Shaofan Li, Ph.D.

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Education

Ph.D. in Mechanical Engineering (06/1997)
Northwestern University, Evanston, IL

M.S. in Aerospace Engineering (05/1993)
University of Florida, Gainesville, FL

M.S. in Computational Mechanics (06/1989)
Huazhong University of Science and Technology, Wuhan, China

B.S. in Mechanical Engineering (06/1982)
East China University of Science and Technology, Shanghai, China

Current Research Interests

Generative AI-based engineering design (Artificial Intelligence-aided Design).
Generative AI-based continuum mechanics and its solutions for inverse problems.
Low Carbon and negative carbon cementitious materials.
3D printing of amorphous and polymeric materials.
Atomistic and multiscale simulations.
Phase modeling of fracture and Peridynamics modeling of material fracture.
Computational nonlocal fluid and solid mechanics.
Dislocation pattern dynamics and multiscale defect mechanics.
Engineering applications of artificial intelligence and machine learning methods.
Micromechanics and nanomechanics of matertials.
Soft matter mechanics and physics.

Professional Experience

07/2010-present **University of California** Berkeley, CA
Full Professor

07/2005 - 06/2010 **University of California** Berkeley, CA
Associate Professor

07/2000 - 07/2005 **University of California** Berkeley, CA
Assistant Professor

06/1997 - 06/2000 **Northwestern University** Evanston, IL
Post Doctoral Fellow

09/1982-09/1986 **Wuhan Material Protection Research Institute** Wuhan, China
Assistant Engineer

Honors and Awards

- Member of EU ACADEMY OF SCIENCES [2025];
- Fellow of Asia-Pacific Artificial Intelligence Association (AAIA)[2024];
- Distinguished Fellow of IETI (International Engineering and Technology Institute) [2022];

- IACM (International Association of Computational Mechanics) Fellows Award [2017];
- The Best Paper Award in the 22th Conference of Japanese Society for Computational Engineering and Science [2017];
- Distinguished Fellow of ICCES (International Conference of Computing for Engineering and Sciences) [2014];
- The ICACM Computational Mechanics Award
(International Chinese Association of Computational Mechanics) [2013];
- The USACM Fellows Award
(The United States Association of Computational Mechanics) [2013];
- A. Richard Newton Research Breakthrough Award [2008];
- National Science Foundation CAREER Award [2003];
- Atanasoff Best Paper Award [1999] in *The Fifth NASA National Symposium on Large-Scale Analysis, Design, and Intelligent Synthesis Environments*
- Graham-Cabell Fellowship [1996];
- Walter P. Murphy Graduate Fellowship [1995];
- Sigma Gamma Tau Aerospace Engineering Honor Society [1993]

Professional Society

A member of the following professional organizations:

- Member of Sigma Xi: The Scientific Research Honor Society [2021-];
- Ordinary Member of General Council of International Association for Computational Mechanics (IACM) [Since 2017-];
- Member of the USACM Executive Council [Since 2016];
- American Nano Society [Since 2011];
- Member of ASCE EMI Biomechanics Committee [Since 2007];
- MRS Material Research Society [Since 2010];
- ASCE Engineering Mechanics Institute [Since 2008];
- American Society of Civil Engineers [Since 2008];
- American Society of Mechanical Engineers [Since 2004];
- United States Association of Computational Mechanics (USACM) [Since 1995]

Editorial Board

- Editor-in-Chief,, *CMES: Computer Modeling in Engineering & Sciences* (2018-).
- Editor-in-Chief, *Journal of Micromechanics and Molecular Physics* (2016-).
- Editor, *International Journal for Numerical Methods in Engineering* (2025-).
- Associate Editor, *Engineering Failure Analysis* (2024-2025).
- Editor, *Acta Mechanica* (2021-);
- Associate Editor, *Scientific Reports* (2023-).

