



师资队伍

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基本资料



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个人简介

教育背景

- 2007年10月, 美国伊利诺伊大学香槟分校, 机械工程, 博士
- 2004年07月, 中国科学技术大学, 固体力学, 硕士
- 2001年07月, 中国科学技术大学, 理论与应用力学, 本科

主要工作经历

- 2013年11月-至今, 浙江大学力学系, 教授
- 2008年08月-2013年11月, 美国迈阿密大学机械航空系, 助理教授
- 2007年10月-2008年08月, 美国伊利诺伊大学香槟分校, 博士后
- 2012年05月-2012年06月, 美国西北大学土木工程系, 访问学者
- 2007年06月-2007年07月, 新加坡科技局高性能计算所, 访问学者

研究方向

- 柔性可延展电子器件力学
- 薄膜力学
- 纳米力学
- 热力耦合分析

社会兼职

- Editorial Board, International Journal of Applied Mechanics, 2011-
- Editorial Board, Theoretical and Applied Mechanics Letters, 2011-
- Editorial Board, Advances in Electronics, 2013-

奖励或荣誉

- 青年千人计划, 2013
- Top referees of Proceedings of Royal Society A in 2012
- Provost Research Award, University of Miami, 2010-2011, 2012-2013
- The Ralph E. Powe Junior Faculty Enhancement Award, Oak Ridge Associated Universities, 2010-2011
- NSF Summer Institute Fellowship on Mechanics of Soft Materials, 2010
- Provost Award, University of Miami, 2009-2010
- General Research Support Award, University of Miami, 2009-2010
- NSF Summer Institute Fellowship on High-rate Nanomanufacturing, 2008
- Chinese Government Award for Outstanding Self-financed Students Abroad, 2007
- NSF Summer Institute Fellowship on Nano Mechanics and Materials, 2007
- Mavis Memorial Fund Scholarship, University of Illinois at Urbana-Champaign, 2006-2007

著作和著作章节

1. S. Wang, J. Xiao, J. Song, Y. Huang and J. A. Rogers, "Mechanics of Curvilinear Electronics" in Nano and Cellular Mechanics: Fundamentals and Frontiers (eds. H.D. Espinosa and G. Bao), Wiley, Chapter 13, pp 339-358, 2013.
2. J. Song and S. Wang, "Theory for Stretchable Interconnects" in Stretchable Electronics (ed. T. Someya), Wiley, Chapter 1, pp 3-29, 2013.
3. J. Song, J. Wu and Y. Huang, "Controlled Buckling of Thin Film on Compliant Substrate for Stretchable Electronics" in

4. H. Jiang, J. Song, Y. Huang and J. A. Rogers, "Mechanics of Stretchable Silicon Films on Elastomeric Substrate" in *Unconventional Nanopatterning Techniques And Applications* (eds. J. A. Rogers and H. H. Lee), Wiley, Hoboken, New Jersey, Chapter 18, pp 483-514, 2008.

5. J. Song, "Mechanics of Boron Nitride Nanotubes" (a book based on my dissertation), VDM Verlag Dr. Müller Aktiengesellschaft & Co. KG, ISBN 9783639038774, 2008.

