , T. Richter: Recent Advances in the Fully Eulerian Approach for Fluid-structure Interaction Problems
14:30-15:00	H. Feldhordt , A. Rösch, M. Winkler: Optimal Control of a Chemotaxis System	F. Vicario , M. Q. Phan, R. W. Longman, R. Betti: Generalized Framework of OKID for Linear State-Space Model Identification	H. D. Mittelmann , D. Salvagnin: On Solving a Hard Quadratic 3-Dimensional Assignment Problem	F. Kwok : Schwarz Methods for the Time-Parallel Solution of Parabolic Control Problems	I. Pantle , C. Falquez Medina, B. Pritz: Coupled Unsteady Fluid-Dynamics and Aero-Acoustics Simulations of a Realistic Car Mirror - A Comparison of Cloud and High Performance Computing
15:00-15:30	E. Casas, C. Ryll, F. Tröltzsch : Optimal Control of Traveling Waves	F. Vicario, M. Q. Phan , R. W. Longman, R. Betti: An All-Interaction-Matrix Approach to Linear and Bilinear System Identification	T. Koch , the SCIP Team: The SCIP Optimization Suite - Past, Present, and Future	D. Q. A. , T. D. Hung: On a Parallel Method for Solving some Boundary Value Problems in a Semistrip	T. Richter, T. Wick : A Partition-of-unity Based Variational Localization of the DWR Estimator with Application to Nonlinear Fluids and Solids
15:30-16:00					
	Session α10 – Room 702 – M12 Chair: T. Wick	Session β10 – Room B4 Chair: E. Kostina	Session γ10 – Room C15 Chair: T. Koch	Session δ10 – Room C2 – M10 Chair: L. Halpern	
16:00-16:30	J. Hron, J. Kratochvil, M. Kruzik, J. Malek, P. Minakowski : A New Eulerian Approach to Crystal Plasticity	O. Klein , P. Bastian, O. Ippisch: High-resolution Geostatistical Inversion of the Transient Richards Equation	M. Blanco, R. Borndorfer, N.-D. Hoang , T. Schlechte: The ATS Route Planning Problem for Airplanes	S. Labbé : Domain decomposition for micromagnetism: how to manage non-local contribution?	
16:30-17:00	T. Richter : A Geometric Multigrid Solver for Fluid-Structure Interactions	T. S. Chingtham : Motion Planning for an Autonomous Mobile Robot using Cell Decomposition Architecture	N. C. Nam, T. A. Son, P. T. Hoai : A New Branch and Bound Algorithm for Solving the Maximum Edge-Weighted Clique Problem	M. B. Tran : Nonlinear Approximation Theory for the Homogeneous Boltzmann Equation	

Friday, March 20, 2015

<p>Plenary Session P5 – Meeting hall in the 10th floor Chair: Willi Jäger</p>					
09:00-09:45	<p>E. Fernandez: Location Routing on Trees</p>				
09:45-10:30	<p>H. Holden: Operator Splitting and Convergent Schemes for the KdV and Benjamin-Ono Equations</p>				
10:30-11:00	<p>Coffee break (served in the 7th floor)</p>				
	<p>Session α11 – Room 702 Chair: D. L. Minh</p>	<p>Session β11 – Room B4 – M11 Chair: D. Clever</p>	<p>Session γ11 – Room C15 – M01 Chair: G. Reinelt</p>	<p>Session δ11 – Room C2 Chair: L. D. Muu</p>	<p>Session ϵ11 – Room 721 Chair: N. X. Tan</p>
11:00-11:30	<p>C. Chunhawiksit, S. Rujivan: Pricing Discretely-Sampled Variance Swaps on Commodities</p>	<p>K. Mombaur: Improving Humanoid Walking Motions by Model-based Optimization</p>	<p>E. Benavent, M. Landete, G. Tirado, J. J. Salazar: The Probabilistic Pickup and Delivery Problem</p>	<p>N. Buong, N. D. Nguyen, N. T. T. Thuy: Finite-dimensional Regularization Newton-Kantorovich Iterative Method for Non-linear Ill-posed Accretive Operator Equation and Application</p>	<p>T. N. Thang, N. T. B. Kim, B. V. Chung: Outcome Space Algorithm for Generalized Multiplicative Problem and Optimization over the Efficient Set</p>
11:30-12:00	<p>N. T. Son, T. Stykel: Parametric Model Order Reduction via Interpolation of Gramians</p>	<p>M. Kudruss, C. Kirches, K. Mombaur: Nonlinear Model Predictive Control for Walking Control on Humanoid Robots</p>	<p>T. Avila, A. Corberán, I. Plana, J. M. Sanchis: On the Stacker Crane Problem and the Directed General Routing Problem</p>	<p>N. T. T. Thuy: Regularization Methods for Accretive Variational Inequality</p>	<p>M. Cerny, M. Rada: On Maximization of a PSD Quadratic Form of Low Rank over a Box by Incremental Enumeration of Vertices of a Zonotope and Polynomial-time Approximations of the Objective Value</p>
12:00-12:30	<p>H. B. Minh, C. B. Minh: Balanced Truncation Method for Unstable Linear-time-invariant Systems</p>	<p>B. Chretien, A. Escande, A. Kheddar: GPU-based Robot Dynamics Simulator for Semi-Infinite Nonlinear Optimization</p>	<p>N. T. Nam, G. Reinelt: Travel Time Estimation for Mixed Traffic Systems Dominated by Motorcycles</p>	<p>N. T. T. Thuy, P. T. Hieu: Regularization Methods for Nonexpansive Semigroups on Hilbert Spaces</p>	<p>B. C. Cuong, L. H. Son, P. H. Phong, R. T. Ngan, N. X. Thao: Some Operators on Interval-Valued Picture Fuzzy Sets and a Picture Clustering Algorithm on Picture Fuzzy Sets</p>
12:30-13:30	<p>Lunch (served in the 10th floor)</p>				