Synergistic Activities

- Expert Reviewer for European Research Council (ERC) [2007-2012];
- National Science Foundation Review Panel [2006][2008][2010][2011][2012][2013][2014][2016][2023][2025];
- Member of the Research Impact Fund Committee of the Research Grants Council (RGC) of Hong Kong (2016-Present);
- Swiss National Science Foundation Review Panel [2024]

Graduate Advising

- Dr. Daniel C. Simkins, Jr., graduated in May 2004, and is now an Associate Professor at the University of South Florida, Tampa, FL, USA;
- Dr. Albert C. To, graduated in November 2005, and is now a Chair Professor at the University of Pittsburgh, Pittsburgh, PA, USA, (co-advisor: Professor S. D. Glaser);
- Dr. Xiaohu Liu, graduated in August 2006, and is now an finite element analyst at National Transportation Safety Board, Washington, D.C.;
- Dr. Roger A. Sauer, graduated in December, 2006, and is now a professor and group leader in RWTH Aachen University, Aachen, Germany;
- Mr. Jinshu Zhang, graduate in May 2012 with a degree of MS in Applied Science and Technology;
- Dr. Hiroyuki Minaki, graduated in May 2013, and is now a senior engineer at the Bridgestone Tires Company, Japan (co-advisor: Professor T. Zohdi);.
- Dr. Houfu Fan, graduated in May 2014, and is now a senior engineer at Software Development Engineer-Distributed Systems, Pleasanton, California.
- Dr. Qi Tong, graduated in May 2016, and is now an associate professor at Fudan University.
- Dr. Qingsong Tu, graduated in May 2017, and is now an assistant professor at Rochester Institute of Technology (RIT).
- Dr. Dandan Lyu, graduated in May 2018, and is now now a research engineer at LS-DYNA ANSYS, Livermore, California.

- Dr. Tiange (Tina) Li, graduated in May 2019, and now is an assistant engineer in Silicon Valley, California.
- Mr. Wice Ibrahimi, graduated in May 2020, with an MS degree in Civil Engineering.
- Dr. Yuxi Xie, graduated in May 2021, and now a research engineer at LS-DYNA ANSYS, Livermore, California.
- Dr. Chao Wang, graduated in May 2022, and now a research engineer at ANSYS, San Jose, California.
- Dr. Caglar Tamur, graduated in May 2024, is now a postdoctoral fellow in the University of California at San Diego.
- Dr. Chengyao Liang, graduated in May 2024, is now a postdoctoral fellow in Stanford University.
- Ziland Zhang, graduate in December 2024, is now an engineer in Huawei; (co-advisor: Professor Grace Gu).
- Qi Zheng, graduated in December 2024, is now a postdoctoral fellow in Stanford University.

Post Doctoral Researcher Mentoring

- Dr. Ni Sheng (2006-2007), now an Associate Professor at the Macau University of Science and Technology;
- Dr. Jing Qian (2009-2010), now a Senior engineer at CFD Research Corporation at Huntsville, Alabama;
- Dr. Xiaowei Zeng (2008-2011), now an Associate professor at the University of Texas at San Antonio, TX ;
- Dr. Bo Ren (2009-2014), now a senior engineer at LS-DYNA, Livermore, California;
- Dr. Houfu Fan (2014- 2016), now a senior engineer at LS-DYNA, Livermore, California;
- Dr. Maryam Bitaraf (2014-2016), now an assistant professor at the University of Tehran;
- Dr. Shaofei Ren (2017-2019), now an associate professor at Harbin Engineering University, China;
- Dr. Lai Xin (2018-2021), now an associate professor at Wuhan University of Technology, China;
- Dr. Dana Bishara (2021-)
- Dr. Yongzhen Jia (2022-)
- Dr. Fang Xie (2023-)

Publications in Peer Reviewed Archive Journals

Up to the 1th June 2025, based on *Google Scholar*, the total citation numbers on referred publications (monographes and peer-reviewed journal papers) are over 20,100 times with an h-index 63.

`http://scholar.google.com/citations?user=LIVqPuwAAAAJ&hl=en&oi=ao`

1. Vu-Quoc, L. and S. Li [1993] "Invariant-conserving finite difference algorithms for the nonlinear Klein-Gordon equation," *Computer Methods in Applied Mechanics and Engineering*, **107**, 341-391;

2. **Vu-Quoc, L. and S. Li [1995] "Dynamics of sliding geometrically-exact beams: Large angle maneuvers and nonlinear parametric resonance,"** *Computer Methods in Applied Mechanics and Engineering*, **120, 65-118;**

3. **Li, S. and L. Vu-Quoc [1995] "Finite difference calculus invariant structure of a class of algorithms for the nonlinear Klein-Gordon equation,"** *SIAM Journal on Numerical Analysis*, **32, 1839-1875;**

