KAIBIN FU

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Education

Ph.D. in Aerospace Engineering **2005**
Texas A&M University, College Station

M.S. in Applied Mathematics **2007**
Texas A&M University, College Station

B.S. in Engineering Mechanics **1998**
Tsinghua University, Beijing, China

B.A. in Scientific Editing **1999**
Tsinghua University, Beijing, China

Research Areas

Multiscale theory, Nonlinear Solid Mechanics, Mathematical Modeling of Materials, Mathematical Biology, Partial Differential Equations, Fracture Mechanics, Transport Phenomena

Employment

Department of Mathematics, Prairie View A&M University

- Assistant Professor, September 2009 to present

Department of Mathematics, Texas A&M University

- Visiting Assistant Professor, August 2006 to August 2009
- Lecturer, September 2005 to July 2006

Teaching Experience

Instructor

- MATH 151, 152, 251: Engineering Mathematics
- MATH 308: Differential Equations
- MATH 601: Methods in Applied Mathematics (Graduate level)
- MATH 602: Methods and Applications of Partial Differential Equations (Graduate level)
- Research Experiences for Undergraduates (Mathematical Modeling in Ecology and Physiology)

Research Publications

Journal Paper

1. "An analysis of supercritical adsorption in the context of continuum mechanics" (with R. L. Robinson and J. C. Slattery) *Chemical Engineering Science*, 59(4), 801–808, 2004.
2. "Extension of Continuum Mechanics to the Nanoscale" (with E-S. Oh and J. C. Slattery) *Chemical Engineering Science*, 59(21), 4621–4635, 2004.
3. "Coalescence of a Bubble at a Fluid-Fluid Interface: Comparison of Theory and Experiment" (with J. C. Slattery) *Journal of Colloid & Interface Science*, 135, 569–579, 2007.
4. "Predicting the critical energy release rate" (with E-S. Oh and J. C. Slattery) *submitted to International Journal of Fracture.*
5. "Compatibility constraint at interfaces with elastic, crystalline materials II: applications" (with X. Si and J. C. Slattery) *to appear in Philosophical Magazine.*
6. "The mathematical modeling of lamina cribrosa and its convexity properties" *in preparation*

Book

1. "Nanomechanics" (with E-S. Oh and J. C. Slattery) *in preparation*

Invited Presentations

1. Half-hour Talk, Society of Natural Philosophy Annual Meeting "Constitutive Properties of Biomaterials", Pittsburgh, Sep 2008
2. Half-hour Talk, Society of Natural Philosophy Annual Meeting "The Interface Between Atomistic and Continuum Theories", Houston, Texas, Oct 2007
3. Half-hour Talk, 2nd Workshop on Atomistic-to-Continuum (AtC) Coupling Methods, The University of Texas at Austin, Texas, Apr 2007
4. One-hour Talk, Applied Mathematics Seminar, Texas A&M University, College Station, Texas, Oct 2006

Contributed Presentations

- First American Academy of Mechanics Conference, New Orleans, Jun 2008
- The 44th Annual Technical Meeting of the Society of Engineering Science, College Station, Texas, Oct 2007
- McMat 2007 (ASME Applied Mechanics and Materials Conference) Austin, Texas, Jun 2007
- The Barrett Lectures on Multi-Scale Modeling and Simulation in Materials Science, The University of Tennessee-Knoxville, Apr 2007
- IMA Conference on Computational and Mathematical Aspects of Materials and Fluids, Iowa State University, Apr 2007
- SIAM Conference on Computational Science and Engineering, Costa Mesa, CA Feb 2007

- The 5th International Conference on Differential Equations and Dynamical Systems, Edinburg, Texas, Dec 2006

Professional Activities

- Society of Engineering Science (SES)
- Society for Industrial and Applied Mathematics (SIAM)
- Society of Natural Philosophy (SNP)
- American Mathematical Society (AMS)

Reviewing Activities

- Article Reviewer, *Physics of Fluids*
- Article Reviewer, *Journal of Colloid and Interface Science*
- Article Reviewer, *Chemical Engineering Science*

Awards

- Full Scholarship and Assistantship, Texas A&M University, 1999 - 2005
- Outstanding Graduate Fellowship, Texas A&M University, 2005
- Travel Grant, to attend Red Raider Mini-Symposium on Mathematical modeling of novel materials and devices, Nov 2006

References

- Dr. Don Allen
  Associate head, Professor of Mathematics
  Department of Mathematics
  Texas A&M University
  College Station, TX 77843-3368
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  `Email: Don.Allen@math.tamu.edu`
- Dr. John C. Slattery
  Professor of Aerospace Engineering and of Mathematics
  TAMU 3141
  College Station, TX 77843-3141
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- Dr. Jay R. Walton
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- Dr. Philip B. Yasskin
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