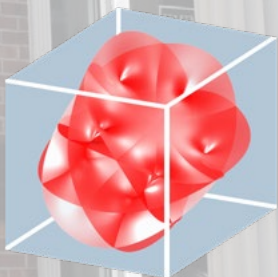


Directory

Academic Year 2020 - 2021



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

Scientific Board



Shing-Tung Yau, Director of CMSA

Office: Science Center 340
Email: yau@math.harvard.edu
Research interests: Differential geometry, partial differential equations, topology, and mathematical physics.



Cynthia Dwork, SEAS

Office: Maxwell Dworkin 349
Email: dwork@seas.harvard.edu
Research interests: Theory of computation, information and society, science and technology policy.



Michael Hopkins, Dept of Mathematics

Office: Science Center 508
Email: mjh@math.harvard.edu
Research interests: Algebraic topology.



Cumrun Vafa, Dept of Physics

Office: Jefferson 467
Email: vafa@physics.harvard.edu
Research interests: String theory.



Lauren Williams, Dept of Mathematics

Office: Science Center 510
Email: williams@math.harvard.edu
Research interests: Algebras and tropical geometry.



Hugh Woodin, Dept of Mathematics

Office: Science Center 513
Email: woodin@math.harvard.edu
Research interests: Logic and foundations of mathematics, philosophy of logic, philosophy of mathematics, set theory.

Postdoctoral Fellows

Omri Ben-Eliezer

Appointment duration: 9/10/2020 - 8/31/2021

Email: omribene@cmsa.fas.harvard.edu

Ph.D.: Tel Aviv University

Faculty sponsor: Madhu Sudan

Research interests: Theoretical computer science

Wei Gu

Appointment duration: 9/1/2020 - 8/31/2021

Email: weigu@cmsa.fas.harvard.edu

Ph.D.: Virginia Tech

Faculty sponsor: Shing-Tung Yau

Research interests: String Theory, Topological Field Theory, Mirror Symmetry, Theoretical Physics

Daniel Junghans

Appointment duration: 10/1/2020 - 9/30/2021

Email: djunghans@cmsa.fas.harvard.edu

Ph.D.: Leibniz Universitaet Hannover

Faculty sponsor: Cumrun Vafa

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

Kenji Kawaguchi

Appointment duration: 9/01/2020 - 6/30/2021

Email: kk@cmsa.fas.harvard.edu

Ph.D.: MIT

Faculty sponsor: Horng-Tzer Yau

Research interests: Artificial intelligence (AI), machine learning theory, Deep Learning theory

Postdoctoral Fellows

Enno Keßler

Appointment duration: 11/1/2020 - 4/30/2021

Email: ek@cmsa.fas.harvard.edu

Affiliation: Max Planck Institute for Mathematics

Faculty sponsor: Shing-Tung Yau

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

Yoosik Kim

Appointment duration: 7/1/2020 - 6/30/2021

Email: yoosik@cmsa.fas.harvard.edu

Ph.D.: University of Wisconsin at Madison

Faculty sponsor: Shing-Tung Yau

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

Moran Koren

Appointment duration: 9/1/2020 - 12/31/2021

Email: mkoren@cmsa.fas.harvard.edu

Ph.D.: Technion - Israel Institute of Technology

Faculty sponsor: Scott Kominers

Research interests: Math finance and economics; Market Design

Tsung-Ju Lee

Appointment duration: 9/1/2020 - 8/31/2021

Email: tjlee@cmsa.fas.harvard.edu

Ph.D.: National Taiwan University

Faculty sponsor: Shing-Tung Yau

Research interests: Algebraic geometry

Postdoctoral Fellows

Kan Lin

Appointment duration: 2/1/2021 - 1/31/2022

Ph.D.: University of Tokyo

Faculty sponsor: Shing-Tung Yau

Research interests: Financial Math, Fintech

Jue Liu

Appointment duration: 1/1/2021 - 12/31/2021

Ph.D.: Sun Yat-sen University

Faculty sponsor: Shing-Tung Yau

Research interests: Geometric analysis

Rongxiao Mi

Appointment duration: 9/1/2020 - 8/31/2021

Email: rongxiao@cmsa.fas.harvard.edu

Ph.D.: University of Michigan

Faculty sponsor: Shing-Tung Yau

Research interests: Algebraic geometry

Du Pei

Appointment duration: 1/1/2020 - 12/31/2020

Email: dpei@cmsa.fas.harvard.edu

Ph.D.: Caltech

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

Postdoctoral Fellows

Itamar Shamir

Appointment duration: 11/1/2020 - 10/31/2021
Email: ishamir@cmsa.fas.harvard.edu

Ph.D.: Weizmann Institute of Science
Faculty sponsor: Shing-Tung Yau
Research interests: Supersymmetry and high energy; Boundary conformal field theory, BH entropy through localization