4. **Liu, W.-K., S. Jun, S. Li, J. Adee, and T. Belytschko,[1995] "Reproducing kernel particle methods for structural dynamics,"** *International Journal of Numerical Methods for Engineering*, **38, 1655-1679;**

5. **Li, S. and P. A. Mataga [1996] "Dynamic crack propagation in piezoelectric materials Part I: Electrode solution,"** *Journal of the Mechanics and Physics of Solids*, **44, 1799-1830;**

6. **Li, S. and P. A. Mataga [1996] "Dynamic crack propagation in piezoelectric materials Part II: Vacuum solution,"** *Journal of the Mechanics and Physics of Solids*, **44, 1831-1866;**

7. Li, S. [1996] "The electromagneto-acoustic surface wave in a piezoelectric medium : The Bleustein-Gulyaev mode," *Journal of Applied Physics*, **80**, 5264-5269;

8. **Li, S. and W.-K. Liu [1996] "Moving least square reproducing kernel method (II) Fourier analysis,"** *Computer Methods in Applied Mechanics and Engineering*, **139, 159-193;**

9. **Liu, W.-K., S. Li, and T. Belytschko [1997] "Moving least square reproducing kernel method. (I) Methodology and convergence,"** *Computer Methods in Applied Mechanics and Engineering*, **143, 113-154;**

10. Li, S. and W. Shyy [1997] "On invariant integrals in the Marguerre-von Kármán shallow shell," *International Journal of Solids and Structures*, **34**, 2927-2944;

11. Li, S. and W. K. Liu [1998] "Synchronized reproducing kernel interpolant via multiple wavelet expansion," *Computational Mechanics*, **21**, 28-47;

12. **Li, S. and W. K. Liu [1999] "Reproducing kernel hierarchical partition of unity Part I: Formulations,"** *International Journal for Numerical Methods in Engineering*, **45, 251-288;**

13. **Li, S. and W. K. Liu [1999] "Reproducing kernel hierarchical partition of unity Part II: Applications,"** *International Journal for Numerical Methods in Engineering*, **45, 289-300;**

14. Liu, W.K. and S. Hao and T. Belytschko and S. Li and C. T. Chang [1999] "Multiple scale meshfree methods for damage fracture and localization," *Computational Materials Science*, **16**, 197-205;

15. **Li, S. [2000] "The micromechanics of classical plates: A congruous estimate of overall elastic stiffness,"** *International Journal of Solids and Structures*, **37, 5599-5628;**

16. **Li, S. [2000] "On micromechanics of Reissner-Mindlin plates,"** *Acta Mechanica*, **142, 47-99;**

17. **Li, S. and W.-K. Liu [2000], "Numerical simulations of strain localization in inelastic solids using mesh-free methods,"** *International Journal for Numerical Methods in Engineering*, **48, 1285-1309;**

18. Danielson, K.T., S. Hao, W.-K. Liu, A. Uras, and S. Li [2000] "Parallel computation of meshless methods for explicit dynamic analysis," *International Journal for Numerical Methods in Engineering*, **47**, 1323-1341;

19. Liu, W.-K., S. Hao, T. Belytschko, S. Li, and C.-T. Chang [2000] "Multiscale methods," *International Journal for Numerical Methods in Engineering*, **47**, 1343-1361;

20. **Li, S., W. Hao, and W.-K. Liu [2000] "Mesh-free simulations of shear banding in large deformation",** *International Journal of Solids and Structures* **37, 7185-7206;**

21. **Li, S. [2000] "Transient wave propagation in a transversely isotropic piezoelectric half space," ZAMP (***Zeitschrift für angewandte Mathematik und Physik***), 51, 236-266;**

22. **Li, S. W. Hao and W.-K. Liu [2000] "Numerical simulations of large deformation of thin shell structures using meshfree methods,"** *Computational Mechanics***,25, 2/3 102-116.**

23. Danielson, K.T., R. A. Uras, M. D. Adley, and S. Li [2000] "Large-scale application of some modern CSM methodologies by parallel computation," *Advances in Engineering Software*, **31**, 501-509;