Friday, March 20, 2015

	Session α12 – Room 702 Chair: J. P. Schlöder	Session β12 – Room B4 – M11 Chair: K. Mombaur	Session γ12 – Room C15 – M01 Chair: G. Reinelt	Session δ12 – Room C2 Chair: N. Buong
14:00-14:30	W. Jäger: <i>Mathematical Modelling and Simulation of Flow and Transport through Membranes with Micro- and Nano-Channels</i>	D. Clever, K. Mombaur: <i>On the Relevance of Common Humanoid Gait Generation Strategies in Human Locomotion - An Inverse Optimal Control Approach</i>	E. Fernandez, D. Fontana, G. Speranza: <i>On the Collaboration Uncapacitated Arc Routing Problem</i>	C. J. V. Jamosin, F. G. David: <i>European Option Pricing Method for Stocks with Stochastic Volatility and Interest Rate</i>
14:30-15:00	O. Polivka, J. Mikyska: <i>Numerical Simulation of Compositional Two-Phase Flow in Porous Media with Applications in CO2 Sequestration</i>	R. M. Schemschat, D. Clever, K. Mombaur: <i>Analysis of Human Push Recovery Based on Mathematical Models</i>	S. Wiesberg, G. Reinelt: <i>Classification of Trading Networks with Nonlinear Integer Models</i>	D. N. Hai, N. T. Thang, N. Q. Thai, L. V. P. Thao, T. T. Phuong, L. M. Thanh, N. T. Tuan: <i>Numerical Simulation and Experimental Measurement of Supercavitating Flow around a Highspeed Moving Object in Water</i>
15:00-15:30	N. H. Anh, O. Richter, N. V. Phuoc: <i>Multiphysics Modeling of Pollutant Uptake by Mangroves</i>	K.-L. Ho Hoang, K. D. Mombaur: <i>Optimal Design of a Sit-to-Stand Assistance Device using Optimal Control</i>	T. T. T. Huong: <i>The Duality of Critical and Super-stable Configurations of Chip Firing Games on Directed Graphs</i>	L. T. Hieu: <i>Numerically Computing Low-Rank Decompositions of Sums of Squares of Rational Functions via a Matrix Rank Minimization Problem</i>
15:30-16:00	Coffee break (served in the 7 th floor)			
	Session α13 – Room 702 Chair: D. Tromeur-Dervout	Session β13 – Room B4 Chair: B. T. Kien	Session γ13 – Room C15 Chair: E. Fernandez	Session δ13 – Room C2 Chair: V. N. Phat
16:00-16:30	A. Busaman, K. Mekchay, S. Siripant, S. Chuai-Aree: <i>Dynamically Adaptive Tree Grids Modeling of Flood Inundation Based on Shallow Water Equation</i>	C. N. Khai, N. X. Hung: <i>Application of Numerical</i> <div style="border: 1px solid black; padding: 5px; text-align: center; color: red;">The talk was neither cancelled nor presented.</div>	R. A. Concepcion, M. C. Neri: <i>Simultaneous Image inpainting and Denoising with Interior Point Method on an L1 TV Model</i>	D. T. Anh, N. N. Doanh: <i>Effect of Refuge and Density Independent Migration on the Dynamics of Predator-prey System</i>
16:30-17:00	M. D. Thanh: <i>Building and</i> <div style="border: 1px solid black; padding: 5px; text-align: center; color: red;">The talk was cancelled in March 13, 2015.</div>		N. Q. Thuan, P. N. B. Thang, N. V. Thu: <i>Scheduling and Optimizing the Headway of Bus Rapid Transit</i>	N. H. Long, P. T. Tuyen: <i>Strong Approximation for Highly Nonlinear Stochastic Functional Differential Equations with Distributed Delays</i>