Yun Shi

Appointment duration: 9/1/2020 - 8/31/2021
Email: yshi@cmsa.fas.harvard.edu

Ph.D.: University of Illinois at Urbana Champaign
Faculty sponsor: Shing-Tung Yau
Research interests: Algebraic Geometry, Donaldson-Thomas theory, Pandharipande-Thomas theory, stability conditions

Michael Simkin

Appointment duration: 9/1/2020 - 8/31/2021
Email: msimkin@cmsa.fas.harvard.edu

Ph.D.: Hebrew University of Jerusalem Israel
Faculty sponsor: Shing-Tung Yau
Research interests: Combinatorics; Probabilistic Combinatorics

Ryan Thorngren

Appointment duration: 9/1/2020 - 8/31/2021
Email: ryan.thorngren@cmsa.fas.harvard.edu

Ph.D.: UC Berkeley
Faculty sponsor: Shing-Tung Yau
Research interests: Quantum condensed matter system and high energy theory; mathematical physics, topological phases of matter

Postdoctoral Fellows

Sergiy Verstyuk

Appointment duration: 10/1/2020 - 9/30/2021
Email: verstyuk@cmsa.fas.harvard.edu

Ph.D.: University of Chicago
Faculty sponsor: Scott Kominers
Research interests: Econometrics and quantitative economics; Economics, Finance, Machine Learning

Juven Wang

Appointment duration: 8/1/2020 - 7/14/2021
Email: jw@cmsa.fas.harvard.edu

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

Yifan Wang

Appointment duration: 9/1/2020 - 8/31/2021
Email: yifanw@cmsa.fas.harvard.edu

Ph.D.: MIT
Faculty sponsor: Shing-Tung Yau
Research interests: String theory, supersymmetric and conformal quantum field theories, scattering amplitudes, holographic dualities, integrable systems, mathematical physics

Tianqi Wu

Appointment duration: 7/1/2020 - 6/30/2021
Email: tianqi@cmsa.fas.harvard.edu

Ph.D.: NYU
Faculty sponsor: Shing-Tung Yau
Research interests: Discrete and computational geometry, complex analysis, discrete riemann surfaces, and coupled dynamical systems on networks

Postdoctoral Fellows

Thérèse (Yingying) Wu

Appointment duration: 9/1/2020 - 8/31/2021

Email: [yuwu@cmsa.fas.harvard.edu](mailto:ywu@cmsa.fas.harvard.edu)

Ph.D.: UT Austin

Faculty sponsor: Shing-Tung Yau

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

Changji Xu

Appointment duration: 8/1/2020 - 7/31/2021

Email: cxu@cmsa.fas.harvard.edu

Ph.D.: University of Chicago

Faculty sponsor: Horng-Tzer Yau

Research interests: Probability theory

Yang Zhou

Appointment duration: 7/1/2020 - 6/30/2021

Email: yangzhou@cmsa.fas.harvard.edu

Ph.D.: Stanford University

Faculty sponsor: Shing-Tung Yau

Research interests: Algebraic geometry

Research Visitors

Aghil Alaei

Appointment duration: 7/1/2020 - 6/31/2021

Email: aghil.alaei@cmsa.fas.harvard.edu

Affiliation: Clark University

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



Sang "Peter" Chin

Appointment duration: 9/1/2020 - 8/31/2021

Email: peter.chin@cmsa.fas.harvard.edu

Affiliation: Boston University

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



Charles Doran

Appointment duration: 7/1/2020 - 6/30/2021

Email: doran@cmsa.fas.harvard.edu

Affiliation: University of Alberta

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



Michael Douglas

Appointment duration: 9/1/2020 - 8/31/2021

Email: mdouglas@cmsa.fas.harvard.edu

Affiliation: Stony Brook University

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



Research Visitors

Louis (Wai-Tong) Fan

Appointment duration: 8/20/2020 - 1/11/2021
Email: lfan@cmsa.fas.harvard.edu

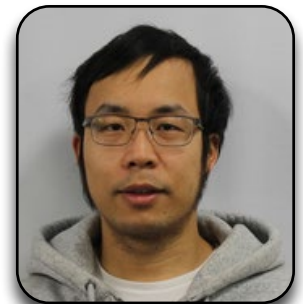
Affiliation: Indiana University-Bloomington
Research interests: Probability, mathematical biology and phylogenetics