24. **Li, S., D. Qian, W.-K. Liu and T. Belytschko [2001] "A meshfree contact-detection algorithm",** *Computer Methods in Applied Mechanics and Engineering***, 190, 3271-3292;**

25. **Li, S. [2001] "On diffraction in a piezoelectric medium by half-plane: The Sommerfeld problem", ZAMP (***Zeitschrift für angewandte Mathematik und Physik***), 52, 101-134;**

26. **Li, S., W.-K. Liu, D. Qian, P. Guduru, and A. J. Rosakis [2001] "Dynamic shear band propagation and micro-structure of adiabatic shear band,"** *Computer Methods in Applied Mechanics and Engineering***, 191, 73-92;**

27. Song, N., D. Qian, J. Cao, W.-K. Liu, and S. Li [2001] "Effective model for prediction of springback in flanging," ASME *Journal of Engineering Materials and Technology*, **23**, 456-461;

28. **Li, S. and W.-K. Liu [2002] "Meshfree particle methods and their applications,"** *Applied Mechanics Review***, 53, 1-34;**

29. Li, S. and D. C. Simkins Jr. [2002] "Conserving Galerkin weak formulations for computational fracture mechanics," *Communications in Numerical Methods in Engineering*, **18**, 835-850;

30. **Li, S., Liu, W.-K., Rosakis, A., Belytschko, T. and W. Hao [2002] "Meshfree Galerkin simulations of dynamic shear band propagation and failure mode transition,"** *International Journal of Solids and Structures***, 39, 1213-1240;**

31. Li, S. [2003] "On global energy release rate of a permeable crack in a piezoelectric crack," ASME *Journal of Applied Mechanics*, **70**, 246-252;

32. Li, S. [2003] "On saturation-strip model of a permeable crack in a piezoelectric ceramic," *Acta Mechanica*, **165**, 47-71;

33. O'Sullivan, S., J. D. Bray, and S. Li [2003] "A new approach for calculating strain for particulate media," *International Journal for Numerical and Analytical Methods in Geomechanics*, **27**, 859-877;

34. Li, S. and E. F. Morgan [2003] "Micromechanics modeling of plastic yielding in a solid containing mode III cohesive cracks," *International Journal of Fracture*, **119**, L105-L112;

35. Simkins, Jr., D.C. and S. Li [2003] "Effective bending stiffness for plates with micro-cracks," *Archive of Applied Mechanics*, **73**, 282-309;

36. Wang, G. and S. Li [2003] "A penny-shaped cohesive crack model for material damage," *Theoretical and Applied Fracture Mechanics*, **42**, 303-316;

37. **Li, S. [2004] "On dual conservation laws in planar elasticity,"** *International Journal of Engineering Science***, 42, 1215-1239;**

38. Li, S. and G. Wang [2004] "On damage theory of a cohesive medium," *International Journal of Engineering Science*, **42**, 861-885;

39. Liu, W.K., W. Han, H. Lu, S. Li, and J. Cao [2004] "Reproducing kernel element method Part I. Theoretical formulation," *Computer Methods in Applied Mechanics and Engineering*, **193**, 933-951;

40. **Li, S., H. Lu, W. Han, W. -K. Liu, and D. C. Simkins, Jr. [2004] "Reproducing kernel element method Part II. Globally conforming I^m/C^n hierarchies,"** *Computer Methods in Applied Mechanics and Engineering***, 193, 953-987;**

41. Lu, H., Li, S.,Simkins Jr., D.C., Liu, W.K. and J. Cao [2004] "Reproducing kernel element method Part III. Generalized enrichment and applications," *Computer Methods in Applied Mechanics and Engineering*, **193**, 989-1011;

42. Simkins, Jr., D.C., S. Li, H. Lu, and W.-K. Liu [2004] "Reproducing kernel element method Part IV. Globally compatible $C^n(n \geq 1)$ triangle hierarchy," *Computer Methods in Applied Mechanics and Engineering*, **193**, 1013-1034;

43. Li, S., A. Gupta, X. Liu, and M. Mahyari [2004] "Variational eigenstrain multiscale finite element method," *Computer Methods in Applied Mechanics and Engineering*, **193**, 1803-1824;

44. Li, S. [2004] "On dual conservation laws in linear elasticity: stress function formalism," *Nonlinear Dynamics*, **36**, 77-96;

