

# Chengyan Zhao

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Citizenship: Chinese

## Area of expertise

Positive systems, Switched linear systems, Complex networks, Magnetic bearing system control.

## Education

04/2018 – 03/2021 Ph.D. in Information Science, *Nara Institute of Science and Technology*  
09/2011 – 07/2013 M.Eng. in Control Engineer, *Northeastern University (China)*  
09/2007 – 07/2011 B.Eng. in Automatic Control, *Northeastern University (China)*

## Work experience

09/2013 – 09/2016 Control engineer, *Dalian Urban Development Co.,Ltd., (Dalian, China)*  
04/2021 – Assistant Professor, *Ritsumeikan University, Japan.*

## Awards

09/2017 – 03/2021 Japanese Government (MEXT) Scholarships

## Short term visits

01/2020 – 02/2020 Department of Mechanical Engineering, *University of Hong Kong*

## Research Support

- [1] PI, International Collaborative Research Promotion Program, *Ritsumeikan University, 2022/03-2023/03.*
- [2] PI, Nagamori Foundation, “Optimal control of 5-DOF self-bearing motor based on data-driven LQG approach”, *2022/09-2023/09.*
- [3] Member, *Toyota Motor Corporation & Kyoto University*, “Advanced Mathematical Science for Mobility Society”, *2021/03-.*

## Publications

### Journal Articles

- [1] C. Zhao, M. Ogura, and K. Sugimoto, "Stability optimization of positive semi-Markov jump linear systems via convex optimization", *SICE Journal of Control, Measurement, and System Integration*, vol. 13, no. 5, pp. 233–239, 2020.
- [2] W. Mei, C. Zhao, M. Ogura, and K. Sugimoto, "Mixed  $H_2/H_\infty$  control for Markov jump linear systems with state and mode-observation delays", *IET Control Theory and Applications*, vol. 14, no. 15, pp. 2076–2083, 2020.
- [3] C. Zhao, M. Ogura, M. Kishida, and A. Yassine, "Optimal resource allocation for dynamic product development process via convex optimization", *Research in Engineering Design*, vol. 32, pp. 71–90, 2021.
- [4] C. Zhao, K. Sakurama, and M. Ogura, "Optimization of buffer networks via DC programming", *IEEE Transactions on Circuits and Systems II: Express Briefs*, vol. 70, no. 2, pp. 606–610, 2022.
- [5] H. Li, X. Yue, C. Zhao, and L. Meng, "Lightweight Deep Neural Network from Scratch", *Applied Intelligence*, pp. 1–19, 2023.

### Conference Proceedings

- [1] L. Wang, C. Zhao, W. Cui, "Unmodeled dynamics and data-driven balance control for a class of underactuated mechanical systems," in *Proceedings of the 2013 International Conference on Advanced Mechatronic Systems*, 2013, pp. 594-597.
- [2] C. Zhao, M. Ogura, K. Sugimoto, "Finite-time control of discrete-time positive linear system via convex optimization," *SICE Annual Conference, 2020, Chiang Mai, Thailand (Online)*, pp. 1230-1235.
- [3] M. Ogura and C. Zhao, "DC programming for optimization of dynamic buffer networks," *The 8th Multi-symposium on Control Systems*, pp. 1D1-25, 2021.
- [4] B. Li, S. Ueno, and C. Zhao, "Data-driven iterative learning LQG control of axial-gap 5-DOF self-bearing motor," in *Proceedings of the 2022 International Conference on Advanced Mechatronic Systems*, 2022.
- [5] C. Zhao, M. Ogura, and Y. Ebihara, "Impulse-to-peak optimization of positive linear systems via DC programming," *IFAC World Congress 2023, Yokohama, Japan*.

## Teaching

- [1] 2018–2021    Research Assistant (Nara Institute of Science and Technology).
- [2] 2019–2020    Teaching Assistant (Nara Institute of Science and Technology).
- [3] 2021–2022    Circuit Experiment; C language (Ritsumeikan University, undergraduate).

- [4] 2021– Control system design (Ritsumeikan University, undergraduate).

## Professional service

- [1] Organizing committee for The 10th SICE Multi-Symposium on Control Systems, Japan, 2023.
- [2] Journal and Conference reviewing: American Control Conference; Journal of Franklin Institute.

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