Xi Sisi Shen

Basic Information	Department of Columbia Uni 2990 Broadwa	of Mathematics xss@math.columbia.edu niversity http://www.columbia.edu/~xss2000/ way, New York, NY			
Research	Complex geometry, partial differential equations, complex geometric flows.				
Academic Appointments	Columbia University Joseph Fels Ritt Assistant Professor			July 2021 –	
Education	Northwestern University Ph.D. in Mathematics, advised by Ben Weinkove			2016 - 2021	
	Columbia University M.S. in Financial Engineering			2013 - 2014	
	McGill University 2009 – 2013 B.S. in Honours Probability and Statistics, minor in Computer Science				
Grants and Awards	2024-2027 2021 2019 2014 2013 2013 2012	NSF Grant, DMS-2404845, \$ "Nonlinear PDE in Complex Best Thesis Award in Mather US Junior Oberwolfach Fellor Columbia Engineering Studer McGill Science Undergraduat William Moser Memorial Priz Research Scholarship granted Mathématiques (ISM)	193,767 Geometry" matics, Northwestern Univer w nt Council Travel Scholarship te Society Travel Award ze for 2012 Putnam Math Co l by l'Institut des Sciences	sity o ompetition	
PUBLICATIONS	 12 X. S. Shen, P. Talla, Non-preservation of α-concavity for the porous medequation in higher dimensions, arXiv:2403.13226. Submitted to journal. 11 S. Liang, X. S. Shen, K. Smith, The continuity equation on Hermitian methCalabie estimates, Chern scalar curvature and Oeljeklaus-Toma manifolds, letin of the London Mathematical Society 56, 959-980 (2024). 10 X. S. Shen, K. Smith, The continuity equation on Hopf and Inoue surfaces, International Mathematics Research Notices 2024, 3625-3648 (2024). 9 M. Lejmi, X. S. Shen, Canonical almost-Kähler metrics dual to general pifronted Lorentzian metrics, Mathematics Zeitschrift. 303, no 4 (2023), 94. 8 X. S. Shen, A Chern-Calabi flow on Hermitian manifolds, The Journal of Geometric Analysis. 32, no 4 (2022). 7 X. S. Shen, The Kähler-Ricci flow, holomorphic vector fields and Fano bund Transactions of the American Mathematical Society 374, no 9 (2021), 6751-6 6 X. S. Shen, A. Williams, A k-ary middle levels conjecture, Proceedings of the Thailand-Japan Conference on Discrete and Computational Geometry, Gra and Games (2021). 4 X. S. Shen, Hermitian metrics of constant Chern scalar curvature and a Cl Calabi flow, PhD Thesis, Northwestern University 2021. 			orous medium urnal. nitian metrics: nanifolds, Bul- surfaces, 24). general plane- 023), 94. Fano bundles, 1), 6751-6768. ure, mgs of the 23rd netry, Graphs, and a Chern-	

	3 X. S. Shen, A. Williams, A middle levels conjecture for multiset permutations with uniform frequency, Williams College Technical Report CSTR-201901.
	2 P. Guan, X. S. Shen, A rigidity theorem for hypersurfaces in higher dimensional space forms, Contemporary Mathematics, AMS. 644 (2015), 61-65.
	 X. S. Shen, A. Williams, A 'Hot Potato' transposition Gray code for permutations, Electronic Notes in Discrete Mathematics. 44 (2013), 89-94.
Invited Talks	• Workshop on Canonical Metrics in Differential Geometry, UW Madison. Apr_{2025}
	• Notre Dame University Colloquium. Jan 2025
	• UNC Chapel Hill Colloquium. Dec 2024
	• NYU Courant Geometric Analysis and Topology seminar. Nov 2024
	• Introductory Workshop on Special Geometric Structures Analysis, MSRI, Sep 2024, cancelled due to family leave
	• Thematic Program in Geometric Analysis, Workshop on PDEs in Complex Geometry, CRM. Apr 2024, cancelled due to family leave
	• Conference on Complex Differential Geometry, Lerici, Italy. Apr 2024, cancelled due to family leave
	• Asymptotics in Complex Geometry in memory of Steven Zelditch, Northwestern University. Mar 2024, cancelled due to family leave
	• Stony Brook Geometry and Topology Seminar, Jan 2024
	• INDAM Workshop on Geometric flows on complex manifolds, Cortona. Sep 2023
	• Analytic Methods in Complex Geometry Conference, Münster. Aug 2023
	• Around Complex Geometry Conference, Chicago. Apr 2023
	• CUNY Differential Geometry, Topology and Special Structures Seminar. Apr 2023
	• IAS "What is?" Math Seminar. Mar 2023
	• JMM, AMS Special Session on New Developments in Differential Geometry and Topology. Jan 2023
	• CMS Complex geometry and moduli spaces session. Dec 2022, cancelled due to illness
	• Special Metrics in Complex Geometry May 2022, cancelled due to injury
	• Northwestern Geometric Analysis Seminar May 2022, cancelled due to injury
	• IAS Seminar in Analysis and Geometry Series. May 2022
	• JMM, MSRI Special Session: Metric geometry and topology. Apr 2022
	• McGill Geometric Analysis Seminar. Mar 2022
	• Rutgers Geometric Analysis Seminar. Mar 2022
	• Torino Geometric Analysis Seminar. Feb 2022
	• University of Firenze Geometry Seminar. Feb 2022
	• CUHK Seminar in Geometric Analysis. <i>Feb 2022</i>

