REC 2008

PROGRAM OF EVENTS
FEBRUARY 20-22, 2008

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EVENT COORDINATION
Center for Reliable Engineering Computing
Georgia Tech Savannah

3RD INTERNATIONAL WORKSHOP ON RELIABLE ENGINEERING COMPUTING
NSF WORKSHOP ON IMPRECISE PROBABILITY IN ENGINEERING ANALYSIS & DESIGN

TUESDAY, FEBRUARY 19, 2008

7:00 - 9:00 PM   **Welcome Reception**
Habersham Room, Hampton Inn

WEDNESDAY, FEBRUARY 20, 2008 | PARB 126*

8:00 - 8:30   **Opening Remarks**

Session I   Session Chair: Robert Mullen

8:30 - 9:10   Martin Fuchs and Arnold Neumaier
Uncertainty Modeling with Clouds in Autonomous Robust Design Optimization

9:10 - 9:50   Scott Ferson, William L. Oberkampf and Lev Ginzburg
Validation of Imprecise Probability Models

9:50 -10:30   Yan Wang
Imprecise Probabilities with a Generalized Interval Form

10:30 - 11:00   **Break**

Session II   Session Chair: Mark A. Stadtherr

11:00 -11:40   Daniel Berleant, et al
Portfolio Management Under Epistemic Uncertainty Using Stochastic Dominance and Information-Gap Theory

11:40 -12:20   Iwona Skalna
On Using Global Optimization Method for Approximating Interval Hull Solution of Parametric Linear Systems

12:20 - 1:30   **Lunch**

Session II   continued

1:30 - 2:10   Joshua A. Enszer, Youdong Lin, Scott Ferson, George F. Corliss, and Mark A. Stadtherr
Propagating Uncertainties in Modeling Nonlinear Dynamic Systems

2:10 - 2:50   J. M. Aughenbaugh and J. W. Herrmann
A Comparison of Information Management using Imprecise Probabilities and Precise Bayesian Updating of Reliability Estimates Sample

2:50 - 3:20   **Break**

Session III   Session Chair: Scott Ferson

3:20 - 4:00   Ingo Neumann and Hansjörg Kutterer
The Probability of Type I and Type II Errors in Imprecise Hypothesis Testing

4:00 - 4:40   Wolfgang Graf, Bernd Möller, and Matthias Bartzsch
Uncertain Processes and Numerical Monitoring of Structures

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* Transportation has been arranged to and from the Savannah campus of Georgia Tech for all workshop participants. Trolleys will begin boarding each morning at 7:15 AM at the entrance to the Hampton Inn, and will return to the hotel at the conclusion of each workshop day. An additional shuttle will be available immediately after lunch for anyone who wishes to return to the hotel.

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THURSDAY, FEBRUARY 21, 2008 | PARB 126

Session I	Session Chair: Vladik Kreinovich
8:30 - 9:10	Leroy Emkin *FE Software QA/QC Requirements of the U.S. Nuclear Regulatory Commission: An Example*
9:10 - 9:50	J. Zhou and Zissimos P. Mourelatos *Design under Uncertainty using a Combination of Evidence Theory and a Bayesian Approach*
9:50 -10:30	P. Pinheiro da Silva, A. Velasco, M. Ceberio, C. Servin, M. Averill, L. Longpre, and V. Kreinovich *Propagation and Provenance of Probabilistic and Interval Uncertainty in Cyberinfrastructure-Related Data Processing*
10:30 - 11:00	**Break**
Session I	Continued
11:00 - 11:40	Francesco Fedele *Randomness and Extreme Events in Oceanic Turbulence*
11:40 -12:20	Seung-Kyum Choi *Structural Integrity Prediction for Complex Engineered Systems*
12:20 - 1:30	**Lunch**
Session II	Session Chair: Jürgen Garloff
1:30 - 2:10	Alberto Bernardini and Fulvio Tonon *Extreme Probability Distributions of Random/Fuzzy Sets and P-Boxes*
2:10 -2:50	Issac Elishakoff *Imprecise Reliability of Engineering Structures*
2:50 - 3:20	**Break**
Session II	Continued
3:20 - 4:00	Ruey L. Cheu, Vladik Kreinovich, F. Modave, G. Xiang, and T. Magoc *How to Estimate, Take Into Account, and Improve Travel Time Reliability in Transportation Networks*
4:00 - 4:40	Nguyen Diep Hong, Stef Graillat, and Jean-Luc Lamotte *Precise and Effective Scientific Calculation on the CELL Processor*
4:40 - 4:55	Ruud van der Pas *Interval Compilers*
4:55	**Return to Hotel**
7:30	**Banquet** *Moon River Brewing Company, 21 W. Bay Street*

FRIDAY, FEBRUARY 22, 2008

Session I	Session Chair: Zissimos P. Mourelatos
8:30 - 9:10	Stef Graillat *Accurate Floating Point Product*
9:10 - 9:50	S. Gabriele and C. Valente *An Interval Based Technique for FE Model Updating*
9:50 -10:30	Michael Beer *Evaluation of Inconsistent Engineering Data*
10:30 - 11:00	**Break**
Session I	Continued
11:00 - 11:40	Mehdi Modares and Robert L. Mullen *Static Analysis of Uncertain Structures Using Interval Eigenvalue Decomposition*
11:40 -12:20	Andrzej Pownuk *General Interval FEM Program Based on Sensitivity Analysis Method*
12:20 - 1:30	**Lunch**
Session II	Session Chair: Rafi Muhanna
1:30 - 2:10	B. F. Zalewski and Robert L. Mullen *Point-wise Discretization Errors in Boundary Element Method for Elasticity Problem*
2:10 - 2:50	M.V. Rama Rao, Andrzej Pownuk, and Iwona Skalna *Stress Analysis of a Singly Reinforced Concrete Beam with Uncertain Structural Parameters*
2:50 - 3:20	**Break**
3:20 - 4:20	Closing session and recommendations