

# Zhicheng ZHANG — CV

Graduate School of Information Science and Technology  
Operations Research Lab, Osaka University  
1-5 Yamadaoka, Suita, Osaka, 565-0871, Japan  
✉ zhicheng-zhang@ist.osaka-u.ac.jp; zczhang@ieee.org  
🌐 zhicheng-zhang.github.io

*“There is nothing certain, but the uncertain.” — Proverb*

Z. Zhang is currently a Ph.D Candidate (Informatics) at Osaka University. His research interests include sparse modeling, robust optimization and networked control. He is a student member of SIAM, INFORMS and IEEE.

## Education

---

<b>Osaka University</b> Ph.D Candidate, Informatics Fields: Probabilistic Control under Uncertainty Advisor: Prof. Yasumasa Fujisaki	Osaka, Japan 2020.10 – present
<b>University of Kitakyushu</b> Visiting Master Student, EECS Fields: Sparse Modeling and Optimal Control Advisor: Prof. Masaaki Nagahara	Fukuoka, Japan 2019.09 – 2020.09
<b>Guilin University of Electronic and Technology</b> M.S., Mathematics Fields: ODEs and Dynamical Systems Theory Advisor: Prof. Zhongjun Ma	Guilin, China 2017.09 – 2020.06
<b>Changzhou Institute of Technology</b> B.A., Japanese (Major) B.S., Applied Mathematics (Minor)	Changzhou, China 2013.09 – 2017.06

## Research Interests

---

- Decision Making under Uncertainty
  - ♣ Robust optimization
  - ♣ Stochastic Programming
- Sparse Modeling
  - ♣ Sparse Optimization
  - ♣ Sparse Optimal Control
- Networked Control
  - ♣ Consensus of Multi-Agent Systems
  - ♣ Synchronization of Complex Networks

## Honors and Awards

---

- 2020 Guangxi Outstanding Graduates, China, 2020 (top 1%)
- Outstanding Master's Thesis of GUET, China, 2020 (top 3%)
- Postgraduate Scholarship, First Prize, GUET, China, 2019, 2020 (top 3%)
- Graduate Fellowship for Study Abroad, GUET, China, 2019
- National Scholarship for Master's Student, China, 2019 (top 3%)

## Research Projects and Academic Foundations

---

### Practical Stability of Nonlinear Dynamical Systems

*Collaborator*, School of Mathematics and Computing Science, GUET 2017.10 – 2018.06

- The Innovation Project of GUET Graduate Education, Grant No. 2017YJCX79 (CNY 10,000)

### Stability of Impulsive Ordinary Differential Equations and its Applications

*Co-Investigator* (CI), School of Mathematics and Computing Science, GUET 2018.10 – 2019.06

- The Innovation Project of GUET Graduate Education, Grant No. 2018YJCX60 (CNY 10,000)

### Intermittent Feedback Control of Nonlinear Multi-Agent Systems

*Principal Investigator* (PI), School of Mathematics and Computing Science, GUET 2018.12 – 2020.06

- Cultivation of Excellent Thesis Project of GUET Graduate Education, Grant No. 2018YJSPY01 (CNY 10,000)

### Cooperative Control of Multi-Agent Networked Systems

*Principal Investigator* (PI), School of Mathematics and Computing Science, GUET 2019.09 – 2020.08

- The Study Abroad Program for Graduate Student of GUET, Grant No. GDYX2019015 (CNY 120,600)

### Partial Component Synchronization of Nonlinear Networks and its Control Applications

*Collaborator*, School of Mathematics and Computing Science, GUET 2019.01 – 2021.12

- Guangxi Natural Science Foundation, China, Grant No. 2018GXNSFAA281068 (CNY 50,000)

### Partial Variable Stability of Neural Networks

*Collaborator*, School of Mathematics and Computing Science, GUET 2020.03 – 2021.06

- The Innovation Project of GUET Graduate Education, Grant No. 2020YJSCX03 (CNY 5,000)

## Positions of Responsibility

---

- **Teaching Assistant** for Undergraduate courses like *Mathematical Analysis*, *Advanced Algebra*, and *Calculus*.
- **Teaching Assistant** for Graduate courses like *operations research*, and *research seminars*.

## Professional Service

---

### Reviewer (Journals)

- International Journal of Robust and Nonlinear Control (IJRNC)
- IEEE Transactions on Systems, Man and Cybernetics (IEEE TSMC)

### Reviewer (Conferences)

- IFAC Symposium on Robust Control Design (ROCOND 2022)
- IFAC World Congress (2023)

## Publications

---

### Peer Review Journals

[J2] Z. Zhang, Z. Ma, Y. Wang and K. Li, Wait-and-track characteristics for a generic multiagent system under control input attacks, *IEEE Transactions on Network Science and Engineering*, 2023. (accepted)

[J1] Z. Zhang, Z. Ma and Y. Wang, Partial component consensus of leader-following multi-agent systems via intermittent pinning control, *Physica A: Statistical Mechanics and its Applications*, 2019, 536: 122569. Doi: 10.1016/j.physa.2019.122569.

### Proceeding Conferences

[C4] Z. Zhang and Y. Fujisaki, Risk-aware sparse predictive control, IFAC Word Congress, July 2023. (to be presented)

[C3] Z. Zhang and Y. Fujisaki, Sparse feedback control realization using linear dynamic compensator, SICE ISCS, Mar. 2023.

[C2] Z. Zhang and Y. Fujisaki, Sparse robust control design via scenario optimization, ISCIE SSS, Oct. 2021.

[C1] Z. Zhang and M. Nagahara, Linear quadratic tracking control with sparsity-promoting regularization. *2021 American Control Conference (ACC)*, IEEE, May 2021. pp. 3812–3817.

### Preprints

[P2] Z. Zhang and Y. Fujisaki, Sparse feedback controller: From open-loop solution to closed-loop realization. *SICE Journal of Control, Measurement, and System Integration*, arXiv.2303.15175. (under review)

[P1] Z. Zhang and Z. Ma, Lag synchronization for large-scale complex networks under stochastic input disturbances, *Chaos: An Interdisciplinary Journal of Nonlinear Science*. 2022, (under review)

## Technical Strengths

---

- **Languages:** Chinese (native), Japanese (N2), and English (fluent).
- **Skills:**  $\text{\LaTeX}$ , Matlab, Python, Julia

## Personal Information

---

- Born in Dec. 1994, in Jiangsu Province, China
- Citizenship: Chinese