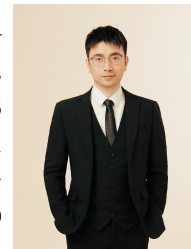


Yipin SU

Researcher, Ph.D. Supervisor, Huanjiang Laboratory
ZJU “Platform 100 Talents” Researcher
National Young Talent (Overseas)
Zhejiang Distinguished Young Scholar

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Current Appointments

2023.05–Present	Researcher	Huanjiang Laboratory, Zhuji, China
2026.04–Present	Researcher	Shaoxing University, Shaoxing, China

Professional Experience

2022.12–2023.04	Junior Researcher	Politecnico di Milano, Milan, Italy
2021.05–2022.12	Postdoctoral Fellow (Advisor: P. Ciarletta)	Politecnico di Milano, Milan, Italy
2019.12–2021.04	Postdoctoral Fellow (Advisor: Q.M. Wang)	USC, Los Angeles, USA
2017.10–2019.10	Postdoctoral Fellow (Advisor: M. Destrade)	NUI Galway, Galway, Ireland
2017.03–2017.10	Postdoctoral Fellow (Advisor: W. Chen)	Zhejiang University, Hangzhou, China

Education

2015.09–2016.05	Visiting Ph.D. Student (Applied Mathematics; Advisor: M. Destrade)	NUI Galway
2011.09–2016.12	Ph.D. (Solid Mechanics; Advisor: W. Chen)	Zhejiang University
2007.09–2011.07	B.Eng. (Engineering Mechanics)	Wuhan University

Research Interests

- Multiphysics mechanics of smart soft materials and structures: dielectric elastomers, magneto-active hydrogels, and fiber-reinforced soft electroactive materials;
- Finite deformation, waves and vibration, stability (buckling, wrinkling, snap-through), post-buckling, and mode competition;
- Soft devices, sensor design, structural health monitoring, multiphysics theory, and finite-element computation.

Honors and Academic Service

2025	Zhejiang Provincial Natural Science Foundation Distinguished Young Scholar.
2023	National-level Young Talent Program (Overseas).
2023	Young Talent Reservoir Program, Chinese Society of Theoretical and Applied Mechanics.
2023–Present	Young Editorial Board Member, <i>Applied Mathematics and Mechanics</i> .
2022–Present	Editorial Board Member, <i>Mechanics of Advanced Materials and Structures</i> .
2021–Present	Young Editorial Board Member, <i>Soft Science</i> .
2022	Class-B Young Talent, “Hometown of Celebrities” Talent Program, Shaoxing.
2019	Selected for the EU Horizon 2020 research program and an Italian government young-scholar training program.
2017	Government of Ireland Postdoctoral Fellowship.
2014, 2016	Outstanding Graduate Student, Zhejiang University.
2015	Wei Shaoxiang Scholarship, Zhejiang University.
2019	Guest Editor with W. Chen and M. Destrade , Special Issue “Nonlinear theory of electro- and magneto-elasticity,” <i>International Journal of Non-Linear Mechanics</i> .
2017–Present	Reviewer for <i>Proceedings of the Royal Society A</i> , <i>Applied Mathematics and Mechanics</i> , <i>Mechanics of Advanced Materials and Structures</i> , <i>Philosophical Transactions of the Royal Society A</i> , <i>International Journal of Solids and Structures</i> , <i>Mathematics and Mechanics of Solids</i> , etc.

International Collaboration and Visits

2019.06–2019.08	Visiting Scholar (Host: G. Devillanova)	Politecnico di Bari
2019.04–2019.06	Visiting Scholar (Host: P. Ciarletta)	Politecnico di Milano
2018.06–2018.09	Visiting Scholar (Host: G. Shmuel)	Israel Institute of Technology

