

Yangyang Luan

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Phone: +86 155-2702-2116

Email: yyluan1999@gmail.com (luanyy_1704@whu.edu.cn)

Address: No. 299, Bayi Road, Wuchang District, Wuhan City, Hubei Province, China

EDUCATION

School of Mathematics and Statistics, Wuhan University, China

Sep. 2021 – Now

Ph.D. in Applied Mathematics

Supervisor: Prof. Xiaoqun Wu

School of Mathematical Sciences, Anhui University, China

Sep. 2017 – Jun. 2021

B.Sc. in Information and Computing Science

Supervisor: Prof. Haifeng Zhang

RESEARCH EXPERIENCE

Department of Electrical Engineering, Linköping University, Sweden

Oct. 2024 – Oct. 2025

Visiting Ph.D. Student in Division of Automatic Control

Supervisor: Prof. Claudio Altafini

RESEARCH INTERESTS

Modeling, analysis, and control of complex (social) networks and multi-agent systems, including but not limited to opinion dynamics, network games, link prediction, synchronization, and node centrality.

PUBLICATIONS

Journal Articles

* corresponding author

- [5] **Y. Luan** and coauthors. Social power evolution within multi-topic opinion formation on signed networks. In preperation.
- [4] **Y. Luan**, C. Ancona, C. Bernardo, V. Pansanella, F. L. Iudice, G. Rossetti, F. Vasca, X. Wu, and C. Altafini*. Cognitive boundaries shape social interaction: Empirical evidence for bounded confidence in online networks. Under Review.
- [3] **Y. Luan**, X. Wu*, and J. Lü. *Coevolutionary dynamics of multidimensional opinions over coopetitive influence networks*. *Automatica*, 177:112279, April 2025. [regular paper]
- [2] **Y. Luan**, X. Wu*, and B. Liu. *Maximizing synchronizability of networks with community structure based on node similarity*. *Chaos*, 32(8):083106, August 2022.
- [1] **Y. Luan**, Z. Bao*, and H. Zhang. *Identifying influential spreaders in complex networks by considering the impact of the number of shortest paths*. *Journal of Systems Science & Complexity*, 34(6):2168–2181, June 2021.

Contributing Works

* corresponding author

- [3] M. A. Razaq, **Y. Luan**, and C. Altafini*. Signed DeGroot-Friedkin model, working.
- [2] J. Wang, **Y. Luan**, and X. Wu*. Equilibrium analysis of edge-heterogeneous binary network games. *Applied Mathematics and Computation*, 511:129723, September 2025.
- [1] J. Li, **Y. Luan**, X. Wu*, and J.-A. Lu. *Synchronizability of double-layer dumbbell networks*. *Chaos*, 31(7):073101, July 2021.

ACADEMIC PRESENTATIONS

- [6] The 21th Chinese Conference on Complex Networks (CCCN 2025), Hangzhou, China *Coevolutionary dynamics of multidimensional opinions over coopetitive networks*  Oct. 10–12, 2025
- [5] Swedish Control Conference 2025 (Reglermöte 2025), Lund, Sweden *Combining homophily in interaction and opinion spaces: A bounded confidence approach* Jun. 11–13, 2025
- [4] The 20th China Networks Science Forum (CNetSci 2024), Beijing, China *Coevolutionary dynamics of multidimensional opinions over coopetitive networks* May 17–19, 2024

[3] The 19th Chinese Conference on Complex Networks (CCCN 2023), Guilin, China <i>Coevolutionary behaviors of multidimensional opinion dynamics on signed networks</i>	<i>Nov. 3–5, 2023</i>
[2] The 19th China Networks Science Forum (CNetSci 2023), Chongqing, China <i>Network synchronizability optimization algorithm based on link prediction</i>	<i>May 12–14, 2023</i>
[1] The 17th Chinese Conference on Complex Networks (CCCN 2021), Beijing, China <i>Identification algorithm of influential spreaders in complex networks</i>	<i>Oct. 29–31, 2021</i>

ACADEMIC EVENTS ATTENDED

[3] The 23rd European Control Conference (ECC 2025), Thessaloniki, Greece	<i>Jun. 24–27, 2025</i>
[2] The Workshop on Complex Systems Science and Innovative Applications, Hefei, China	<i>Apr. 27, 2024</i>
[1] The 3rd Academic Workshop on Network Science and Mathematics, Shenzhen, China	<i>Jan. 12–14, 2024</i>

SELECTED AWARDS AND HONORS

- **Best Student Paper Award (First Prize)**, The 21st Chinese Conference on Complex Networks *Oct. 2025*
- **Top Innovative Talent in Basic Disciplines**, Wuhan University *Apr. 2025*
- **Lei Jun Education Foundation Travel Grant**, Wuhan University *Mar. 2025*
- **National Government Study Abroad Scholarship**, Ministry of Education, China *Jul. 2025*
- **Excellent Graduate Student**, Wuhan University *Dec. 2022*
- **National Scholarship**, Ministry of Education, China *Oct. 2022*
- **Outstanding Graduate Freshman Scholarship**, Wuhan University *Oct. 2021*
- **Graduate With Honors**, Anhui University *May 2021*
- **National Encouragement Scholarship**, Ministry of Education, China *Oct. 2018, 2020*
- **Outstanding Student Scholarship**, Anhui University *Oct. 2019*

ACADEMIC SERVICES

Journal Reviewers

- Automatica
- IEEE Transactions on Automatic Control
- IEEE Transactions on Circuits and Systems II: Express Briefs

Conference Reviewers

- European Control Conference