代表性期刊论文

1. S. H. Jin, J. Song, H. U. Chung, C. Zhang, S. N. Dunham, X. Xie, F. Du, T. Kim, J. Lee, Y. Huang, and J. A. Rogers, "Fundamental Effects in Nanoscale Thermocapillary Flow," *Journal of Applied Physics* 115, 054315, 2014.
2. H. Cheng and J. Song, "A Simply Analytic Study of Buckled Thin Films on Compliant Substrates," *ASME Journal of Applied Mechanics* 81, 024501, 2013
3. R.C. Webb, A.P. Bonifas, A. Behnaz, Y.H. Zhang, K.J. Yu, H.Y. Cheng, M.X. Shi, Z.Bian, Z.J. Liu, Y.S. Kim, W.H. Yeo, J.S. Park, J. Song, Y. Li, Y. Huang, A.M. Gorbach, and J.A. Rogers, "Ultrathin Conformal Devices for Precise and Continuous Thermal Characterization of Human Skin" *Nature Materials* 12, 938-944, 2013.
4. Z. Bian, W. Peng, and J. Song, "Thermal Tuning of Band Structures in a One-dimensional Phononic Crystal," *ASME Journal of Applied Mechanics* 81, 041008, 2013.
5. Y. Li, X. Shi, J. Song, C. Lu, T. Kim, J. G. McCall, M. R. Bruchas, J. A. Rogers, and Y. Huang, "Thermal Analysis of Injectable, Cellular-Scale Optoelectronics with Pulsed Power," *Proceedings of the Royal Society A* 469, 20130142, 2013.
6. J. Song, C. Lu, X. Xie, Y. Li, Y. Zhang, K. L. Grosse, S. Dunham, Y. Huang, W. P. King, and J. A. Rogers, "Thermo-mechanical Modeling of Scanning Joule Expansion Microscopy Imaging of Single-Walled Carbon Nanotube Devices," *ASME Journal of Applied Mechanics* 80, 040907, 2013.
7. Y. Li, Y. Shi, J. Song, C. Lu, T. Kim, J. A. Rogers, and Y. Huang, "Thermal Properties of Microscale Inorganic Light-Emitting Diodes in a Pulsed Operation," *Journal of Applied Physics* 113, 144505, 2013.
8. T. Kim, J. G. McCall, Y. H. Jung, X. Huang, E. R. Siuda, Y. Li, J. Song, Y. M. Song, H. A. Pao, R. H. Kim, C. Lu, S. D. Lee, I. S. Song, G. C. Shin, R. Al-Hasani, S. Kim, M. P. Tan, Y. Huang, F. G. Omenetto, J. A. Rogers, and M.R. Bruchas, "Injectable, Cellular-Scale Optoelectronics with Applications for Wireless Optogenetics," *Science* 340, 211-216, 2013.
9. C. Chen, W. Tao, Y. Su, J. Wu, and J. Song, "Lateral Buckling of Interconnects in a Non-coplanar Mesh Design for Stretchable Electronics," *ASME Journal of Applied Mechanics* 80, 041031, 2013.
10. Y. Wang, J. Song and J. Xiao, "Surface Effects on In-plane Buckling of Nanowire on Elastomeric Substrates," *Journal of Physics D: Applied Physics* 46, 125309, 2013.
11. S. H. Jin, S. N. Dunham, J. Song, X. Xie, J. Kim, C. Lu, A. Islam, F. Du, J. Kim, J. Felts, Y. Li, F. Xiong, M. A. Wahab, M. Menon, E. Cho, K. L. Grosse, D. J. Lee, H. U. Chung, E. Pop, M. A. Alam, W. P. King, Y. Huang, and J. A. Rogers, "Using Nanoscale Thermocapillary Flows to Create Arrays of Purely Semiconducting Single-walled Carbon Nanotubes," *Nature Nanotechnology* 8, 347-355, 2013.
12. X. Xie, K. L. Grosse, J. Song, C. Lu, S. Dunham, F. Du, A. E. Islam, Y. Li, Y. Zhang, E. Pop, Y. Huang, W.P. King and J.A. Rogers, "Quantitative Thermal Imaging of Single-Walled Carbon Nanotube Devices by Scanning Joule Expansion Microscopy," *ACS Nano* 11, 10267-10275, 2012
13. Y. Li, B. Fang, J. Zhang, and J. Song, "Vibration Analysis of Fluid-conveying Nanotubes Embedded in an Elastic Medium Considering Surface Effects," *Theoretical and Applied Mechanics Letters* 2, 031011, 2012.
14. C. Lu, Y. Li, J. Song, H. S. Kim, E. Brueckner, B. Fang, K. C. Hwang, Y. Huang, R. G. Nuzzo, and J. A. Rogers, "A Thermal Analysis of the Operation of Microscale Inorganic Light Emitting Diodes," *Proceedings of the Royal Society A* 468, 3215-3223, 2012.
15. T. Kim, Y. H. Jung, J. Song, D. Kim, Y. Li, H. S. Kim, I. Song, J. J. Wierer, H. A. Pao, Y. Huang, and J. A. Rogers, "High Efficiency, Microscale GaN Light Emitting Diodes and Their Thermal Properties on Unusual Substrates," *Small* 8, 1643-1649, 2012.
16. Y. Li, C. Chen, B. Fang, J. Zhang, and J. Song, "Postbuckling of Piezoelectric Nanobeams with Surface Effects," *International Journal of Applied Mechanics* 4, 1250018, 2012.
17. Y. Li, B. Fang, J. Zhang, and J. Song, "Surface Effects on the Wrinkles in a Stiff Thin Film Bonded to a Compliant Substrate," *Thin Solid Films* 520, 2077-2079, 2012.
18. Y. Li, B. Fang, J. Zhang, and J. Song, "Surface Effects on the Wrinkling of Piezoelectric Films on Compliant Substrates," *Journal of Applied Physics* 110, 114303, 2011.
19. Y. Li, J. Song, B. Fang, and J. Zhang, "Surface Effects on the Postbuckling of Nanowires," *Journal of Physics D: Applied Physics* 44, 425304, 2011.