Principal-Investigator Research Projects

[11] 2027.01–2030.12	NSFC General Program, “Multiphysics-coupled mechanical behavior and regulation mechanisms of viscoelastic magneto-active hydrogels,” CNY 530,000, PI.
[10] 2026.01–2028.12	Zhejiang Provincial Natural Science Foundation Distinguished Young Scholars Program, “Mechanical behavior of hydrogel materials and structures under dynamic bias fields,” CNY 800,000, PI.
[9] 2025.01–2027.12	NSFC Young Scientists Fund, “Mechanics of electro-magnetically coupled growth in biological soft tissues,” CNY 300,000, PI.
[8] 2024.01–2026.12	NSFC Excellent Young Scientists Fund (Overseas), “Multiphysics mechanics of smart soft materials and structures,” CNY 1,000,000, PI.
[7] 2024.01–2024.12	State Grid Zhejiang collaborative project, “Enhanced application of upstream and downstream industrial-chain operation monitoring for Zhejiang Electric Power,” CNY 300,000, PI.
[6] 2023.01–2025.12	Young Talent Reservoir Program, Chinese Society of Theoretical and Applied Mechanics, CNY 60,000, PI.
[5] 2021.05–2022.12	Politecnico di Milano postdoctoral project, “Mechanics of polymeric gels with multi-field coupling,” CNY 1.14 million, PI.
[4] 2019.12–2021.04	USC postdoctoral research fund, “Mechanics analysis and device design of self-healing materials,” CNY 900,000, PI.
[3] 2019.07–2019.08	Italian Government Visiting Scholar Fund, “Nonlinear deformation and instability analysis of dielectric toroids,” CNY 30,000, PI.
[2] 2017.10–2019.09	Government of Ireland Postdoctoral Fellowship, “Stability analysis of electro-magneto-mechanical materials and structures,” CNY 700,000, PI.
[1] 2015.11–2016.05	Zhejiang University Visiting Ph.D. Fund, “Wave analysis in dielectric structures,” CNY 60,000, PI.

Journal Publications

[†] denotes equal contribution/co-first authorship; ^{*} denotes corresponding author; **Invited** denotes an invited contribution.

2026

43. M. Sadab and **Y. Su**^{*}. Well-posed nonlocal anti-plane shear waves in a Zener piezoelectric viscoelastic half-space. *Physics Letters A* 596, 132148 (2026).
42. B. Daraei, Y. Wang^{*}, Z. Li, **Y. Su**, E. Carrera, C. Lü, C. Zhang, and W. Chen^{*}. A refined higher-order finite strip formulation based on Carrera Unified Formulation for the free vibration analysis of axially moving laminated composite plates. *Engineering Structures* 360, 122775 (2026).
41. R. Mao, C. Liu, G. Xia^{*}, W. Chen, M. Destrade, and **Y. Su**^{*}. Finite Electromechanical Response of Fiber-Reinforced Dielectric Elastomer Tubes Under Combined Loadings. *Acta Mechanica Solida Sinica*, accepted/in press (2026).
40. G. Xia^{*}, R. Mao, W. Chen, and **Y. Su**^{*}. Wrinkling mechanics of immersed magneto-active hydrogels. *Journal of the Mechanics and Physics of Solids* 208, 106430 (2026).
39. A. Almamo, R. Mao, M. Wei, and **Y. Su**^{*}. Effect of polarization on the vibrational behavior of the soft dielectric elastomer tube. *European Journal of Mechanics - A/Solids* 116, 105886 (2026).

2025

38. C. Liu, W. Tao, **Y. Su**, K. Li, C. Zhao, C. Lü^{*}, C. Zhang, and V. Babeshko. Influence of geometrical incompatibility on morphological instability and evolution of growing tubular soft matter. *International Journal of Engineering Science* 215, 104308 (2025).

37. K. Li, Y. Yan, **Y. Su**, C. Liu, Y. Du^{*}, and C. Lü^{*}. Buckling instability of axially loaded rotating elastomer tubes. *International Journal of Smart and Nano Materials* 16(4), 742–759 (2025).
36. G. Xia, **Y. Su**^{*}, and W. Chen^{*}. Magnetoelastic surface Green’s function and the stability of a soft magnetoactive half-space. *International Journal of Engineering Science* 214, 104289 (2025).
35. P. Kumar^{*}, N. Sharma, **Y. Su**, and S. P. Harsha. Effect of Winkler-Pasternak foundations and porosity on the electromechanical buckling responses of PZT-4/PZT-5H smart graded plate subjected to thermal loading. *International Journal of Computational Materials Science and Engineering*, 2550019 (2025).
34. P. Kumar^{*}, N. Sharma, **Y. Su**, and S. P. Harsha. Thermoelectric buckling response of nonuniform sigmoid functionally graded piezoelectric (SFGP) plate: Influence of elastic foundation and porosity. *International Journal of Computational Materials Science and Engineering*, 2550014 (2025).

2024

33. A. Almamo, **Y. Su**^{*}, W. Chen, and H. Wang. Axisymmetric Vibration of Inviscid Compressible Fluid-Filled Soft Dielectric Elastomer Actuator Tube. *Journal of Applied Mechanics* 91(10), 101003 (2024).
32. Y. Wang, Z. Li, X. Chen, Y. Tan, F. Wang, Y. Du^{*}, Y. Zhang, **Y. Su**, F. Xu^{*}, C. Wang, W^{*}. Chen, and J. Liu^{*}. Electroactive differential growth and delayed instability in accelerated healing tissues. *Journal of the Mechanics and Physics of Solids* 193, 105867 (2024).
31. A. Almamo, **Y. Su**, W. Chen^{*}, and H. Wang. Axisymmetric vibration and stability of dielectric-elastic tubular bilayer system. *Proceedings of the Royal Society A* 480, 20230727 (2024).
30. **Y. Su**^{*}, X. Shen, Z. Zhao, B. Wu, and W. Chen^{*}. Electromechanical Deformations and Bifurcations in Soft Dielectrics: A Review. *Materials* 17(7), 1499 (2024).

