

CURRICULUM VITAE

- 1. Name:** Pingbing Ming
- Date/Place of Birth:** November 24, 1973, in Chong Qing, P.R. China
- Permanent Address:** Institute of Computational Mathematics
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Academy of Mathematics and Systems Science
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- 2. Education:** 9/1997-1/2000
Institute of Computational Mathematics
and Scientific/Engineering Computing
Chinese Academy of Sciences
Ph.D Mathematics
- 9/1991-7/1997 Mathematics Department
Si Chuan University
Chendu, China
MS, Mathematics
- Major:** Numerical analysis and scientific computing
- 3. Honors and Awards:** Alexander Humboldt Research Fellowship, 2000-2002
Fellowship of the President of CAS 2000
Zhong Jia Qing Award 2005
Annual Outstanding Research Award of AMSS 2005
- 4. Work Experience:**

1. Professor
LSEC, Institute of Computational Mathematics and Scientific/Engineering Computing
Academy of Mathematics and Systems Science
Chinese Academy of Sciences
April 2008–
2. Associate Professor
LSEC, Institute of Computational Mathematics and Scientific/Engineering Computing
Academy of Mathematics and Systems Science
Chinese Academy of Sciences
March 2004–March 2008
3. Assistant Professor
Institute of Computational Mathematics and Scientific/Engineering Computing
Academy of Mathematics and Systems Science
Chinese Academy of Sciences
August 2000–March 2004
4. Research Fellow
Department of Mathematics, Penn State University
September 19, 2008–October 19, 2008
5. Alexander von Humboldt Research Fellow
Max Planck Institute for Mathematics in the Sciences, Leipzig
March 23, 2006–May 28, 2006
6. Research Fellow
Department of Mathematics, The Hong Kong University of Science and Technology
February 10, 2006–March 5, 2006
7. Research Fellow
PACM & Department of Mathematics , Princeton University
December 6, 2004–February 4, 2005
8. Research Fellow
Department of Mathematics, The Hong Kong University of Science and Technology
October 1, 2004–December 1, 2004
9. Research Fellow
PACM & Department of Mathematics , Princeton University
February 2003–December 2003
10. Alexander von Humboldt Research Fellow
Department of Mathematics, Ruhr-Bochum University
November 2000–February 2002

11. Research Fellow
Department of Mathematics, The Hong Kong University of Science and Technology
September 1, 2000–October 15, 2000.

5. Publications in Referred Journals:

1. P.B. Ming and Jerry Z. Yang: Analysis of a one-dimensional nonlocal quasi-continuum method, *Multiscale Model. Simul.* **7**(2009), 1838–1875.
2. P.B. Ming: Error estimate of the force-based quasicontinuum method, *Comm. Math. Sci.* **5**(2008), 1089–1095.
3. Q. Du and P.B. Ming: Cascadic multigrid methods for parabolic problems, *Science in China Series A: Math.* **51**(2008), 1415–1439.
4. Y. Xiang, H. Wei, P.B. Ming and W. E: A generalized Peierls-Nabarro model for curved dislocations and core structures of dislocation loops in Al and Cu, *Acta Materialia*, **56**(2008), 1447–1460.
5. H. Wei, Y. Xiang and P.B. Ming: A generalized Peierls-Nabarro model for curved dislocations using discrete Fourier transform, *Commun. Comput. Phys.*, **4**(2008), 275–293.
6. P.B. Ming, Z.-C. Shi and Y. Xu: A new superconvergence property of nonconforming rotated Q_1 element in 3D, *Comput. Methods Appl. Mech. Engrg.* **197**(2007), 95–102.
7. F. Liu, P.B. Ming and J. Li: Ab initio calculation of ideal strength and phonon instability of graphene in tension, *Phy. Rev. B*, **76**(2007), 064120
8. W. E and P.B. Ming: Cauchy-Born rule and the stability of crystalline solids: dynamic problems, *Acta Math. Appl. Sin. Engl. Ser.* **23**(2007), 529–550.
9. W. E and P.B. Ming: Cauchy-Born rule and the stability of crystalline solids: static problems, *Arch. Ration. Mech. Anal.* **183**(2007), 241–297.
10. P.B. Ming and P.W. Zhang: Analysis of the heterogeneous multiscale method for parabolic homogenization problems, *Math. Comput.* **76**(2007), 153–177.
11. P.B. Ming and Z.-C. Shi: Analysis of some low order quadrilateral Reissner-Mindlin plate elements, *Math. Comput.* **75**(2006), 1043–1065.
12. P.B. Ming and X.Y. Yue: Numerical methods for multiscale elliptic problems, *J. Comput. Phys.* **214**(2006), 421–445.
13. P.B. Ming, Z.-C. Shi and Y. Xun: Superconvergence studies of quadrilateral nonconforming rotated Q_1 elements, *Int. J. Numer. Anal. Model.* **3**(2006), 322–332.

