CHRISTOPHER J. BISHOP
Department of Mathematics
Stony Brook University
Stony Brook, NY 11794-3651

RESEARCH INTERESTS

Real and complex analysis, geometric function theory, conformal dynamics, probability theory, numerical analysis, analysis on fractals, quasiconformal geometry, computational geometry.

Some of my more particular interests have included: potential theory, fractal properties of harmonic measure, geometric properties of Brownian motion and other random processes, algebras generated by harmonic and holomorphic functions, geometry of hyperbolic manifolds and their covering groups, numerical computation of conformal mappings, multipole methods, optimal meshing algorithms, nonobtuse triangulation, quadrilateral meshing, iteration of entire functions, the geometry of Weil-Petterson quasicircles and their relation to energy functionals, mininal surfaces and renormalized area. I program in C, Mathematica and Matlab as part of my investigations in these areas, and teach a class on experimental aspects of mathematics.

PROFESSIONAL EXPERIENCE

Nov. 2021 to present: SUNY distinguished professor at Stony Brook University.
Sept. 1997 to Nov. 2021: Full professor at Stony Brook.
Sept. 1992 to Aug. 1997: Assoc. professor at Stony Brook.
Sept. 1991 to Aug. 1992: Asst. professor at Stony Brook.
Sept. 1988 to Aug. 1991: Hedrick Asst. professor at UCLA.
Sept. 1987 to Aug. 1988: NSF postdoc at MSRI, Berkeley.

EDUCATION

Cambridge University, Master of Advanced Study (MASt), 2011.
University of Chicago, Mathematics, Ph. D., 1987, Advisor Peter W. Jones.
Visiting graduate student and programmer, Dept. of Mathematics, Yale University, 1985-1987.
University of Chicago, Mathematics, Master of Science, 1984.
Cambridge University, Certificate of Advanced Study (Part III of Math. Tripos), 1983.
Michigan State University, Mathematics, Bachelor of Science, 1982.

PH.D. STUDENTS

Zsuzsanna Gonye, Ph. D. 2001, Geodesics in hyperbolic manifolds, Assoc. Professor, Eötvös Lorand University

Karyn Lundberg, Ph. D. 2005, Boundary behavior of conformal mappings, researcher, Lincoln Labs

Hrant Hakobyan, Ph.D. 2007, Hausdorff dimension and quasisymmetric mappings, Assoc. Professor, Kansas State University

Chris Green, Ph.D. Dec. 2011, Ahlfors iteration for numerical conformal mapping, senior researcher at Twitter

Kirill Lazebnik , Ph.D. August 2017, Wandering domains for the Eremenko-Lyubich class, assistant professor at Univ. North Texas

Jack Burkart, Ph.D May 2021, Packing dimension of transcendental Julia sets, Postdoc at Univ. Wisconsin, Madison

POSTDOCS AND VISITORS

Maria Victoria Meliáan, 1994-1995

Torbjorn Lundh, 1996-1998

Jeremy Tyson, 1999-2002

Luke Rogers, Spring 2004

Mathew Badger, 2011-2014

Yaar Solomon, 2013-2016

Malik Younsi, 2014-2016

Simon Albrecht, Spring 2016

Dimitrios Ntalampekos, 2018-2021

Peter Lin, 2019-2022

Christina Karafyllia, 2019-2021

Matthew Romney, 2020-2023

RECENT UNDERGRADUATE THESES AND RESEARCH

Ahmad Rafiqi, Summer 2011, Estimating conformal maps with accelerated random walks, Ph.D. program at Cornell.

Kevin Sackel, 2012-13, Geometric problems related to removability, Churchill Scholar at University of Cambridge, Ph.D. program MIT, postdoc at Stony Brook starting Fall 2019.

Abraham Rabinowitz, 2013-2014, Real Analysis, Ph.D. program at Northwestern.

Luke Green 2012-13, Real Analysis, data scientist for Openslate.

Jackson Rudd, Spring 2013, Functional Analysis, data intern for Disney/ESPN.

Shalin Parekh, 2014-15, Small dimension paths in the Brownian trace, one of ten students accepted special year in probability at University of Geneva run by Smirnov and Werner, currently in Ph.D. program at Columbia.
Christopher Dular, Fall 2015, Refining a triangulation to nonobtuse triangulation, masters program Georgia Tech.
William Vickery, Fall 2016, Generating random permutations using transpositions, Ph.D. program Northwestern.
Ray Zhang, Fall 2017, Functional analysis and machine learning, finance industry.
Joseph Suk, Fall 2017, Numerical approximation of shapes by dessins d'enfants, attending Carnegie-Mellon Ph.D. program.
Yugarshi Mondal, Spring 2018, Schramm-Loewner Evolutions.
Emi Brawley, Fall 2018, Kakeya sets, attending UC Davis PhD program in Fall 2019.
Hindy Drillick, Spring 2019, Removable sets and dimension, attending Columbia Ph.D. program in Fall 2019.

RECENT SERVICE

Department

Chairman's Advsiory Committee.
Professional development seminar.
Search committee.
Graduate committee.
Hiring committee.
Simons lecture committee.
Math day lecturer/organizer.
Comprehensive exam writer/grader.

University

Organizer SCGP Spring School in Discrete and Computational Geometry, April 2017.
SBU Center for Finance committee.
Search committee for Frey chair in quantitative finance.
Mentor for senior honors theses.

Outside University

Editorial Board, AMS University Lecture Series
Editoral Board, *Annales Fennici Mathematici*
Reviewer for various journals and *Math. Reviews*.
NSF panelist and reviewer.
Lecturer for Center for Talented Youth Program.
Organizer for Special Section as AMS sectional meeting, Spring 2016.
Organizer for International Research Symposium, KIAS Seoul South Korea, April 2017.

Outside hiring referee, Jyväskylä University.
Outside dissertation referee, Jyväskylä University.
Outside dissertation referee, Tel Aviv University.
Outside dissertation referee, University of South Australia.
Various promotion evaluations and letters.

AWARDS

Simons Fellow, 2019-20.
Fellow of the American Mathematical Society, 2019.
Invited speaker at 2018 ICM, Rio de Janeiro.
NSF standard grants (1991-present): DMS 91-00671, DMS 92-04092, DMS 95-00577, DMS 98-00924, DMS 01-03626, DMS 04-05578, DMS 07-05455, DMS 10-06309, DMS 13-05233, DMS 16-08577, DMS 19-06259. Recent proposal reviews available on personal website.
1992 Alfred P. Sloan Research Fellow
1987-91 NSF Postdoctoral Fellowship
1983-1986 McCormick Fellowship, NSF Fellowship, U. of Chicago
1982-1983 Churchill Fellowship, Cambridge England.

Copies of my papers and lectures are available at `www.math.sunysb.edu/~bishop`
Email me at `bishop@math.stonybrook.edu`