An Huang

Appointment duration: 01/01/2021 - 12/31/2021
Email: anhuang@brandeis.edu

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



Bong Lian

Appointment duration: 7/1/2020 - 6/30/2021
Email: lian@brandeis.edu

Affiliation: Brandeis University
Research interests: Math physics, algebra, geometry



Chien-Hao Liu

Appointment duration: 1/15/2020 - 1/14/2021
Email: chienliu@cmsa.fas.harvard.edu

Affiliation: Harvard University



Research Visitors

Artan Sheshmani

Email: artan@cmsa.fas.harvard.edu

Affiliation: Aarhus University (Denmark)

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



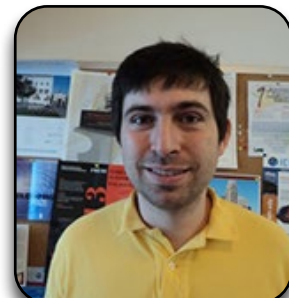
Valentino Tosatti

Appointment duration: 7/01/2020 - 6/30/2021

Email: tosatti@cmsa.fas.harvard.edu

Affiliation: Northwestern

Research interests: Differential geometry, geometric analysis, complex algebraic geometry, and partial differential equations



Min Zhang

Appointment duration: 7/1/2020 - 6/30/2021

Email: mzhang@cmsa.fas.harvard.edu

Affiliation: Harvard Medical School

Research interests: Mathematics of medical imaging



Administrative and Financial Staff

Administrative and Research Operations (including IT and seminars):

Alaina Fernandes

Title: Administrator
Office: 20 Garden St Room 103
Office phone: 617-496-5421
Email: afernandes@math.harvard.edu

Tatyana Bogaevsky

Title: Staff Assistant
Office: 20 Garden St Room 105
Office phone: 617-496-1778
Email: bogaevsky@math.harvard.edu

Financial Operations:

Gaby Leon-Guerrero

Title: Financial Associate
Office: 20 Garden St Room 105
Office phone: 617-495-5615
Email: gaby@math.harvard.edu

Administrative and Operations Management:

Irene Minder

Title: Director of Administration and Finance
Office: Science Center 329
Office phone: 617-495-2170
Email: irene@math.harvard.edu

Financial Management:

Anna Kreslavskaya

Title: Manager of Research and Finance
Office: Science Center 320
Office phone: 617-495-1946
Email: kreslavs@math.harvard.edu

Administrative and Financial Staff

Editorial:

Ryan Maloney

Title: Publications Coordinator
Office: 20 Garden St. Room 103
Office Phone: 617-496-7132
Email: rmaloney@math.harvard.edu

CMSA Affiliates

Boaz Barak

Gordon McKay Professor of Computer Science
Harvard John A. Paulson School of Engineering and Applied Sciences
boaz@seas.harvard.edu

Melissa Franklin

Mallinckrodt Professor of Physics
Harvard University Department of Physics
franklin@physics.harvard.edu

Richard Freeman

Herbert Ascherman Professor of Economics
Harvard University Department of Economics
freeman@nber.org

Rebecca Henderson

John and Natty McArthur University Professor
Harvard Business School
rhenderson@hbs.edu

An Huang

Assistant Professor
Brandeis University
anhuang@brandeis.edu

Scott Kominers

Junior Fellow
Harvard Society of Fellows
kominers@fas.harvard.edu

Shingchang Samuel Kou

Professor of Statistics
Harvard University Department of Statistics
kou@stat.harvard.edu

Vijay Kuchroo

Samuel L. Wasserstrom Professor of Neurology
Director of the Evergrande Center for Immunologic Diseases
Harvard Medical School and Brigham and Women's Hospital
vkuchroo@evergrande.hms.harvard.edu