20. H. Kim, E. Brueckner, J. Song, Y. Li, S. Kim, C. Lu, J. Sulkin, K. Choquette, Y. Huang, R. G. Nuzzo, and J. A. Rogers, "Unusual Strategies for Using Indium Gallium Nitride Grown on Silicon (111) for Solid State Lighting," *Proceedings of the National Academy of Sciences of the United States of America* 108, 10072-10077, 2011.
21. C. Chen, W. Tao, Z. J. Liu, Y. W. Zhang, and J. Song, "Controlled Buckling of Thin Film on Elastomeric Substrate in Large Deformation," *Theoretical and Applied Mechanics Letters* 1, 021001, 2011.
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23. J. Song, "Herringbone Buckling Patterns of Anisotropic Thin Films on Elastomeric Substrates," *Applied Physics Letters* 96, 051913, 2010.
24. J. Song, "Interfacial Shear Effect on Herringbone Pattern of Thin Films on Compliant Substrates," *International Journal of Applied Mechanics* 2, 251-264, 2010.
25. J. Song, H. Jiang, Y. Huang, and J. A. Rogers, "Mechanics of Stretchable Inorganic Electronic Materials," *The Journal of Vacuum Science and Technology A* 27, 1107-1125, 2009.
26. J. Song, Y. Huang, J. Xiao, S. Wang, K. C. Hwang, H. C. Ko, D. H. Kim, M. P. Stoykovich, and J. A. Rogers, "Mechanics of Non-coplanar Mesh Design for Stretchable Electronic Circuits," *Journal of Applied Physics* 105, 123516, 2009.
27. D. H. Kim, J. Song, W. M. Choi, H. S. Kim, R. H. Kim, Z. J. Liu, Y. Huang, K. C. Hwang, Y. Zhang and J. A. Rogers, "Materials and Noncoplanar Mesh Designs for Integrated Circuits with Linear Elastic Responses to Extreme Mechanical Deformations," *Proceedings of the National Academy of Sciences of the United States of America* 105, 18675-18680, 2008.
28. J. Song, J. Wu, Y. Huang, K. C. Hwang, and H. Jiang, "Stiffness and Thickness of Boron-Nitride Nanotubes," *Journal of Nanoscience and Nanotechnology* 8, 3774-3780, 2008.
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30. H. C. Ko, M. P. Stoykovich, J. Song, V. Malyarchuk, W. M. Choi, C.-J. Yu, J. B. Geddes III, J. Xiao, S. Wang, Y. Huang, and J. A. Rogers, "A Hemispherical Electronic Eye Camera Based on Compressible Silicon Optoelectronics," *Nature* 454, 748-753, 2008.
31. S. Wang, J. Song, D. H. Kim, Y. Huang, and J. A. Rogers, "Local Versus Global Buckling of Thin Films on Elastomeric Substrates," *Applied Physics Letters* 92, 023126, 2008.
32. J. Song, H. Jiang, Z. J. Liu, D. Y. Khang, Y. Huang, J. A. Rogers, C. Lu, and C. G. Koh, "Buckling of a Stiff Thin Film on a Compliant Substrate in Large Deformation," *International Journal of Solids and Structures* 45, 3107-3121, 2008.
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34. J. Song, H. Jiang, W. M. Choi, D. Y. Khang, Y. Huang, and J. A. Rogers, "An Analytical Study of Two-Dimensional Buckling of Thin Films on Compliant Substrates," *Journal of Applied Physics* 103, 014303, 2008.
35. H. Jiang, D. Y. Khang, J. Song, Y. Sun, Y. Huang, and J. A. Rogers, "Finite Deformation Mechanics in Buckled Thin Films on Compliant Supports," *Proceedings of the National Academy of Sciences of the United States of America* 104, 15607-15612, 2007.
36. J. Song, H. Jiang, J. Wu, Y. Huang, and K. C. Hwang, "Stone-Wales Transformation in Boron-Nitride Nanotubes," *Scripta Materialia* 57, 571-574, 2007.
37. W. M. Choi, J. Song, D. Y. Khang, H. Jiang, Y. Huang, and J. A. Rogers, "Biaxially Stretchable 'Wavy' Silicon Nanomembranes," *Nano letters* 7, 1655-1663, 2007.
38. J. Song, H. Jiang, D. L. Shi, X. Q. Feng, Y. Huang, M. F. Yu, and K. C. Hwang, "Stone-Wales Transformation: Precursor of Fracture in Carbon Nanotubes," *International Journal of Mechanical Sciences* 48, 1464-1470, 2006.
39. J. Song, Y. Huang, H. Jiang, K. C. Hwang, and M. F. Yu, "Deformation and Bifurcation Analysis of Boron-Nitride Nanotubes," *International Journal of Mechanical Sciences* 48, 1197-1207, 2006.
40. J. Song and Y. M. Xia, "3-D Dynamic Elastic-Plastic FEA for Rotating Disk Indirect Bar-Bar Tensile Impact Apparatus: Numerical Analysis for the Generation of Mechanically-Filtered Incident Stress Pulses," *International Journal of Impact Engineering* 32, 1313-1338, 2006.
41. J. Song and Y. M. Xia, "A Study on the Filter Function of Elastic-plastic Material," *Journal of Experimental Mechanics* 19, 469-476 (in Chinese), 2004.

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