45. Simonsen, B. C. and S. Li [2004] "Meshfree simulation of ductile fracture," *International Journal of Numerical Methods in Engineering*, **60**, 1425-1450;

46. Li, S. and A. Gupta [2004] "The Peierls stress of a screw dislocation in a piezoelectric medium," *Applied Physics Letters*, **85**, 2211-2213;

47. Li, S., G. Wang, and E. Morgan, [2004] "Effective elastic moduli of solids with cohesive microcracks," *European Journal of Mechanics* A, **23**, 925-933;

48. Li, S., X. Liu, and A. Gupta, [2005] "Smart element method I. Zienkiewicz-Zhu feedback," *International Journal for Numerical Methods in Engineering*, **62**, 1264-1294;

49. **Li, S., A. Gupta, and X. Markenscoff [2005] "Conservation laws of linear elasticity in stress formulations,"** *Proceedings of Royal Society of London* **A, 461, 99-116;**

50. Li, S. and B. C. Simonsen [2005] "Meshfree simulations of ductile crack propagation," *International Journal of Computational Engineering Science*, **6**, 1-25;

51. **To, A. C. and S. Li [2005] "Perfectly matched multiscale simulations,"** *Physical Review* **B. 72, Article No. 035414;**

52. **To, A. C., S. Li, and S. D. Glaser [2005] "On scattering in dissimilar piezoelectric materials by an interfacial crack,"** *Quarterly Journal of Mechanics and Applied Mathematics***, 58, 309-331;**

53. **Li, S., R. Sauer, and G. Wang [2005] "Circular inclusion in a finite elastic domain. I. The Dirichelt-Eshelby problem,"** *Acta Mechanica***, 179, 67-90;**

54. **Wang, G., S. Li, and R. Sauer [2005] "Circular inclusion in a finite elastic domain. II. The Neumann-Eshelby problem,"** *Acta Mechanica***, 179, 91-110;**

55. Li, S. A. C. To, and S. D. Glasser [2005] "On the scattering in a piezoelectric medium by a crack," ASME *Journal of Applied Mechanics*, **72**, 943-954;

56. Wang, G., X. Liu, S. Li, and N. Sitar [2005] "Smart element method II. Finite Eshelby formulation," *International Journal for Numerical Methods in Engineering*, **64**, 1303-1333;

57. Simkins Jr., D.C. and S. Li [2005] "Meshfree simulations of thermo-mechanical ductile fracture," *Computational Mechanics*, **38**, 235-249;

58. **Li, S. and A. Gupta [2006] "On dual configurational forces,"** *Journal of Elasticity***, 84, 12-31;**

59. Liu, X. and S. Li [2006] "A variational multiscale stabilized method for the Stokes flow problem," *Finite Elements in Analysis and Design*, **42**, 580-591;

60. To, A. C., S, Li, and S. Glasser [2006] "Propagation of a mode-III interfacial conductive crack along a conductive interface between two piezoelectric half spaces," *Wave Motion*, **43**, 369-386;

61. **Li, S., X. Liu, A. Agrawal, and A. C. To [2006] "Perfectly matched multiscale simulations for discrete systems: Extension to multiple dimensions,"** *Physical Review B***, 74, 045418.** *Virtual Journal of Nanoscale Science & Technology***, 14, Issue 5;**

62. **Medyanik, S., W.-K. Liu, and S. Li [2007] "On criteria for dynamic adiabatic shear band propagation,"** *Journal of Mechanics and Physics of Solids*, **55, 1439-1461;**

63. **Li, S., C. Linder, and J. W. Foulk III, [2007] "On configurational compatibility and multiscale energy momentum tensors,"** *Journal of Mechanics and Physics of Solids*, **55, 980-1000;**

64. **Lee, C.-L. and S. Li [2007], "A half-space Peierls-Nabarro model and the mobility of screw dislocation in a thin film,"** *Acta Materialia*, **55, 2149-2157;**

65. **Sauer, R.A. and S. Li [2007] "A contact mechanics model for quasi-continua,"** *International Journal for Numerical Methods in Engineering*, **71, 931-962;**

66. Sauer, R.A. and S. Li [2007] "An atomic interaction based continuum mechanics model for adhesive contact mechanics" *Finite Elements in Analysis and Design*, **43**, 384-396;

