

# **Dr. Zhuojia FU's research fruits under Humboldt Fellowship**

- ✧ **Promote to a full professor position at Hohai University**
- ✧ **Listed as Elsevier's 2019 Chinese Most Cited Researchers  
(General Engineering)**
- ✧ **Join as an Editor board member of “Engineering Analysis  
with Boundary Elements”**

## ✧ **Publication list**

### ➤ **Paper with acknowledging to Humboldt Fellowship (ID: 1195938)**

1. **Fu Z J**, Li A L, Zhang C Z, Fan C M, Zhuang X Y. A localized meshless collocation method for bandgap calculation of anti-plane waves in 2D solid phononic crystals[J]. Engineering Analysis with Boundary Elements, 2020, 119: 162-182.
2. **Fu Z J**, Xi Q, Li Y, et al. Hybrid FEM–SBM solver for structural vibration induced underwater acoustic radiation in shallow marine environment[J]. Computer Methods in Applied Mechanics and Engineering, 2020, 369: 113236.
3. Tang Z C, **Fu Z J**, Chen C S. A localized MAPS using polynomial basis functions for the fourth-order complex-shape plate bending problems[J]. Archive of Applied Mechanics, 2020, 90(10): 2241-2253.
4. Reutskiy S, **Fu Z J**. A semi-analytic method for fractional-order ordinary differential equations: Testing results[J]. Fractional Calculus and Applied Analysis, 2018, 21(6): 1598-1618.
5. Xi Q, **Fu Z J**, Wu W, et al. A novel localized collocation solver based on Trefftz basis for potential-based inverse electromyography[J]. Applied Mathematics and Computation, 2021, 390: 125604.
6. **Fu Z J**, Yang L W, Xi Q, et al. A boundary collocation method for anomalous heat conduction analysis in functionally graded materials[J]. Computers & Mathematics with Applications, 2020. <https://doi.org/10.1016/j.camwa.2020.02.023> (online)
7. **Fu Z J**, Chu W H, Yang M, et al. Estimation of Tumor Characteristics in a Skin Tissue by a Meshless Collocation Solver[J]. International Journal of Computational Methods, 2020. <https://doi.org/10.1142/S0219876220410091> (online)
8. **Fu Z J**, Li A L, Zhang H. Acoustic Bandgap Calculation of Liquid Phononic Crystals via the Meshless Generalized Finite Difference Method[M]//Advances in Trefftz Methods and Their Applications. Springer, Cham, 2020: 189-203.
9. **Fu Z J**, Li J P, Xi Q. Fast Singular Boundary Method: Mathematical Background and

Application in Wave Propagation Analysis[J]. WIT Transactions on Engineering Sciences, 2019, 126: 177-188.

➤ **The other paper with IKM as one of the affiliations**

1. Xi Q, **Fu Z J**, Li Y, et al. A Hybrid GFDM–SBM Solver for Acoustic Radiation and Propagation of Thin Plate Structure Under Shallow Sea Environment[J]. Journal of Theoretical and Computational Acoustics, 2020, 28(02): 2050008.
2. Xi Q, Chen C S, **Fu Z J**, et al. The MAPS with polynomial basis functions for solving axisymmetric time-fractional equations[J]. Computers & Mathematics with Applications, 2019. <https://doi.org/10.1016/j.camwa.2019.11.014> (online)

✧ **Conference talk**

1. **Fu Z J**, Li A L, Chu W H. Bandgap calculation of elastic wave in 2D solid phononic crystals by the meshless generalized finite difference method, The 11th International Conference on Computational Methods (ICCM2020), Virtual conference, 2020.8.9-8.12 (keynote talk, co-chair of mini symposium “Kernel and machine learning based solutions of PDEs”)
2. **Fu Z J**, Xu W Z, Xi Q, Tang Z C. A robust kernel-based solver based on problem-dependent RBFs for PDEs under 2D/3D irregular domains, 6th Asia-Pacific International Conference on Computational Methods in Engineering & 12th Chinese National Conference on Computational Methods in Engineering & 2nd Conference on Boundary Element and Dimension Reduction Methods, Dalian, 2019.9.27-9.30 (keynote talk)
3. **Fu Z J**, Xi Q. Structure-acoustic coupling analysis in shallow sea by coupled finite element and singular boundary method, 8th International Conference on MECHANICS AND MATERIALS IN DESIGN, Bologna, 2019.9.4-9.6
4. **Fu Z J**, Li J P, Xi Q. Singular boundary method: recent development and application in wave propagation analysis, The 5th International Workshop on Meshless Methods, Qingdao, 2018.8.23-8.25 (Invited talk, co-chair of mini symposium)
5. **Fu Z J**, Semi-analytical boundary collocation solvers: recent advances and applications, 9TH CONFERENCE ON TREFFTZ METHODS AND 5TH CONFERENCE ON METHOD OF FUNDAMENTAL SOLUTIONS, Lisbon, 2019.7.29-7.31 (invited talk, co-chair of mini symposium)
6. Xi Q, **Fu Z J**. A coupling solver for the acoustic-vibration coupling response of shell structure, 20th International Conference on Boundary Element Techniques (BeTeq2019), Palermo, 2019.7.22-7.24
7. **Fu Z J**, Li A L, Chu W H. Bandgap calculation of elastic wave in 2D solid phononic crystals by the meshless generalized finite difference method, The 10th International Conference on Computational Methods (ICCM2019), Singapore, 2019.7.9-7.13 (keynote talk, co-chair of mini symposium “Novel Mesh-Reduction Methods for Engineering & Sciences”)
8. **Fu Z J**, Li J P, Xi Q. Fast singular boundary method: mathematical background and application in wave propagation analysis, 42nd International Conference on Boundary Elements and other Mesh Reduction Methods (BEM/MRM 42), Coimbra, 2019.7.2-7.4
9. **Fu Z J**, Yang L W, Xi Q. Self-Regularization Singular boundary method for wave propagation analysis under homogeneous solid containing multiple inclusions, 7th

International Congress of Serbian Society of Mechanics, Sremski Karlovci, Serbia,  
2019.06.24-26 (co-chair of mini symposium “Waves and diffusion in complex media”)

## ✧ **Awards**

1. International Computational Method Young Investigator Award (2019), ICCM2019.
2. DU Qing-Hua Medal & Young Researcher Award of Computational Methods in Engineering (2019), ICOME2019.