

# Yifan Wu Ph.D

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## Education

Sep, 2021–June, 2025	<b>Ph.D.</b> , Math, SUSTech	Advisor: <a href="#">Yifei Zhu</a>
Sep, 2019–June, 2021	<b>M.A.</b> , Math, SUSTech	Advisor: <a href="#">Yifei Zhu</a>
Sep, 2015–June, 2019	<b>B.Sc.</b> , Math, SUSTech	

## Research Interests

My research interests are in stable homotopy theory, chromatic homotopy theory and power operations and their related fields such as elliptic curves, modular forms and formal ( $p$ -divisible) groups and topological modular forms. I also have interests in topological data analysis (TDA). Besides, influenced by topology group members at SUSTech, I have increasing interests in  $E_\infty$  ring structures and higher category theories.

## Publications

1. *Power Operations on  $K(n-1)$ -Localized Morava  $E$ -Theory of Height  $n$*  (Submitted)

## Conference Presentations

1. *Power Operations on  $K(n-1)$ -Localized Morava  $E$ -Theories of Height  $n$*   
Autumn Forum of Doctoral Students in Math, Southern University of Science and Technology, Shenzhen, China, Nov 2024.
2.  *$K(1)$ -Localized Morava  $E$ -Theory and  $p$ -Adic Galois Representations* (short talk)  
Workshop on Computer-assisted Research in Geometry and Topology, Tianyuan Mathematics Research Center, Kunming, China, Sep 2024.

## Seminar Talks

1. *When is  $K(n)^*BG$  Concentrated in Even Degrees*  
Graduated topology seminar at SUSTech, Sep 2024.
2. *Transchromatic Generalized Characters*  
Graduated topology seminar at SUSTech, Jun 17 2024.
3. *Pipe Rings and Pipe Formal Group*  
Graduated topology seminar at SUSTech, Apr 09 2024.
4. *Modular Interpretations of Hecke Operators*  
Graduated topology seminar at SUSTech, Nov 16 2023.

5. *Dyer Lashof Theory and Algebras*

Graduated topology seminar at SUSTech, Oct 17 2023.

6. *Review of Modular Forms and Introduction to Modular Curves*

Graduated topology seminar at SUSTech, Sep 29 2023.

7. *Introduction to Cobordism and Thom Spectra*

Graduated topology seminar at SUSTech, Sep 27 2022.

8. *Persistent Homology in Time Series Analysis and its Application to Wheeze Detection*

Applied and computational topology seminar at SUSTech, Jan 12 2021.

## **Selected Conferences and Workshops**

1. *Chromatic Homotopy Theory &  $p$ -Adic Geometry*

American Institute of Mathematics, Pasadena, California, Dec 2024.  
(Not undertaken due to Visa issue)

2. *Workshop on Computer-assisted Research in Geometry and Topology*

Tianyuan Mathematics Research Center, Kunming, Sep 2024.

3. *International Workshop on Algebraic Topology 2024*

Shanghai Center for Mathematical Sciences, Fudan University, July 2–6, 2024.

4. *IWoAT Summer School 2023: Operads, spectra, and multiplicative structures*

Yanqi Lake Beijing Institute of Mathematical Sciences and Applications, August 14–19, 2023.

## **Teaching Experience**

### **Southern University of Science and Technology**

- M8021: Grader for Algebraic Topology , Spring 2024.
- MA213-16: Teaching Assistant for Mathematical Analysis , Fall 2023.
- MA113: Teaching Assistant for Linear Algebra , Fall 2022.
- MAT8024: Grader for Differential Manifolds , Fall 2021.

## **Awards & Honors**

2024	Academic Star, Autumn Forum of Doctoral Students in Math, SUSTech
2017	Honorable Mention, Mathematical Contest In Modeling

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Last updated: March 5, 2025