67. **Liu, X. and S. Li [2007] "Nonequilibrium multiscale computational model,"** *Journal of Chemical Physics*, **126, article No. 124105;**

68. Wang, G., S. Li, H.-N, Nguyen, and N. Sitar [2007] "Effective elastic stiffness for periodic masonry structures via eigenstrain homogenization," *ASCE Journal of Materials in Civil Engineering*, **19**, 269-277;

69. **Li, S., Sauer, R.A., and G. Wang [2007] "The Eshelby tensors in a finite spherical domain : I. Theoretical formulations,"** *ASME Journal of Applied Mechanics*, **74, 770-783;**

70. **Li, S., G. Wang, and R. Sauer [2007] "The Eshelby tensors in a finite spherical domain : II. Applications in homogenization,"** *ASME Journal of Applied Mechanics*, **74, 784-797;**

71. Li, S. [2007] "A Multiscale Griffith criterion," *Philosophical Magazine Letters*, **87**, 945-954;

72. **Sauer, R.A. and S. Li [2007] "An atomic interaction-based continuum model for computational multiscale contact mechanics,"** *Proceedings in Applied Mathematics and Mechanics*(**PAMM**), **7, 4080029-4080030;**

73. Liu, X., S. Li, and N. Sheng [2008] "A cohesive finite element for quasi-continua," *Computational Mechanics*, **42**, 543-553;

74. Sauer, R.A. and S. Li [2008] "An atomistically enriched continuum model for nanoscale contact mechanics and its application to contact scaling," *Journal of Nanoscience and Nanotechnology*, **8**, 3757-3773;

75. Sheng, N. and S. Li [2008] "A nonequilibrium multiscale simulation of shock wave propagation," *Mechanics Research Communications*, **35**, 10-16;

76. Qian, D., T. Eason, S. Li, and W.K. Liu [2008] "Meshfree simulation of failure modes in thin cylinder subjected to combined loads of internal pressure and localized heat," *International Journal for Numerical Methods in Engineering*, **76**, 1159-1180;

77. Li, S., N. Sheng, and X. Liu [2008] "A non-equilibrium multiscale simulation paradigm," *Chemical Physics Letters*, **451**, 293-300;

78. Sauer, R.A., G. Wang, and S. Li [2008] "The composite Eshelby tensors and their applications to homogenization," *Acta Mechanica*, **197**, 63-96;

79. **Li, S. [2008] "On variational symmetry of defect potentials and multiscale configurational force,"** *Philosophical Magazine***, 88, 1059-1084;**

80. Lee, C.-L. and S. Li [2008] "The size effect of thin films on the Peierls stress of edge dislocations," *Mathematics and Mechanics of Solids*, **13**, 316-335;

81. Sheng, N. and S. Li [2009] "A multiscale non-equilibrium molecular dynamics algorithm and its applications," *International Journal of Applied Mechanics*, **1**, 405-420;

82. Li, S. and N. Sheng [2010] "On multiscale non-equilibrium molecular dynamics simulations", *International Journal for Numerical Methods in Engineering*, **83**, 998-1038, DOI: 10.1002/nme.2849;

83. **Zeng, X. and S. Li [2010] "A multiscale cohesive zone model and simulations of fracture,"** *Computer Methods in Applied Mechanics and Engineering***, 199, 547-556;**

84. Ren, B. and S. Li [2010] "Meshfree simulations of plugging failures in high-speed impacts," *Computers & Structures*, **88**, 909-923;

85. Liu, W.K., D. Qian, S. Gonella, S. Li, W. Chen, and S. Chirputkar [2010] "Multiscale methods for mechanical science of complex materials: Bridging from quantum to stochastic multiresolution continuum", *International Journal for Numerical Methods in Engineering*, **83**, 1039C1080, DOI: 10.1002/nme.2915;

86. **Qian, J. and S. Li [2011] "Application of multiscale cohesive zone model to simulate fracture in polycrystalline solids,"** *ASME Journal of Engineering Materials and Technology***, 133, No. 011010;**

87. Ren, B., S. Li, J. Qian, and X. Zeng [2011] "Meshfree simulations of spall fracture," *Computer Methods in Applied Mechanics and Engineering*, **200**, 797-811;

88. Ren, B., J. Qian, X. Zeng, A. K. Jha, S. Xiao, and S. Li [2011] "Recent Developments on thermomechanical simulations of ductile failure by meshfree method," *CMES: Computer Modeling in Engineering & Sciences*, **71**, 253-277;

89. **Zeng, X. and S. Li [2011] "Multiscale modeling and simulation of soft adhesion and contact of stem cells,"** *Journal of the Mechanical Behavior of Biomedical Materials***, 4, 180-189;**

90. Zeng, X. and S. Li [2011] "Modeling and simulation of substrate elasticity sensing in stem cells," *Computer Methods in Biomechanics and Biomedical Engineering*, **14**, 447-458.

