Willie Rush Lim

Education

2019 – 2024	**PhD in Mathematics, Stony Brook University, NY**
	○ Research Interests: Complex dynamical systems, renormalization theory
	○ Advisor: Dzmitry Dudko

2015 – 2019	**MSci. in Mathematics, Imperial College London, UK**
	○ First class honors
	○ Dissertation: "*Quadratic-Like Renormalisation in Holomorphic Dynamics*"
	○ Advisor: Davoud Cheraghi

Research Papers

[1] A priori bounds and degeneration of Herman rings with bounded type rotation number.
Submitted to *Invent. Math*. arXiv:2302.07794

[2] Rigidity of J-rotational rational maps and critical quasicircle maps.
Submitted to *Trans. Amer. Math. Soc*. arXiv:2308.07217

[3] Hyperbolicity of renormalization of critical quasicircle maps.
In preparation. current draft

Recent Talks

2024	**January**	Geometry & Topology Seminar, Brown University
2023	**November**	Quasiworld Seminar
2023	**March**	Complex Analysis and Dynamics Seminar, CUNY
2022	**November**	Dynamical Systems Seminar, Stony Brook University
2022	**August**	On Geometric Complexity of Julia Sets IV, Banach Center, IMPAN

Conferences Attended

2024	**January**	International Colloquium on Randomness, Geometry, and Dynamics – IISER, Pune
2023	**August**	Inaugural CNAM-Fields Nonlinear Days: Renormalization and Friends – Fields Institute. Participated in a poster session: pdf
2023	**May**	Around the Mandelbrot Set: celebrating the 60th birthday of Mitsuhiro Shishikura – Kyoto University
2022	**December**	Complex Dynamics in the Tropics: celebrating the 60th birthday of Carsten Lunde Petersen – IMPA. Participated in a poster session: pdf
2022	**August**	On Geometric Complexity of Julia Sets IV – Banach Center, IMPAN
2022	**May**	Adventurous Berkeley Complex Dynamics – MSRI Participated in a poster session: pdf

2021	**September**	On Geometric Complexity of Julia Sets III (online) – Banach Center, IMPAN
2021	**September**	Advancing Bridges in Complex Dynamics (online) – CIRM
2021	**March**	Many Faces of Renormalization (online) – Simons Center
2020	**March**	Analysis, Dynamics, Geometry and Probability – Simons Center

Teaching Experience

2023	**Summer**	Instructor, MAT127 Calculus C (part of Simons STEM Scholars Summer Bridge)
2022	**Fall**	Lecturer, MAT125 Calculus A
2022	**Summer**	Instructor, MAT203 Calculus III
2021	**Summer**	Instructor, MAT203 Calculus III
2020	**Summer**	Instructor, MAT342 Applied Complex Analysis
2019 – 2024		Teaching Assistant (as a grader and recitation leader) MAT131 Calculus I, MAT132 Calculus II, MAT211 Intro. to Linear Algebra, MAT303 Calculus IV with applications, MAT341 Applied Real Analysis, MAT341 Applied Complex Analysis, MAT351 Dynamics and Chaos, MAT536 Complex Analysis I

Honors and Awards

2019		IBM Prize for Excellence in Pure Mathematics
2019		Prize for Excellence in Support of Teaching, Imperial College London
2017		G-Research Prize
2015 – 2019		Dean's List, Imperial College London
2015 – 2019		President's Undergraduate Scholarship, Imperial College London

Outreach and Service

2022	**Fall**	Co-organizer of ENYGMMa (Empowering New York Gender Minority Mathematicians)
2022	**Summer**	Instructor of the Mathematics Summer Program (MathCamp) for high school students
2022	**Spring**	Directed Reading Program (Fractal Geometry)
2021	**Spring**	Directed Reading Program (The Symmetries of Things)
2020 – 2021		Co-organizer of the Graduate Student Seminar