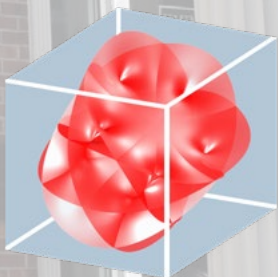


Directory

Academic Year 2020 - 2021



**HARVARD UNIVERSITY
CENTER OF MATHEMATICAL
SCIENCES AND APPLICATIONS**

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Research interests: String theory.



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Research interests: Theoretical computer science

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Faculty sponsor: Shing-Tung Yau
Research interests: String Theory, Topological Field Theory, Mirror Symmetry, Theoretical Physics

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Research interests: Mathematical physics, quantum graphs, and spectral geometry; string theory

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Ph.D.: MIT
Faculty sponsor: Horng-Tzer Yau
Research interests: Artificial intelligence (AI), machine learning theory, Deep Learning theory

Postdoctoral Fellows

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Affiliation: Max Planck Institute for Mathematics

Faculty sponsor: Shing-Tung Yau

Research Interests: Geometric description of supersymmetric sigma models; Super Geometry, Super Riemann Surfaces

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Research interests: symplectic geometry, Floer theory, mirror symmetry, and integrable systems

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Research interests: Math finance and economics; Market Design

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Research interests: Algebraic geometry

Postdoctoral Fellows

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Research interests: Algebraic geometry

Du Pei

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Faculty sponsor: Shing-Tung Yau
Research interests: Invariants of 3- and 4-manifolds, Higgs bundles, mirror symmetry, categorification, conformal field theory and TQFT, dynamics of, supersymmetric gauge theories, various other topics in mathematical physics

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Research interests: Supersymmetry and high energy; Boundary conformal field theory, BH entropy through localization

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Faculty sponsor: Shing-Tung Yau
Research interests: Algebraic Geometry, Donaldson-Thomas theory, Pandharipande-Thomas theory, stability conditions

Postdoctoral Fellows

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Research interests: Combinatorics; Probabilistic Combinatorics

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Faculty sponsor: Shing-Tung Yau

Research interests: Quantum condensed matter system and high energy theory; mathematical physics, topological phases of matter

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Research interests: Econometrics and quantitative economics; Economics, Finance, Machine Learning

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Ph.D.: MIT

Faculty sponsor: Shing-Tung Yau

Research interests: Ultra Unification, Theoretical Physics, Condensed Matter Physics, High Energy Physics, Mathematical Physics, Quantum Field Theory

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Research interests: String theory, supersymmetric and conformal quantum field theories, scattering amplitudes, holographic dualities, integrable systems, mathematical physics

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Research interests: Discrete and computational geometry, complex analysis, discrete riemann surfaces, and coupled dynamical systems on networks

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Research interests: Graph cohomology, Comparison Theorems of Phylogenetic Spaces and Algebraic Fans; Differential Geometry and Mathematical Biology

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Ph.D.: University of Chicago

Faculty sponsor: Horng-Tzer Yau

Research interests: Probability theory

Postdoctoral Fellows



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Faculty sponsor: Shing-Tung Yau

Research interests: Algebraic geometry

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Aghil Alaei

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Affiliation: Clark University

Research interests: Differential geometry and geometric inequalities, general relativity (GR) and black holes, partial differential equations; Geometric analysis and mathematical relativity



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Research Interests: Differential Geometry, General Relativity, String Theory, Game Theory, Compressive Sensing, Quantum Computing; Theoretical Machine Learning, Extremal Graph Theory, Compressive Sampling Theory



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Research Interests: Geometry, Topology, and Number Theory; Calabi-Yau Geometry, Arithmetic, and Physics



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Research interests: New technologies in mathematics; Computers and math; string theory



Research Visitors

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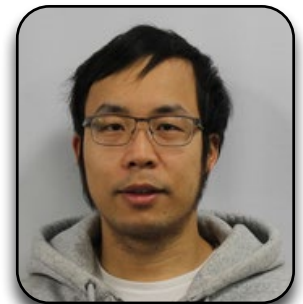
Affiliation: Indiana University-Bloomington
Research interests: Probability, mathematical biology and phylogenetics



An Huang

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Research interests: D-modules, period integrals, mirror symmetry, Hodge theory, arithmetic geometry, and their interconnections



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Research Visitors

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Research interests: Gromov Witten/Donaldson Thomas theory, Calabi-Yau geometries, mathematical aspects of String Theory



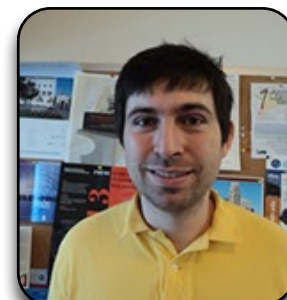
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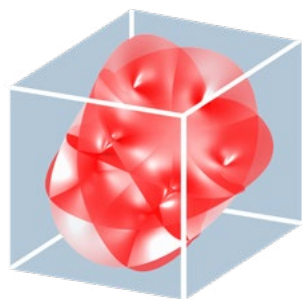
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