Bong Lian

Professor
Brandeis University
lian@brandeis.edu

Jeff Lichtman

Jeremy R. Knowles Professor of Molecular and Cellular Biology
Santiago Ramón y Cajal Professor of Arts and Sciences
Harvard University Department of Molecular and Cellular Biology
jeff@mcb.harvard.edu

CMSA Affiliates

Abraham Loeb

Frank B. Baird, Jr. Professor of Science
Chair, Astronomy Department
Director, Institute for Theory and Computation
Harvard University Department of Astronomy
aloeb@cfa.harvard.edu

Lakshminarayanan Mahadevan

Lola England de Valpine Professor of Applied Mathematics
Professor of Organismic and Evolutionary Biology
Professor of Physics
Harvard John A. Paulson School of Engineering and Applied Sciences
lm@seas.harvard.edu

Eric Maskin

Adams University Professor
Harvard University Department of Economics
emaskin@fas.harvard.edu

Andrew Strominger

Gwill E. York Professor of Physics
Harvard University Department of Physics
strominger@physics.harvard.edu

Madhu Sudan

Gordon McKay Professor of Computer Science
Harvard John A. Paulson School of Engineering and Applied Sciences
madhu@cs.harvard.edu

Vahid Tarokh

Perkins Professor of Applied Mathematics and Vinton Hayes Senior Research Fellow of Electrical Engineering
Harvard John A. Paulson School of Engineering and Applied Sciences
vahid@seas.harvard.edu

Salil Vadhan

Vicky Joseph Professor of Computer Science and Applied Mathematics
Harvard John A. Paulson School of Engineering and Applied Sciences
salil@seas.harvard.edu

Cumrun Vafa

Donner Professor of Science
Harvard University Department of Physics
Vafa@physics.harvard.edu

Leslie Valiant

T. Jefferson Coolidge Professor of Computer Science and Applied Mathematics
Harvard John A. Paulson School of Engineering and Applied Sciences
valiant@seas.harvard.edu

Xi Yin

Professor of Physics
Harvard University Department of Physics
xiyin@fas.harvard.edu

Advisory Board Members

Michael Berry

Professor of Physics (Emeritus)
University of Bristol
asymptotico@bristol.ac.uk

Demetrios Christodoulou

Professor of Mathematics and Physics
Swiss Federal Institute of Technology Zurich
demetri@math.ethz.ch

Stanley Osher

Professor of Mathematics & Director of Applied Mathematics
University of California, Los Angeles
Director of Special Projects,
Institute for Pure and Applied Mathematics
sjo@math.ucla.edu

Daniel A. Spielman

Professor of Computer Science, Mathematics, and Applied Mathematics
Department of Computer Science
Yale University
spileman@cs.yale.edu

Howard Stone

Professor in Mechanical and Aerospace Engineering
Department of Mechanical and Aerospace Engineering
Princeton University
hastone@princeton.edu

S.R. Srinivasa Varadhan

Professor, Courant Institute of Mathematical Sciences
New York University
varadhan@cims.nyu.edu

Jeff Wu

Professor in Engineering Statistics
School of Industrial and Systems Engineering
Georgia Institute of Technology
jeff.wu@isye.gatech.edu

Jie Xiao

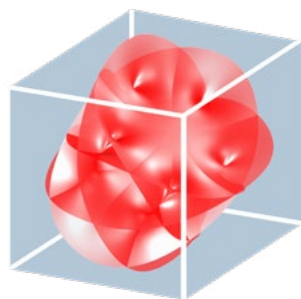
Professor, Department of Mathematical Sciences
Tsinghua University
jxiao@math.tsinghua.edu.cn

Zhou Ping Xin

Professor, Institute of Mathematics Science
Chinese University of Hong Kong
zpxin@cuhk.edu.hk

Lo Yang

Vice Director of Academic Committee, Morningside Center of Mathematics
Chinese Academy of Sciences
yanglo@math.ac.cn



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

20 Garden St, Cambridge, MA 02138

cmsa.fas.harvard.edu

cmsablog.fas.harvard.edu

Youtube: [HarvardCMSA](https://www.youtube.com/HarvardCMSA)

Twitter: [@HarvardCMSA](https://twitter.com/HarvardCMSA)

Tel: (617) 496-5421

Fax: (617) 384-8348