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Name: Yingjie Liang

Date of birth: 08.08.1988

Nationality: Chinese

Email: liangyj@hhu.edu.cn

Postmail: Focheng West Road #8, Nanjing, Jiangsu Province, 211100, China

ResearcherID: AAO-5374-2020 (H-index: 18, Citations: 1049)

ORCID: 0000-0002-3201-6969

Degrees

- 01/09/2011-22/12/2016: **Ph.D.**, Engineering Mechanics, Hohai University, P. R. China, Supervisor: Prof. Wen Chen
- 01/09/2007-21/06/2011: **B.S.**, Applied Mathematics, Hohai University, P. R. China

Professional Experiences

- 01/05/2022-Now: **Humboldt Research Fellowship** for Postdoctoral Researchers, Institute of Physics & Astronomy, University of Potsdam, Host supervisor: Prof. Ralf Metzler
- 01/07/2019-Now: **Associate Professor**, Engineering Mechanics, Hohai University, P. R. China
- 26/12/2016-30/06/2019: **Assistant Professor**, Engineering Mechanics, Hohai University, P. R. China
- 01/07/2016-14/07/2016: **Visiting Research scholar**, Mechanical Engineering, University of Belgrade, Serbia, Host supervisor: Prof. Mihailo P. Lazarević
- 06/08/2015-13/08/2015: **Visiting Research scholar**, Divisions of Applied Mathematics, Brown University, US, Host supervisor: Prof. George Em Karniadakis
- 03/11/2014-04/11/2015: **Joint Ph.D. student**, Richard and Loan Hill Department of bioengineering, University of Illinois at Chicago, US, Host supervisor: Prof. Richard L. Magin
- 21/06/2014-04/07/2014: **Visiting Research scholar**, Mathematics, Czestochowa University of Technology, Poland, Host supervisor: Prof. Malgorzata Klimek

Research areas

- My research focuses on statistical physics, solid and fluid mechanics and physics-motivated data science. Key topics include the theory and applications of anomalous and ultraslow stochastic processes of water and tracer in geo-mechanical, building-engineering and biological materials. The methods are analytics, numerics and simulations. I collaborate with a number of theoretical and experimental groups worldwide.

Publications

- I have published 2 monograph, **56** peer reviewed papers in international SCI journals, **12** papers in Chinese and **1** book chapter.

Patents

- [1] **Liang Y J**, Tian P. A method to predict the cumulative adsorption of water in swelling media. CN202110779223.2, 29/04/2022.
- [2] **Liang Y J**, Guan P. A method to predict the ultraslow creep of viscoelastic material. CN202011318659.3, 07/09/2021.

- [3] **Liang Y J**, Wang S. A method to determine the pattern of non-exponential signal decay in magnetic resonance imaging. CN201910609063.X, 31/07/2021.
- [4] Qiu L, **Liang Y J**. A prediction method of high performance concrete strength based on memristor gradient descent neural network. CN201910609063.X, 11/06/2021.
- [5] **Liang Y J**, Xu W, Dong T, Kong Z, Li Y, Liang G. A method to quantify the multi-scaling characteristics of tracer transport in heterogeneous media. CN201810048013.4, 06/04/2021.
- [6] **Liang Y J**, Yang X, Wang J, Wang L, Jiao H, Huang X. A method to quantify the time and space correlated features of tracer transport in porous media. CN201810440742.4, 05/05/2020.
- [7] **Liang Y J**, Chen W, Xiao R. A method to characterize the aging of dense colloidal. CN201710284489.3, 30/7/2019.
- [8] Chen W, **Liang Y J**. A method to determine the power law dependent pattern of state for actual gas. CN201610273190.3, 11/05/2018.
- [9] Chen W, **Liang Y J**. A design method for characteristic value of live load by using Lévy stable distributions. CN201210491548.1, 24/06/2015. (Transferred to the company 08/04/2018: Construction engineering quality supervision and testing station in Anhui province).

Software Copyrights

- [1] Chen W, **Liang Y J**, Sun H. Numerical computing software of Lévy stable distribution-V1.0. 2011SR086805, 24/11/2011.
- [2] Chen W, Yuan C, **Liang Y J**. Numerical computing software of Lévy stable distribution-V2.0. 2012SR123065, 12/12/2012.
- [3] Chen W, **Liang Y J**. Numerical computing software of Mittag-Leffler distribution-V1.0. 2013SR023946, 14/03/2013.
- [4] Chen W, **Liang Y J**. Numerical computing software of geometric stable distribution-V1.0, 2014SR123218, 19/08/2014.
- [5] Chen W, **Liang Y J**, Hu L. Numerical computing software of Linik distribution-V1.0, 2014SR212062, 26/12/2014.
- [6] Wang J, **Liang Y J**, Numerical computing software for heterogeneous structure columns under eccentric pressure-V1.0, 2019SR0604443, 13/06/2019.