91. **Zeng, X. and S. Li [2012] "A three dimensional soft matter cell model for mechanotransduction,"** *Soft Matter*, **8, 5765-5778, DOI: 10.1039/c2sm07138j.**

92. He, M. and S. Li [2012] "An embedded atom hyperelastic constitutive model and cohesive finite element method," *Computational Mechanics*, **49**, 337-355;

93. **Li, S., X. Zeng, B. Ren, J. Qian, J. Zhang, and A.J. Jha [2012] "An atomistic-based interphase zone model for crystalline solids,"** *Computer Methods in Applied Mechanics and Engineering*, **229-232, 87-109. DOI: 10.1016/j.cma.2012.03.023**

94. **Ren, B. and S. Li [2012] "Modeling and simulation of large-scale ductile fracture in plates and shells,"** *International Journal of Solids and Structures*, **49, 2373-2393.**

95. **Liu, L. and S. Li [2012] "A finite temperature multiscale interphase finite element method and simulations of fracture," ASME** *Journal of Engineering Materials and Technology*, **134, No. 031014.**

96. Zeng, X. and S. Li [2012] "Application of a multiscale cohesive zone method to model composite materials," *International Journal of Multiscale Computational Engineering*, **10**, 391-405; DOI: 10.1615/IntJMultCompEng.v10.i5

97. **Ren, B. and S. Li [2013] "A three-dimensional atomistic-based process zone finite element simulation of fragmentation in polycrystalline solids,"** *International Journal for Numerical Methods in Engineering*, **93, 989-1014; DOI: 10.1002/nme.4430.**

98. Fan, H., C. Shi, and S. Li [2013] "Application of multiscale process zone model to simulate fracture in polycrystalline solids," *Journal of Multiscale Modeling*, **5**, 1350015.

99. Tu, Q.-S., M. Lee, S. Zhang, and S. Li [2014] "Molecular dynamics simulations of ions diffusion in carbon nanotubes embedded in cell," *Computer Modeling in Engineering and Science*, **98**, 247-259.

100. Zeng, X. and S. Li [2014] "A biomechanical cell model by liquid crystal elastomers," ASCE *Journal of Engineering Mechanics*, **140** (4), Article No. 04013003.

101. Li, S. and Q. Tong [2014] "On higher-order quantum stress," *Acta Mechanica*, **225**, 1235-1243.

102. **Li, S., B. Ren and H. Minaki [2014] "Multiscale Crystal Defect Dynamics: A Dual-Lattice Process Zone Model,"** *Philosophical Magazine*, **94(13), 1414-1450.**

103. **Minaki, H. and S. Li [2014] "Multiscale modeling and simulation of dynamic wetting,"** *Computer Methods in Applied Mechanics and Engineering*, **273, 274-302.**

104. Chen, Z., H. Cao, H. Zhu, J. Hu and S. Li [2014] "A simplified structural mechanics model for cable-truss footbridges and its implications for preliminary design," *Engineering Structures*, **68**, 121-133.

105. Ren, B. and S. Li [2014] "Multiscale modeling and prediction of bonded joint failures by using an adhesive process zone model," *Theoretical and Applied Fracture Mechanics*, **72**, 76-88.

106. **Fan, H. and S. Li [2014] "Modeling microtubule cytoskeleton via an active liquid crystal elastomer model,"** *Computational Materials Science***, 96, Part B, 559-566.**

107. Ren, B., H. Fan, G. L. Bergel, R. A. Regueiro, X. Lai, and S. Li [2014], "A peridynamics-SPH coupling approach to simulate soil fragmentation induced by shock waves," *Computational Mechanics*, **55**, 287-302, DOI 10.1007/s00466-014-1101-6.

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