The programme for the 19th International Conference on Computer Algebra in Scientific Computing, CASC2017, Beijing September 18-22

September 18, Monday

Tutorial 1: Jan Verschelde (University of Illinois at Chicago, USA)
9:30–10:30 Numerical Algebraic Geometry in the Cloud (1)
10:30–10:50 tea break
10:50–11:50 Numerical Algebraic Geometry in the Cloud (2)

12:00—13:50 Lunch at Wuke hotel

Tutorial 2: Wen-Shin Lee (University of Antwerp, Belgium)
14:30–15:30 Sparse interpolation and its connections to Padé approximation, signal processing, and tensor decomposition (1)
15:30–15:50 tea break
15:50–16:50 Sparse interpolation and its connections to Padé approximation, signal processing, and tensor decomposition (2)

September 19, Tuesday

9:00-10:00 Invited talk 1: Sergei A. Abramov (Russian Academy of Science, Russia)
Linear Differential Systems with Infinite Power Series Coefficients

10:00-10:40 photo and tea break

10:40—11:10 Xin Pang, David J. Jeffrey and Erik Postma, Computation of Some Integer Sequences in Maple

11:10—11:40 Ruijuan Jing and Marc Moreno Maza, Computing the Integer Points of a Polyhedron, I: Algorithm
11:40—12:10 Ruijuan Jing and Marc Moreno Maza, Computing the Integer Points of a Polyhedron, II: Complexity Estimates

12:10—13:50 Lunch at Wuke hotel

14:00—14:30 Yu Wang, Wenyuan Wu and Bican Xia, A Special Homotopy Continuation Method For A Class of Polynomial Systems

14:30—15:00 Wenyuan Wu, Changbo Chen and Greg Reid, Penalty Function Based Critical Point Approach for Computing Real Witness Points of General Polynomial Systems
15:00—15:30 Changbo Chen, Wenyuan Wu and Yong Feng, Full Rank Representation of Real Algebraic sets and Applications

15:30--15:50 tea break


16:20—16:50 Sergey Gutnik and Vasily Sarychev A Symbolic Study of the Satellite Dynamics Subject to Damping Torques

16:50—17:20 Vasily Shapeev and Evgenii Vorozhtsov The Method of Collocations and Least Residuals Combining the Integral Form of Collocation Equations and the Matching Differential Relations at the Solution of PDEs


18:30 Business Meeting

September 20 Wednesday

9:00-10:00 Invited talk 2: Lihong Zhi (Chinese Academy of Sciences, China)
On Simple Multiple Zeros of Polynomial Systems

10:00—10:20 tea break

10:20—10:50 Qiaolong Huang and Xiao-Shan Gao Sparse Polynomial Interpolation with Finitely Many Values for the Coefficients

10:50—11:20 Matteo Briani, Annie Cuyt and Wen-Shin Lee Sparse interpolation, the FFT algorithm and FIR filters


11:50—13:20 Lunch at Wuke hotel

13:30--17:00 take a bus to go and visit the Summer Palace

17:00--17:30 take a bus to Quanjude Roasted Duck Restaurant (Qinghuayuan)

17:30—19:30 Banquet

September 21, Thursday

9:00—9:30 Zhe Li, Baocchong Wan and Shugong Zhang The Convergence Conditions of Interval Newton's Method Based on Point Estimates
9:30—10:00 Jin-San Cheng and Xiaojie Dou, Certifying Simple Zeros of Over-determined Polynomial Systems


10:30—10:50 tea break

10:50—11:20 Dmitry Lyakhov, Vladimir Gerdt and Dominik Michels, Symbolic-Numeric Integration of the Dynamical Cosserat Equations


11:50—12:20 Jiang Liu, Normalization of indexed differentials based on function distance invariants

12:20—13:50 Lunch at Wuke hotel

14:00—14:30 Vincent Neiger, Hamid Rahkooy and Eric Schost, Algorithms for zero-dimensional ideals using linear recurrent sequences

14:30—15:00 Youren Hu and Xiaoshan Gao, Characteristic Set Method for Laurent Differential Polynomial Systems

15:00—15:30 Rina Dong and Chenqi Mou, Decomposing Polynomial Sets Simultaneously into Groebner Bases and Normal Triangular Sets

15:30—15:50 tea break

15:50—16:20 Ryszard Kozera and Lyle Noakes, Non-linearity and non-convexity in optimal knots selection for sparse reduced data

16:20—16:50 Raul Epure, Yue Ren and Hans Schonemann, The polymake interface in Singular and its applications

16:50—17:20 Valentin Irtegov and Tatiana Titorenko, On Stationary Motions of the Generalized Kowalewski Gyrostat and Their Stability

17:20—17:50 Andrei Banshchikov, On the Asymptotic Stability of a Satellite with a Gravitational Stabilizer

September 22-23

Workshop on differential algebra and polynomial system solving
1. Ryszard Kozera and Lyle Noakes, Non-linearity and non-convexity in optimal knots selection for sparse reduced data
3. Sergey Gutnik and Vasily Sarychev A Symbolic Study of the Satellite Dynamics Subject to Damping Torques
4. Dmitry Lyakhov, Vladimir Gerdt and Dominik Michels Symbolic-Numeric Integration of the Dynamical Cosserat Equations
5. Youren Hu and Xiaoshan Gao Characteristic Set Method for Laurent Differential Polynomial Systems
7. Matteo Briani, Annie Cuyt and Wen-Shin Lee Sparse interpolation, the FFT algorithm and FIR filters
8. Vasily Shapeev and Evgenii Vorozhtsov The Method of Collocations and Least Residuals Combining the Integral Form of Collocation Equations and the Matching Differential Relations at the Solution of PDEs
9. Zhe Li, Baocheng Wan and Shugong Zhang The Convergence Conditions of Interval Newton's Method Based on Point Estimates
12. Jiang Liu, Normalization of indexed differentials based on function distance invariants
13. Rina Dong and Chenqi Mou, Decomposing Polynomial Sets Simultaneously into Groebner Bases and Normal Triangular Sets
16. Yu Wang, Wenyuan Wu and Bican Xia, A Special Homotopy Continuation Method For A Class of Polynomial Systems
17. Wenyuan Wu, Changbo Chen and Greg Reid, Penalty Function Based Critical Point Approach for Computing Real Witness Points of General Polynomial Systems
18. Changbo Chen, Wenyuan Wu and Yong Feng, Full Rank Representation of Real Algebraic sets and Applications
19. Raul Epure, Yue Ren and Hans Schonemann, The polymake interface in Singular and its applications
22. Xin Pang, David J. Jeffrey and Erik Postma, Computation of Some Integer Sequences in Maple
23. Ruijuan Jing and Marc Moreno Maza, Computing the Integer Points of a Polyhedron, I: Algorithm
26. Qiaolong Huang and Xiao-Shan Gao Sparse Polynomial Interpolation with Finitely Many Values for the Coefficients
27. Matteo Briani, Annie Cuyt and Wen-Shin Lee Sparse interpolation, the FFT algorithm and FIR filters