

# SNC 2011 Program

**Tuesday, June 7, 2011**

8:40-9:00 Opening Remarks

**9:00-9:50 SNC Invited Talk: Jonathan Borwein.**

**Mahler Measures, Short Walks and Log-sine Integrals: A Case Study in Hybrid Computation**

**9:50-10:30 Break**

10:30-10:55 Madalina Hodorog and Josef Schicho. A Regularization Method for Computing Approximate Invariants of Plane Curves Singularities

10:55-11:20 Pavel Emeliyanenko, Alexander Kobel, Eric Berberich and Michael Sagraloff. Arrangement Computation for Planar Algebraic Curves

**11:30-12:30 FCRC Plenary Talk**

2:00-2:25 Ioannis Emiris, Tatjana Kalinka and Christos Konaxis. Implicitization of Curves and Surfaces Using Predicted Support

2:25-2:50 Thien Nguyen, Bernard Mourrain and Andre Galligo. A Construction of Injective Parameterizations of Domains for Isogeometric Applications

2:50-3:15 Nargol Rezvani and Robert M. Corless. Using Weighted Norms to Find Nearest Polynomials Satisfying Linear Constraints

3:15-3:40 Hidenao Iwane, Hitoshi Yanami and Hirokazu Anai. An Effective Implementation of Symbolic-Numeric Cylindrical Algebraic Decomposition for Optimization Problems

**3:40-4:00 Break**

4:00-4:25 Francoise Richard-Jung. Stokes Phenomenon: Graphical Visualization and Certified Computation

4:25-4:50 Min Wu and Zhengfeng Yang. Generating Invariants of Hybrid Systems via Sums-Of-Squares of Polynomials with Rational Coefficients

4:50-5:15 Hong Diep Nguyen and Nathalie Revol. Refining and Verifying the Solution of a Linear System

5:15-5:40 Chenyi Hu. Interval Function and Its Linear Least-Squares Approximation

## **Wednesday, June 8, 2011**

**9:00-9:50 SNC Invited Talk: James Demmel.**

**Accurate and Efficient Expression Evaluation and Linear Algebra, or Why It Can be Easier to Compute Accurate Eigenvalues of a Vandermonde Matrix than the Accurate Sum of 3 Numbers**

### **9:50-10:30 Break**

10:30-10.55 Barry Dayton. Numerical Calculation of S-bases for Positive dimensional varieties

10:55-11.20 Nan Li. An Improved Method for Evaluating Max Noether Conditions: Case of Breadth One

### **11:30-12:30 FCRC Plenary Talk**

2:00-2:25 Chee Yap, Irina Voiculescu and Narayan Kamath. Empirical Study of an Evaluation-Based Subdivision Algorithm for Complex Root Isolation

2:25-2:50 Andre Galligo. Roots of the Derivatives of some Random Polynomials

2:50-3:15 Piers Lawrence and Robert Corless. Numerical Stability of Barycentric Hermite root-finding

3:15-3:40 Johannes Grotendorst. On Calculating the Rate of Linear Convergence of Non-Linear Transformed Sequences

### **3:40-4:00 Break**

4:00-4:25 Paola Boito and Olivier Ruatta. Extended Companion Matrix for Approximate GCD

4:25-4:50 Bingyu Li and Xiaoli Wu. A Subresultant Based Subspace Method for the Computation of Polynomial GCDs

4:50-5:15 Masaru Sanuki. Challenge to Fast Approximate Polynomial GCD Computation Stably, Based on Displacement Structures Theme by grilldan.

5:15-5:40 Robert M. Corless, Erik Postma and David R. Stoutemyer. GCD of Multivariate Approximate Polynomials using Beautification with the Subtractive Algorithm

**Thursday, June 9, 2011**

**2:00-2:50 SNC Invited Talk: Stephen Watt.**

**Polynomial Approximation in Handwriting Recognition**

2:50-3:15 Victor Y. Pan. Acceleration of Newton's Polynomial Factorization: Army of Constraints, Convolution, Sylvester Matrices, and Partial Fraction Decomposition

3:15-3:40 Erich Kaltofen, Wen-shin Lee and Zhengfeng Yang. Fast Estimates of Hankel Matrix Condition Numbers and Numeric Sparse Interpolation

**3:40-4:00 Break**

4:00-4:25 Tateaki Sasaki and Daiju Inaba. A Study of Hensel Series in General Case

4:25-4:50 Kosaku Nagasaka. An Improvement in the Lattice Construction Process of Approximate Polynomial GCD over Integers

4:50-5:15 Eugene Zima. Synthetic Division in the Context of Indefinite Summation

5:15-5:40 Tsz-Wo Sze. Schoenhage-Strassen Algorithm with MapReduce for Multiplying Terabit Integers



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