

YUEZHAO LI

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🏠 Einsteinweg 55, 2333 CC Leiden, Netherlands

# PERSONALITY

**Nationality** Chinese

Date of birth 18.04.1996

**Languages** Chinese (Native), English (Fluent), German (Intermediate), Dutch (Beginner)

## EDUCATION

Universiteit Leiden

2021 — present

*PhD candidate in mathematics*

Netherlands

- ◇ Thesis: Noncommutative geometry of spectral truncation and aperiodic topological insulators.
- ◇ Supervisor: Dr. Bram Mesland

Georg-August-Universität Göttingen

2018 — 2021

*Master in mathematics, with minor in physics*

Germany

- ◇ Thesis: Invariants for topological insulators coming from decompositions of coarse spaces.
- ◇ Thesis advisor: Prof. Dr. Ralf Meyer.

Peking University

2013 — 2018

*Bachelor in physics, with minor in mathematics*

China

- ◇ Thesis: Phase transition and critical phenomena.
- ◇ Thesis advisor: Prof. Dr. Limei Xu.

## RESEARCH

## Research interest

- ◇ Noncommutative geometry of topological materials via groupoids and coarse geometry.
- ◇ Spectral truncation method in index pairing and bivariant K-theory.
- ◇ Unbounded Kasparov theory and its application to index theory.

## Preprints

- [1] Y. Li. *Robustness of topological phases on aperiodic lattices* (2025). [arXiv: 2504.04817](#).
- [2] Y. Li and B. Mesland. *The odd spectral localiser via asymptotic morphisms and quasi-projections* (2025). [arXiv: 2506.17143](#).

In preparation

- [3] Y. Li. *Fell bundles from dynamics of Delone sets* (2025). In preparation.
- [4] Y. Li and G. C. Thiang. *Symmetry-breaking topological phases* (2025). In preparation.

# Thesis

- [5] Y. Li. *Noncommutative geometry of spectral truncation and aperiodic topological insulators*. In preparation. Doctoral thesis. Leiden University, 2025.
- [6] Y. Li. *Invariants of topological insulators from decomposition of coarse spaces*. Master thesis. Georg-August-Universität Göttingen, 2021.

## TEACHING

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- ◇ FALL 2025: Functional analysis, teaching assistant.
- ◇ SPRING 2024: Operator algebras, teaching assistant.
- ◇ FALL 2024: Functional analysis, teaching assistant.
- ◇ SPRING 2023: Differentiable manifolds II, teaching assistant.
- ◇ FALL 2023: Functional analysis, teaching assistant.
- ◇ SPRING 2022: Differentiable manifolds II, teaching assistant.
- ◇ FALL 2021: Functional analysis, teaching assistant.

## CONFERENCES, WORKSHOPS AND SEMINARS

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### Participation

- ◇ JUNE 2025:  $C^*$ -algebras, coarse geometry and physics, Greifswald, Germany.  
TALK: [\*The spectral localiser via E-theory\*](#).
- ◇ APRIL 2025: Applications of noncommutative geometry to gauge theories, field theories, and quantum space-time, Marseille, France.  
SHORT TALK: [\*On robustness of topological phases\*](#).
- ◇ OCTOBER 2024: Noncommutativity behind the dunes, Delft, Netherlands.
- ◇ AUGUST 2024: OdenSeaG 2024, Odense, Denmark.
- ◇ MAY 2024: Leiden-Birmingham meeting, Leiden, Netherlands.  
TALK: *A hitchhiker's guide to topological insulators in noncommutative geometry*.
- ◇ APRIL 2024: Group operator algebras and noncommutative geometry, Marseille, France.
- ◇ NOVEMBER 2023: Leiden-Luxembourg PhD Away Day, Leiden, Netherlands.  
TALK: *Noncommutative geometry in index theory and physics*.
- ◇ OCTOBER 2023: Autumn school on large-scale geometry, Göttingen, Germany.  
SHORT TALK: [\*Models of aperiodic topological insulators\*](#).
- ◇ MAY 2023: Noncommutative Geometry and Operator Algebras, NSeaG 2023, Bonn, Germany.

### Organisation

- ◇ JANUARY 2023: Co-organiser of [5th Conference of Settat on Operator Algebras and Applications](#), with Francesca Arici, Marcel de Jeu, Rachid El Harti and Dimitris Gerontogiannis.
- ◇ I am an organiser of several [Leiden local NCG seminars](#) and have taken [notes](#) for them.