14. P.B. Ming, Z.-C. Shi: Two nonconforming quadrilateral elements for the Reissner-Mindlin plate, *Math. Models Methods Appl. Sci.* **15**(2005), 1503–1517.
15. W. E, P.B. Ming and P.W. Zhang: Analysis of the heterogeneous multiscale method for elliptic homogenization problems, *J. Amer. Math. Soc.* **18**(2005), 121–156.
16. D. Braess and P.B. Ming: A finite element method for nearly incompressible elasticity problems, *Math. Comput.* **74**(2005), 25–52.
17. W. E and P.B. Ming: Analysis of multiscale problem, *J. Comput. Math.* **22**(2004), 210–219.
18. P.B. Ming and Z.-C. Shi: Mathematical analysis for quadrilateral rotated Q_1 element II: Poincaré inequality and trace inequality, *J. Comput. Math.* **21**(2003), 277–286.
19. P.B. Ming and Z.-C. Shi: Mathematical analysis for quadrilateral rotated Q_1 element III: the effect of numerical Integration, *J. Comput. Math.* **21**(2003), 287–294.
20. J. Hu, P. B. Ming and Z.-C. Shi: Nonconforming quadrilateral rotated Q_1 element for Reissner-Mindlin plate, *J. Comput. Math.* **21**(2003), 25–32.
21. P.B. Ming and Z.-C. Shi: Quadrilateral mesh revisited, *Comput. Methods Appl. Mech. Engrg.* **191**(2002), 5671–5682.
22. M. Feng, P. B. Ming and R. Yang: Absolute stable homotopy finite element method for circular arch problem and asymptotic exactness posteriori error estimate, *J. Comput. Math.* **20**(2002), 653–672.
23. P.B. Ming and Z.-C. Shi: Optimal L^2 error estimate for the MITC3 type element, *Numer. Math.* **91**(2002), 77–91.
24. P. B. Ming and Z.-C. Shi: Quadrilateral mesh, *Chinese Ann. Math. Ser. B.* **23**(2002), 235–252.
25. P.B. Ming and Z.-C. Shi: Nonconforming rotated Q_1 element for Reissner-Mindlin plate, *Math. Models Methods Appl. Sci.* **11**(2001), 1311–1342.
26. P. B. Ming and Z.-C. Shi: Error estimate of Weissman-Taylor finite element for Reissner-Mindlin plate, *Science in China, Ser. A.* **31**(2001), 158–169.
27. P.B. Ming and Z.-C. Shi: Dual combined finite element for a Non-Newtonian flow (II): parameter-dependent problem, *M2AN Math. Model Numer. Anal.* **34**(2000), 1051–1068.
28. P.B. Ming and Z.-C. Shi: Optimal mixed h-p finite element methods for Stokes and Non-Newtonian flow, *J. Comput. Math.* **19**(2000), 67–76.

29. P.B. Ming and M. Feng: A stabilized finite difference methods for the equations of modeling fluidize bed and nonlinear stabilized analysis (in Chinese), *Numerical Mathematica Journal of Chinese University*, **19**(1997), 298–311.
30. P.B. Ming and H. Xiong: Homotopy FEM for arch beam models and superconvergence analysis, *Journal of Si Chuan University (Natural Science Editions)*, **30**(1996), 484–489.

6. Publications in Lecture Notes:

1. W. E and P.B. Ming: Analysis of the local quasicontinuum method, *Frontiers and Prospects of Contemporary Applied Mathematics*, Tatsien Li and Pingwen Zhang eds., Higher Education Press, Beijing, 2005, pp. 18–32.
2. P.B. Ming and Z.-C. Shi: Some low order quadrilateral Reissner-Mindlin plate elements, *Recent advances in scientific computing and partial differential equations (Hong Kong, 2002)*. *Contemp. Math.*, 2003, Vol. 330, Amer. Math. Soc., Providence, RI, 2003, pp. 155–168.
3. P.B. Ming and Z.-C. Shi: Convergence analysis for quadrilateral rotated Q_1 element, *Advances in Computation: Theory and Practice, Vol. 7: Scientific Computing and Applications*, Peter Mineev and Yanping Lin eds., Nova Science Publishers, Inc. 2001, pp. 115–124.
4. P.B. Ming and Z.-C. Shi: Stable conforming and nonconforming finite element methods for the Non-newtonian Flow, *Numerical Treatment of Multiphase Flows in Porous Media. Lecture Notes in Physics*, Vol. 552, Zhangxin Chen, Richard E. Ewing and Z.-C. Shi eds., Springer-Verlag, 2000, pp. 222–232.

7. Selected Invited Talks:

1. First German-Chinese Workshop on Computational and Applied Mathematics Humboldt University, Berlin, Sep. 2005, invited talk.
2. Workshop on “Stochastic and Atomistic Aspects of Elasticity”, Berlin, May, 2006, invited talk.
3. Fifth China-Norway-Sweden Workshop on Computational Mathematics Lund University, Sweden, June 2006, invited talk.
4. Second German-Chinese Workshop on Computational and Applied Mathematics, Zhe Jiang University, Hangzhou, China, Oct. 2007, invited talk.
5. IAS Workshop on “Mathematics of Multi-scale Problems”, The Hong Kong University of Science and Technology, Dec. 2007, invited talk.

6. Fourth International Congress for Chinese Mathematicians, Hangzhou, Dec. 2007, 45 minutes invited talk.
7. Oberwolfach workshop on “Atomistic Model of Materials: Mathematics Challenges”, April, 2008, invited talk.
8. Workshop on “Rheology of Complex Fluids: Modeling and Numerics”, Ecole des Ponts, Paris, Jan. 2009, invited talk.
9. Workshop on “Adaptivity, Robustness and Complexity of Multiscale Algorithms”, Edinburgh, April, 2009, invited talk.
10. International Conference on Scientific Computation and Differential Equations (SciCADE09), May, 2009, Beijing, plenary talk.
11. Oberwolfach workshop on “Computational Multiscale Problems”, June, 2009, invited talk.
12. Third German-Chinese Workshop on Computational and Applied Mathematics, Heidelberg University, Oct. 2010, invited talk.
13. Fifth China-Italy Conference on “Mathematical Models in Life Science: Theory and Simulation”, Roma, Nov. 2009, invited talk.
14. Workshop on “Atomistic Modeling of Solids”, Oxford university, Dec. 2009, invited talk.