

Website: [www.ywbin.com](http://www.ywbin.com)

Email: [ywbin@pku.edu.cn](mailto:ywbin@pku.edu.cn)

College of Engineering

Peking University

## Professional Appointments

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2021–on **Visiting Scholar** @FPCRL (PI: Xiang IA Yang) of the Pennsylvania State Univerisity

## Education

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2019–on **Ph.D. candidate** in *Mechanics*, Peking University

2015–2019 **Bachelor degree** in *Energy Engineering*, University of Science and Technology of China

2015–2019 **Double degree** in *Computer Science*, University of Science and Technology of China

2017–2017 **Exchange student**, National Tsing Hua University

## Notable Awards and Scholarships

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2023 **“CFD Best Paper Award”** in 2023 International Mechanical Engineering Congress & Exposition

2023 Peking University President’s Scholarship

2021 Peking University President’s Scholarship

2021 Outstanding Graduate of University of Science and Technology of China

## Publications

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2023 Enhancing generalizability of machine-learning turbulence models.

*Pre-print.*

Li, J., **Bin, Y.**, Huang, G., & Yang, X. I A.

2023 Large-eddy simulation of separated flows on unconventionally coarse grids.

*Journal of Fluid Engineering.*

**Bin, Y.**, Park, G. I., Lv, Y., & Yang, X. I A.

2023 *A priori* screening of data-enabled turbulence models.

*Pre-print, submitted to Physical Review Fluids.*

Chen, P. E S, **Bin, Y.**, Yang, X. I A, Shi, Y., Abkar, M., & Park, G. I..

2023 Constrained re-calibration of Reynolds-averaged Navier-Stokes models.

*AIAA Journal.*

**Bin, Y.**, Huang, G., Kunz, R., & Yang, X. I A.

2023 *A priori* investigation on heavy particles movement in compressible homogenous isotropic turbulence.

*Chinese Journal of Theoretical and Applied Mechanics.*

**Bin, Y.**, Wu, Q., Xia, Z., & Shi, Y..

- 2023 Data-enabled re-calibration of the Spalart-Allmaras model.  
*AIAA Journal*.  
**Bin, Y.**, Huang, G., & Yang, X. I A.
- 2022 Evolution of two counter-rotating vortices in a stratified turbulent environment.  
*Journal of Fluid Mechanics*.  
**Bin, Y.**, Yang, X. I A, Yang, Y., Ni, R., & Shi, Y..
- 2022 Progressive, extrapolative machine learning for near-wall turbulence modeling.  
*Physical Review Fluids*.  
**Bin, Y.**, Chen, L., Huang, G., & Yang, X. I A.
- 2021 A new idea to predict reshocked RichtmyerMeshkov mixing: Constrained large-eddy simulation.  
*Journal of Fluid Mechanics*.  
**Bin, Y.**, Xiao, M., Shi, Y., Zhang, Y., & Chen, S..

## Interested Research Directions

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- Stratified flow
- Mesh generation
- Reduce-order model
- Turbulence model
- ML in turbulence
- Vortex dynamics
- Numerical scheme
- etc.

## Technical and Personal skills

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- **Programming Languages:** C, C++, Python, Fortran, Matlab.
- **Industry Software Skills:** OpenFOAM, PointWise, SolidWorks, AutoCAD.