Research Grants

- [1] **PI**, National Natural Science Foundation of China, Grant No. 12372382, 01/01/2024-31/12/2027.
- [2] **PI**, Humboldt research grant for postdocs (Germany), Grant No. 1217531, 01/05/2022-31/07/2024.
- [3] **PI**, National Natural Science Foundation of China, Grant No. 11702085, 01/01/2018-31/12/2020.
- [4] **PI**, China Postdoctoral Science Foundation Funded Project (first prize), Grant No. 2018M630500, 01/06/2018-30/05/2020.
- [5] **PI**, Science & Technology Young Talents of Jiangsu Province, Grant No. 2-32, 01/10/2017-30/09/2019.
- [6] **PI**, China Scholarship Council for Joint PhD Student, Grant No. 2015B05614, 03/11/2014-04/11/2015.
- [7] **PI**, Program for Excellent Doctoral Dissertation, Grant No. 2015B05614, 01/01/2015-30/09/2016.

Conferences

- [1] The 4th International Symposium on Operational and Stochastic Methods in Fractional Dynamics, 05-09/09/2023, Krakow, Poland. (Oral talk)
- [2] The 14th Conference of the Society of Physicists of Macedonia, 15-18/09/2022, Ohrid, North Macedonia. (Oral talk)

- [3] Fluctuations in Small Complex Systems VI, 05-09/09/2022, Venice, Italy. (Poster)
- [4] International Conference on Fractional Differentiation and its Applications, 06-08/09/2021, Warsaw, Poland. (Oral talk)
- [5] AGU Fall Meeting, 10-14/12/2018, Washington, D.C., USA. (Poster)
- [6] International Workshop on Numerical Analysis and Applications of Fractional Differential Equations, 16-18/11/2018, Xuchang, China (**Plenary talk, chairman**).
- [7] International Conference on Fractional Differentiation and its Applications, 16-18/07/2018, Amman, Jordan (**Organized 1 session, chairman**).
- [8] Transform Methods and Special Functions, 27-30/08/2017, Sofia, Bulgaria. (Oral talk)
- [9] International Conference on Fractional Differentiation and its Applications, 18-20/07/2016, Novid Sad, Serbia (**Plenary talk**).
- [10] Engineering Mechanics Institute Conference, 16-19/06/, 2015, Stanford University, CA, America. (Poster)
- [11] International Conference on Fractional Differentiation and its Applications, 23-25/06/2014, Catania, Italy. (Oral talk)
- [12] International Conference on Fractional Signal and Systems, 24-26/10/2013, Ghent, Belgium. (Oral talk)
- [13] Symposium on Fractional Differentiation and Its Applications, 14-17/05/2012, Nanjing, China. (Poster)
- [14] An International Workshop of Reliability and Risk Management, 3-7/07/2011, Shanghai, China.

Editorial Services

- [1] Invited committee member of Environmental Mechanics (2021-)
- [2] General committee member of Fractional Order Systems and Controls (2018-)
- [3] Editor of monthly newsletter “FDA Express” (2018-): subscribed by more than 2500 researchers
- [4] Topics Editor of the journal “Fractal and Fractional”, and journals reviewer of more than 10 journals

Awards

- [1] Humboldt Fellow (2022)
- [2] Fractional Calculus Award (2020)
- [3] Science & Technology Young Talents of Jiangsu Province (2017)
- [4] DaYu Fellow of Hohai University (2017-2019)
- [5] PhD Student National Scholarship (2016, 2015, 2014, 2012), Undergraduate National Scholarship (2010)

Teaching

- [1] Advanced computational mechanics (English), graduate/international student course, 2019-2021
- [2] Stochastic differential equation (Chinese), graduate student course, 2018-2021
- [3] Structural mechanics (Chinese), undergraduate course, 2017-2022
- [4] Scientific writing and presentation (English), graduate/international student course, 2017-2022

Co-supervised PhD students

- [1] Wei Xu (2017.01-2020.12)
- [2] Xu Yang (2017.01-2020.12)