2023

29. Z. Zhao, X. Shen, **Y. Su**, and W. Chen^{*}. State-Space Approaches to Complex Structures in Aerospace. *Aerospace Research Communications* 1, 12394 (2023).
28. **Y. Su**[†], D. Riccobelli[†], Y. Chen[†], W. Chen^{*}, and P. Ciarletta^{*}. Tunable morphing of electroactive dielectric-elastomer balloons. *Proceedings of the Royal Society A* 479(2276), 20230358 (2023).
27. **Y. Su**^{*}, A. Xin, and Q. Wang^{*}. Mechanics of Living Lattice Composites With Growing Crystals. *Journal of Applied Mechanics* 90(5), 051006 (2023).

2021

26. G. Xia, **Y. Su**^{*}, and W. Chen^{*}. Instability of compressible soft electroactive plates. *International Journal of Engineering Science* 162, 103474 (2021).
25. A. Xin[†], **Y. Su**[†], S. Feng, M. Yan, K. Yu, Z. Feng, K. H. Lee, L. Sun, and Q. Wang^{*}. Growing Living Composites with Ordered Microstructures and Exceptional Mechanical Properties. *Advanced Materials* 33(13), 2006946 (2021).
24. K. H. Yu[†], Z. Feng[†], H. Du, A. Xin, K. H. Lee, K. Li, **Y. Su**, Q. Wang^{*}, N. X. Fang^{*}, and C. Daraio^{*}. Photosynthesis-assisted remodeling of three-dimensional printed structures. *Proceedings of the National Academy of Sciences* 118(3), e2016524118 (2021).
23. **Y. Su**^{*}, R. W. Ogden, and M. Destrade. Bending control and instability of functionally graded dielectric elastomers. *Extreme Mechanics Letters* 43, 101162 (2021).
22. W. Zhou, B. Wu, **Y. Su**, D. Liu, W. Chen, and R. Bao^{*}. Tunable flexural wave band gaps in a prestressed elastic beam with periodic smart resonators. *Mechanics of Advanced Materials and Structures* 28(3), 221–228 (2021).

2020

21. G. Xia, Y. Huang, **Y. Su**, and W. Chen^{*}. Exact axisymmetric adhesive contact analysis for a pre-deformed soft electroactive half-space. *International Journal of Solids and Structures* 207, 206–229 (2020).
20. **Y. Su**. Voltage-controlled instability transitions and competitions in a finitely deformed dielectric elastomer tube. *International Journal of Engineering Science* 157, 103380 (2020).
19. W. Zhou, Y. Chen, and **Y. Su**^{*}. Bifurcation of a finitely deformed functionally graded dielectric elastomeric tube. *International Journal of Non-Linear Mechanics* 127, 103593 (2020). **Invited contribution** to the Special Issue “Instability and Bifurcation in Materials and Structures”.
18. **Y. Su**, M. Destrade^{*}, and W. Chen. Preface to the special issue of the International Journal of Non-Linear Mechanics on Nonlinear theory of electro- and magneto-elasticity. *International Journal of Non-Linear Mechanics* 126, 103568 (2020).

17. Y. Du, **Y. Su**, C. Lü^{*}, W. Chen^{*}, and M. Destrade. Electro-mechanically guided growth and patterns. *Journal of the Mechanics and Physics of Solids* 143, 104073 (2020).
16. **Y. Su**^{*}, W. Chen, L. Dorfmann, and M. Destrade. The effect of an exterior electric field on the instability of dielectric plates. *Proceedings of the Royal Society A* 476(2239), 20200267 (2020).
15. W. Zhou, **Y. Su**, W. Chen, and C. W. Lim^{*}. Voltage-controlled quantum valley Hall effect in dielectric membrane-type acoustic metamaterials. *International Journal of Mechanical Sciences* 172, 105368 (2020).
14. C. Wang, S. Zhang, S. Nie, **Y. Su**, W. Chen^{*}, and J. Song^{*}. Buckling of a stiff thin film on a bi-layer compliant substrate of finite thickness. *International Journal of Solids and Structures* 188, 133–140 (2020).
13. Y. Chen, B. Wu^{*}, **Y. Su**, and W. Chen. Effects of strain stiffening and electrostriction on tunable elastic waves in compressible dielectric elastomer laminates. *International Journal of Mechanical Sciences* 176, 105572 (2020).
12. **Y. Su**, B. Wu, W. Chen, and M. Destrade^{*}. Pattern evolution in bending dielectric-elastomeric bilayers. *Journal of the Mechanics and Physics of Solids* 136, 103670 (2020). **Invited contribution** to the Special Issue in honor of Davide Bigoni's 60th birthday.

