

YUANG SHI

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EDUCATION

Shanghai Jiao Tong University, Shanghai, China Sep. 2018 – Jun. 2022

Undergraduate student in Mathematics (Wu Wen-tsün Honour Program)

Peking University, Beijing, China Jun. 2021 – Aug. 2021

Fudan University, Shanghai, China Jun. 2022 – Aug. 2022

Shanghai Jiao Tong University, Shanghai, China Sep. 2022 – present

Ph.D student in Pure Mathematics (Differential Geometry and Complex Geometry), expected Jun. 2027

ACADEMIC EXPERIENCE

Dissertation for Bachelor Degree Sep. 2021 – May. 2022

Morse Theory, Convexity and Sphere Theorem Supervisor: Prof. Yihu Yang

- Provide a detailed and self-contained introduction to classical Morse theory
- Present an accessible proof of topological sphere theorem and diameter sphere theorem based on the original thesis
- Unify habitual notations and calculations

PKU Differential Geometry Summer School, Zoom meeting online Jun. 2021 – Aug. 2021

- Elliptic Partial Differential Equations
- Riemannian Geometry
- Complex Geometry

Shanghai Center for Mathematical Sciences, Algebraic Geometry Summer School, Zoom meeting online Jun. 2022 – Aug. 2022

- Curvature of direct image and some applications
- Hyperbolicity and variation of Hodge structures
- Positivity of the cotangent bundle
- Linear systems of line bundles on K3 surfaces and hyperkähler manifolds
- Introduction to the Iitaka conjecture
- Minimal Model Program for Kähler 3-folds
- Positivity in algebraic and analytic geometry: basis
- Fundamental vanishing theorem of entire curves and applications

Seminars Sep. 2019 – Present

Coorganizer and participant of seminars about:

- Cheeger-Colding theory
- Sheaf theory
- Complex geometry

RESEARCH EXPERIENCE

38-th SJTU Undergraduate Research Program Oct. 2020 – Mar. 2021

- Research topic: Analysis of Discrete Transmission Dynamics
- Identity: Research team leader
- Instructor: Dongmei Xiao
- Achievements: provide a theoretical basis for the cognition of disease transmission rules and effective control strategies, give a mathematical model of SEIAHR and complete a research report

23-th SJTU Undergraduate Innovation Program

Mar. 2021 – Mar. 2022

- Research topic: Schwarz Lemma and Its Generalization
- Identity: Research team member
- Instructor: Yihu Yang
- Achievements: read the classical Schwarz lemma and its geometric perspective, study the generalizations of Alhfors on Riemann surfaces and Yau on general Kähler manifolds

HONORS AND AWARDS

Shanghai Jiao Tong University School Scholarship	Dec. 2019
"Student Volunteer Pioneer" against COVID-19	Sep. 2021
Huawei Scholarship	Dec. 2021
12-th National Mathematics Competition for College Students: Second Class Prize	Dec. 2021
Outstanding Graduates of SJTU	May. 2022
Admitted to Ph.D. Zhiyuan Honors Program	Sep. 2021