

# YINFENG ZHU

## PERSONAL INFORMATION

*Birthdate*      Sep 25, 1990  
*Birthplace*     China  
*Nationality*    Chinese  
*Gender*         Male  
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## EDUCATION

2009 - 2013      *Bachelor* · Materials Science and Engineering, Shanghai Jiao Tong University  
2014 - 2020      *Ph.D* · Mathematics, Shanghai Jiao Tong University

## WORK EXPERIENCE

2020 - 2023      *Postdoc* · School of Mathematical Sciences, Shanghai Jiao Tong University

## PUBLICATIONS

- 2023      Yaokun Wu, Yinfeng Zhu, *Primitivity and Hurwitz Primitivity of Nonnegative Matrix Tuples: A Unified Approach*, SIAM Journal on Matrix Analysis and Applications, 44 (2023) 196 – 211.
- 2022      Yaokun Wu, Yinfeng Zhu, *Submodular functions and rooted trees*, Theory of Computing Systems, 66 (2022) 1047–1073.
- 2022      Yaokun Wu, Yinfeng Zhu, *Top-heavy phenomena for transformations*, Ars Math. Contemp. 22 (2022), #4.09.
- 2020      Yaokun Wu, Yinfeng Zhu, *Weighted rooted trees: Fat or tall?*, In: Fernau, H. (ed.) Computer Science – Theory and Applications. pp. 406 - 418. Springer International Publishing, Cham (2020)
- 2020      Yanzhen Xiong, Soesoe Zaw, Yinfeng Zhu, *Competition numbers and phylogeny numbers of connected graphs*, Algebra Colloquium, 27 : 1 (2020) 79 - 86.
- 2018      Yaokun Wu, Zeying Xu, Yinfeng Zhu, *A five-element transformation monoid on labelled trees*, European Journal of Combinatorics 80 (2019) 401 - 415.
- 2018      Eiichi Bannai, Da Zhao, Lin Zhu, Yan Zhu, Yinfeng Zhu, *Half of an antipodal spherical design*, Archiv der Mathematik, 10(5):459–466, May 2018.
- 2017      Yaokun Wu, Zeying Xu, Yinfeng Zhu, *Strongly connected multivariate digraphs*, The Electronic Journal of Combinatorics, 24(1) (2017) #P1.47, 44 pp.
- 2016      Yaokun Wu, Zeying Xu, Yinfeng Zhu, *An expansion property of Boolean linear maps*, The Electronic Journal of Linear Algebra, 31 (2016) 381 - 407.
- 2016      Yaokun Wu, Zeying Xu, Yinfeng Zhu, *Average range of Lipschitz functions on trees*, Moscow Journal of Combinatorics and Number Theory, 6(1) (2016) 96 - 116.
- 2015      Yaokun Wu, Yinfeng Zhu, *Lifespan in a strongly primitive Boolean linear dynamical system*, The Electronic Journal of Combinatorics, 22(4) (2015) #P4.36, 21 pp.
- 2014      Jing Wang, Le Liang, Meng-yan Wu, Shi-hao Chen, Yinfeng Zhu, Guan-xiong Qu, Bo-han Zheng, Lan-ting Zhang, *Research progress on grain boundary fine*

*microstructure magnetic properties of sintered NdFeB magnet*, The Chinese Journal of Nonferrous Metals, 2014, 24(6): 1562-1577.

### TALKS

- Oct 12, 2023 *Primitivity and hurwitz primitivity of nonnegative* · 2023 Tianjing Workshop on Graph Theory and Combinatorics · Nankai Univ.
- Jun 23, 2022 *Hurwitz primitivity and synchronizing automata* · ILAS 2022 · Galway, Ireland
- Jul 7, 2022 *Automata with an almost constant rank property on words* · Ural Seminar on Group Theory and Combinatorics · Yekaterinburg-Online, Russia
- Nov 7, 2021 *Primitive matrix sets and synchronizing automata* · Workshop on Combinatorics, Graph Theory and Number Theory · Southern University of Science and Technology
- Jun 30, 2020 *Weighted rooted trees: Fat or tall?* · Computer Science in Russia 2020 · online
- Oct 30, 2019 *Graph gluing algebra and graph density inequalities* · Math Pop-up Salon III · Shanghai Jiao Tong Univ.
- Aug 26, 2019 *Path-liftable digraph homomorphisms and non-liftable indices* · Minisymposium on discrete dynamical systems · Shanghai Jiao Tong Univ.
- July 2, 2019 *Unimodality and transformation semigroups* · The 2019 Workshop on Combinatorics and Quantum Information Theory · Shanghai Univ.
- May 31, 2019 *Path-liftable digraph homomorphisms and non-liftable indices* · The Canadian Discrete and Algorithmic Mathematics Conference · Simon Fraser Univ.
- May 24, 2019 *Up and down in a tree* · Combinatorics Seminar · Shanghai Jiao Tong Univ.
- Apr 11, 2019 *Homogeneity of transformation semigroups* · Workshop on Dynamics and Information · Shanghai Jiao Tong Univ.
- Aug 18, 2018 *Phase spaces and kernel spaces of transformation semigroups* · The International Conference and PhD-Master Summer School on "Graphs and Groups, Representations and Relations" · Novosibirsk State Univ.
- Jul 17, 2018 *Multivariate digraphs and higher order Markov chains* · International Workshop on Matrices and Operators · Shanghai Univ.
- Oct 31, 2016 *Combinatorics of Discrete Dynamical Systems* · International Workshop on Algebraic Combinatorics · Anhui Univ.
- Dec 08, 2015 *Hamiltonian thickness and fault-tolerant spanning rooted path systems of graphs* · Combinatorics Seminar · Shanghai Jiao Tong Univ.
- Apr 25, 2015 *A Glimpse at Boolean Linear Dynamical Systems* · Workshop on Combinatorics and Applications · Shanghai Jiao Tong Univ.
- Apr 4, 2014 *Fault-tolerant spanning path systems and forward degrees of graphs* · Combinatorics Seminar · Shanghai Jiao Tong Univ.

### AWARDS

- 2019 Shanghai Outstanding Graduate
- 2019 China National Scholarship
- 2017 Huawei Graduate Student Scholarship

2016 Qiu Shi Graduate Student Scholarship

2016 Freshman Scholarship

September 7, 2023