2019

11. **Y. Su**, W. Chen, and M. Destrade^{*}. Tuning the pull-in instability of soft dielectric elastomers through loading protocols. *International Journal of Non-Linear Mechanics* 113, 62–66 (2019). **Invited contribution** to the Special Issue “Mathematics & Mechanics: Natural Philosophy in the 21st Century”.
10. Y. Chen, B. Wu, **Y. Su**, and W. Chen^{*}. Tunable two-way unidirectional acoustic diodes: design and simulation. *Journal of Applied Mechanics* 86, 031010 (2019).
9. **Y. Su**, B. Wu, W. Chen, and M. Destrade^{*}. Finite bending and pattern evolution of the associated instability for a dielectric elastomer slab. *International Journal of Solids and Structures* 158, 191–209 (2019).

2018

8. **Y. Su**, H. C. Broderick, W. Chen, and M. Destrade^{*}. Wrinkles in soft dielectric plates. *Journal of the Mechanics and Physics of Solids* 119, 298–318 (2018).
7. **Y. Su**, B. Wu, W. Chen, and C. Lü^{*}. Optimizing parameters to achieve giant deformation of an incompressible dielectric elastomeric plate. *Extreme Mechanics Letters* 22, 60–68 (2018).
6. B. Wu, **Y. Su**, D. Liu, W. Chen^{*}, and C. Zhang^{*}. On propagation of axisymmetric waves in pressurized functionally graded elastomeric hollow cylinders. *Journal of Sound and Vibration* 421, 17–47 (2018).

2017

5. W. Zhou, W. Chen^{*}, X. Shen, **Y. Su**, and E. Pan. On surface waves in a finitely deformed coated half-space. *International Journal of Solids and Structures* 128, 50–66 (2017).
4. B. Wu, **Y. Su**, W. Chen, and C. Zhang^{*}. On guided circumferential waves in soft electroactive tubes under radially inhomogeneous biasing fields. *Journal of the Mechanics and Physics of Solids* 99, 116–145 (2017).

2016

3. **Y. Su**, W. Zhou, W. Chen, and C. Lü^{*}. On buckling of a soft incompressible electroactive hollow cylinder. *International Journal of Solids and Structures* 97–98, 400–416 (2016).
2. **Y. Su**, H. Wang, C. Zhang, and W. Chen^{*}. Propagation of non-axisymmetric waves in an infinite soft electroactive hollow cylinder under uniform biasing fields. *International Journal of Solids and Structures* 81, 262–273 (2016).

2014

1. **Y. Su** and W. Chen^{*}. Axisymmetric waves in incompressible soft electroactive cylindrical shells subject to a biasing field (in Chinese). *Chinese Journal of Applied Mechanics* 31(1), 7–13 (2014).

Academic Presentations

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| 2024.03.29–04.21 | Oral presentation, “Enhancement mechanisms for the stability of dielectric elastomers,” 2024 National Conference on Solid Mechanics, Nanjing, China. |
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2020.01.18	Oral presentation, “Pattern evolution in bending dielectric-elastomeric bilayers,” 1st Southern California Mechanics Workshop, San Diego, USA.
2019.07.11–12	Oral presentation, “Instabilities in soft dielectrics,” Two Nonlinear Days 2019, Urbino, Italy.
2019.07.01–05	Oral presentation, “Pattern evolution in bending dielectric-elastomeric bilayers,” International Workshop on Multiscale Spectrum, Castro, Italy.
2018.06.11–15	Oral presentation, “Wrinkles in soft dielectric plates,” ECCM-ECFD, Glasgow, UK.
2018.05.12	Oral presentation, “Voltage-induced self-bending and the associated instability of an elastomer-dielectric bilayer,” Elasticity Day 2018, Manchester, UK.
2017.09.03–07	Oral presentation, “Waves in functionally graded dielectric tubes,” ICCS20, Paris, France.
2017.08.14–16	Oral presentation, “Viscoelastic deformation and the associated snap-through instability of an incompressible dielectric plate,” CCTAM 2017, Beijing, China.
2015.12.03–04	Poster, “Propagation of non-axisymmetric waves in a soft electroactive hollow cylinder under uniform biasing fields,” Symposium: Advances in Mechanics, Dublin, Ireland.
2012.10.10–13	Oral presentation, “Waves in Soft Electroactive Cylindrical Shells Subject to Elastic and Electric Biasing Fields,” ICAST 2012, Nanjing, China.