

## EDUCATION

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### University of Mannheim & University of Groningen (Double Degree)

Ph.D. Candidate in Optimization

Oct 2022 –

- Supervisor: Prof. Mathias Staudigl & Prof. Juan Peypouquet

### Minzu University of China

Beijing, China

MSc. in Mathematics

Sep 2019 –Jun 2022

- Thesis Title: “Existence results for two kinds of fractional Schrödinger-Poisson systems with critical exponents growth”
- Supervisor: Prof. Xiaoming He

### Xiangtan University

Xiangtan, China

BSc. in Information and Computational Science

Sep 2015 –Jun 2019

## RESEARCH INTERESTS

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### Convex Optimization, Constrained Variational Inequalities, Monotone Inclusions, Dynamical Systems

- My research lies at the intersection of optimization, variational analysis, and dynamical systems.
- A central theme of my work is the design and analysis of dynamical systems incorporating penalization and Tikhonov regularization to ensure strong convergence toward least-norm solutions, highlighting multiscale features and connections between regularization, penalty methods, and splitting techniques.

## PUBLICATIONS

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1. **Siqi Qu**, Juan Peypouquet, Mathias Staudigl, “Inertial forward-backward algorithm with exterior penalization and Tikhonov regularization”, *Manuscript in preparation*
2. D. Russell Luke, Johannes-Carl Schnebel, Mathias Staudigl, **Siqi Qu**, Juan Peypouquet, “Asymptotic behaviour of coupled random dynamical systems with multiscale aspects”, *arXiv:2601.15411*
3. Juan Peypouquet, **Siqi Qu**, Mathias Staudigl, “Asymptotic behavior of penalty dynamics for constrained variational inequalities”, *Applied Mathematics and Optimization*, 93, 36. (2026)
4. Mathias Staudigl, **Siqi Qu**, “Tikhonov regularized exterior penalty dynamics for constrained variational inequalities”, *IEEE Control Systems Letters*, vol. 8, pp. 622-627(2024).
5. **Siqi Qu**, Xiaoming He, “Multiplicity of high energy solutions for fractional Schrodinger-Poisson systems with critical frequency”, *Electronic Journal of Differential Equations*, No. 47, pp. 1–21(2022).
6. **Siqi Qu**, Xiaoming He, “On the number of concentrating solutions of a fractional Schrodinger-Poisson system with doubly critical growth”, *Analysis and Mathematics Physics*, 12, 59(2022).

## CONFERENCES

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- Scientific Computing and Differential Equations (SciCADE), Edinburgh, UK Jun 2026
- SIAM Conference on Optimization, Edinburgh, UK Jun 2026
- European Convex Optimization Workshop, Bremen, Germany Mar 2026
- PGMODays, Palaiseau, France Nov 2025
- European Conference on Computational Optimization (EUCCO), Klagenfurt, Austria Sep 2025
- The European Conference on Numerical Mathematics and Advanced Applications (ENUMATH), Heidelberg, Germany Sep 2025
- 22nd Conference on advances in continuous optimization (EUROPT), Southampton, UK Jun 2025
- Dynamics, Optimization and Control Workshop, Groningen, Netherlands Jun 2025
- 63rd IEEE Conference on Decision and Control (CDC), Milan, Italy Dec 2024
- Women in Optimization, Erlangen, Germany Apr 2024

## TEACHING

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- **Teaching Assistant**, University of Mannheim Spring 2024  
*Course: Convex Optimization*
  - Led weekly tutorial sessions and guided exercises

## PROFESSIONAL ACTIVITIES

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- **Peer Reviewer** May 2024
  - Applied Mathematics and Computation
- **Workshop Organization** Nov 2026
  - Assisted in organizing the Optimization in the Länd Workshop, University of Mannheim

## INTERNSHIP

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- **China Telecom** Beijing, China  
Data Analysis Nov 2019–Apr 2020
  - Digital governance internship
  - Participate in the construction of business database, assist in data verification and feedback.
  - Participate in the design of the business framework, assist in the formulation of the overall business framework, assist in the promotion of project development and put forward optimization requirements.

## SCHOLARSHIPS AND AWARDS

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- China Scholarship Council (CSC) Scholarship 2022 - 2026
- Third-Class Academic Scholarship 2019 - 2021
- Honorable Mention of Mathematical Contest In Modeling (Interdisciplinary Contest In Modeling) 2018
- Second prize in Hunan contest district in China undergraduate mathematical contest in modeling 2017
- Second-Class Academic Scholarship 2016 - 2017