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BASIC INFORMATION

- Day of Birth **August 27, 1982.**
Birthplace **Shanghai, China.**
Nationality **Chinese.**
Current Position **Assistant Professor**, State Key Laboratory of Scientific and Engineering Computing, Institute of Computational Mathematics and Scientific/Engineering Computing, Academy of Mathematics and Systems Science, [Chinese Academy of Sciences](#), Beijing, China
2009 – 2010 **Visiting Scholar**, Department Optimization, Division Scientific Computing, Konrad-Zuse-Zentrum für Informationstechnik Berlin(ZIB), [Berlin, Germany](#)
2010 – 2011 **Visiting Scholar**, Department of Computational and Applied Mathematics, RICE University, [Houston, Texas, United States](#)

EDUCATION

- 2004–2009 Ph.D. **Nonlinear Optimization**, Supervisor: [Professor Ya-xiang Yuan](#), Institute of Computational Mathematics and Scientific/Engineering Computing, Academy of Mathematics and System Sciences, Chinese Academy of Sciences, Beijing, China.
Ph.D. Thesis **Numerical Methods for Special Nonlinear Least Squares Problems and L_1 Norm Minimization Problems.**
2000–2004 B.Sc **Computational Mathematics**, Department of Scientific and Engineering Computing, School of Mathematical Sciences, [Peking University](#), Beijing, China.
B.Sc. Thesis **Optimization Methods for Large-scale Sylvester Equation and the Separation of two Matrices.**

RESEARCH INTERESTS

- I **Computational Methods for Optimization.**
nonlinear optimization, nonsmooth optimization, sparse optimization, mixed integer programming
- II **Numerical Linear Algebra.**
Eigenvalue Decomposition, Singular Value Decomposition, Matrix Factorization

AWARDS AND PRIZES

- June 2009 **Excellent Graduate Award.**
Presented by: Graduate School of the Chinese Academy of Sciences
April 2007 **Euler Award of Applied Mathematics.**
Presented by: Swiss State Secretariat for Education and Research
June 2004 **Excellent Graduate Award.**
Presented by: Peking University

PUBLICATIONS

- September 2011 **Uniform bounds on the 1-norm of the inverse of lower triangular Toeplitz matrices**, X. Liu, S. McKee, J.Y. Yuan and Y.X. Yuan, Linear Algebra and its Applications, 435(2011): 1157-1170.

- October 2008 **Global Minimization of Quadratic Least-Squares Problem**, X. Liu, Global-Link Informatics Limited, Hong Kong., Proceedings of the Ninth National Conference of Operation Research Society of China, 2008: 188-193.
- May 2008 **On the Separable Nonlinear Least Squares Problems**, X. Liu and Y.X. Yuan, Journal of Computational Mathematics, 26(2008): 390-403.
- June 2006 **An Efficient Unseparated Scheme for Separable Nonlinear Least Squares Problem**, X. Liu, Global-Link Informatics Limited, Hong Kong., Proceedings of the Eighth National Conference of Operation Research Society of China, 2006: 132-137.
- Finished **On the Trust Region Subproblem for Nonlinear L1 Norm Minimization Problem**, X. Liu and Y.X. Yuan.
- Finished **An Accelerated Simultaneous Iteration Algorithm for Computing Dominant Singular Values and Vectors**, X. Liu and Y. Zhang and Z.W. Wen.
- Finished **Local Convergence of a Class of Generalized Stationary Iterative Methods for Non-linear Saddle Point Problems**, J.F. Yang, X. Liu and Y. Zhang.
- Finished **Towards a General Convergence Theory for Alternating Direction Method**, X. Liu, J.F. Yang and Y. Zhang.