- CIRGET Seminar. Jan 2022
- Workshop on Complex Geometry, Vanderbilt University. Dec 2021
- CMS Winter Meeting, Recent Developments in Complex Geometry and Geometric Analysis. Dec 2021

	• Stony Brook Geometry and Topology Seminar. October 2021				
	• The 3rd Geometric Analysis Festival. July 2021				
	• CMS 75th Anniversary Summer Meeting. Jun 2021				
	• CUNY Almost Complex Geometry Seminar Mar 2021				
	- University of Member d Informal Constation Analysis Consistent Dec 2020				
	• University of Maryland Informal Geometric Analysis Seminar. Dec 2020				
	• UBC Differential Geometry, Mathematical Physics & PDE Seminar. Nov 2020				
	• Columb	• Columbia University Informal Complex Geometry and PDE Seminar. Nov 2020			
	• Florida	International University Geometry Seminar. Jun 2020			
	• Waterle	to University Geometry and Topology Seminar. Jan 2020			
	• JMM, II. Jan	AMS Special Session on De Bruijn Sequences and Their Generalizations, 2014			
	 Canadian Discrete and Algorithmic Mathematics Conference. Jun 2013 McGill Undergraduate Research Conference. Oct 2012 				
	• Medin	Undergraduate Research Comerchee. Det 2012			
TEACHING	2023	MATHUN2500 - Analysis and Optimization			
		MATHUN1201 - Calculus 3			
	2022	MATHUN2500 - Analysis and Optimization			
	2021	MATHUN1101 - Calculus I MATHUN1101 - Calculus 1			
	2021	MATHONIIOI - Calculus I			
Experience	2017 - 2020	TA for MATH 220, 224, 300, 310-1,2,3 at Northwestern University			
	2014 - 2016	Data Scientist at Facebook Inc.			
	2015	Instructor at General Assembly for <i>Intro to SQL</i> course			
	2014	Options Trading Intern at Sun Trading LLC			
	2011-2012	Mathematics Help Desk Tutor at McGill University			
CONFERENCE AND	2021 -	Co-organizer of Columbia University Informal Complex Geometry and			
SEMINAR	0000	PDE Seminar			
Organization	2022-	Co-organizer for 2024 and 2025 GROW Conference nosted at Columbia			
	2022 -	Co-organizer for ENGYMMa conference			
	2022 -	Co-organizer of Columbia Math Postdoc Series			
	2021 - 2023	Co-organizer of Geometry and TACoS online conference			
a	2024	Speaker at the Association for Woman in Mathematics Series at			
SERVICE	2024	Columbia University			
	2023	Supervised senior thesis of Pranay Talla which led him to win the Van			
	0000	Buren Prize 2024			
	2023	Panelist forr FNVCMMa (Empowering New York Conder Minerity			
	2023	Mathematicians) Seminar series at CUNY			
	2022-2023	Referee for CAG, GAFA, IJM, La Matematica			
	2022	Speaker in Columbia Undergraduate Math Society Lecture Series			
	2022	Served on the Qualifying Exam Committee of Shuang Liang and Nikita			
	0001	Klemyatin (Columbia University)			
	2021	Directed reading program on algorithmic game theory with undergrad-			
	2019 - 2020	Served on the Climate Committee of the Mathematics Department at			
	2011 - 2012	Northwestern University VP Social for the Society of Mathematics Undergraduates at McGill			
		University			