PRESENTATIONS

- August 19, 2011 **Contributed Talk: Structure Enforcing Matrix Factorization: Algorithm and Application**, *Sino-German Workshop on Optimization, Modeling, Methods and Applications in Industry and Management*, Zuse Institute Berlin, Berlin, Germany, August 15 - 19, 2011.
- July 20, 2011 **Minisymposium Talk: Limited Memory Block Krylov Subspace Optimization for Computing Truncated Singular Value Decomposition**, *The 7th International Congress on Industrial and Applied Mathematics*, Vancouver, Canada, July 18 - 22, 2011.
- May 18, 2011 **Minisymposium Talk: Limited Memory Subspace Acceleration for Computing Dominant Singular Values and Vectors**, *SIAM Conference on Optimization*, Darmstadt, Germany, May 16 - 19, 2011.
- April 5, 2011 **Invited Talk: Limited Memory Subspace Acceleration for Computing Dominant Singular Values and Vectors**, *University of California, San Diego, United States*.
- February 9, 2011 **Seminar Talk: Limited Memory Subspace Acceleration for Computing Dominant Singular Values and Vectors**, *Rice University, Houston, United States*.
- August 31, 2010 **Contributed Talk: Generating GUB Cuts for Solving MIP**, *Sino-German Workshop on Algorithm Engineering*, Fudan University, Shanghai, China, August 28 - September 1, 2010.
- July 27, 2010 **Seminar Talk: Generating GUB Cuts in SCIP**, *Zuse Institute Berlin, Berlin, Germany*.
- August 26, 2009 **Minisymposium Talk: On the Trust Region Subproblem for Nonlinear L_1 Norm Minimization Problem**, *The 20th International Symposium of Mathematical Programming*, Chicago, Illinois, United States, August 23 - 28, 2009.
- August 17, 2009 **Contributed Talk: On the Trust Region Subproblem for Nonlinear L_1 Norm Minimization Problem**, *The 7th International Conference on Numerical Optimization and Numerical Linear Algebra*, Lijiang, Yunnan, China, August 16 - 19, 2009.
- October 19, 2008 **Contributed talk: Global Minimization of Quadratic Least-Squares Problems**, *The 9th National Conference of Operation Research Society of China*, Nanjing, China, October 18 - 20, 2008.
- July 31, 2008 **Contributed Talk: L1 Norm Minimization for Quadratic System**, *The VII Brazilian Workshop on Continuous Optimization*, Campinas, Sao Paulo, Brazil, July 28 - 31, 2008.

- December 11, 2007 **Invited Talk: New Methods for Distance Geometry Problems**, [Zuse Institute Berlin, Berlin, Germany](#).
- December 5, 2007 **Invited Talk: New Sampling Techniques for Distance Geometry Problems**, [Technische Universität Darmstadt, Darmstadt, Germany](#).
- December 3, 2007 **Invited Talk: New Efficient Sampling Methods for Distance Geometry Problems**, [Siemens Corporate Technology, Munich, Germany](#).
- September 9, 2007 **Contributed Talk: Global Minimization on Quadratic Least Squares Problems**, *The 6th International Conference on Numerical Linear Algebra and Optimization*, Urumqi, China, Sept 7 - 12, 2007.
- August 13, 2007 **Invited talk: Methods for Optimization Problems**, Dillon Read Solutions (Shanghai) Co. Ltd, UBS AG, Shanghai, China.
- July 17, 2007 **Minisymposium Talk: Global Minimization on Quadratic Least Squares Problems**, *The 6th International Congress on Industrial and Applied Mathematics*, [Zurich, Switzerland](#), July 16 - 20, 2007.
- April 5, 2007 **Post Presentation: Global Nonlinear Least Squares in Data Analysis**, *The first Joint China Operations Research Days workshop*, IBM Research Center, Beijing, China, April 5 - 6, 2007.
- September 26, 2006 **Contributed talk: Efficient Unseparated Algorithms for Separable Nonlinear Least Squares Problems**, *International Conference on Numerical Analysis and Optimization dedicated to M.J.D. Powell's 70th Birthday*, Beijing, China, September 25 - 28, 2006.
- July 1, 2006 **Contributed talk: An Efficient Unseparated Scheme for Separable Nonlinear Least Squares Problems**, *The 8th National Conference of Operation Research Society of China*, Shenzhen, China, June 29 - July 2, 2006.