

## BINGYANG HU

Department of Mathematics  
University of Wisconsin, Madison  
101-04 Van Vleck  
480 Lincoln Drive, Madison, WI, USA, 53705

608-622-4093  
Bhu32@wisc.edu

---

PERSONAL PARTICULARS	Gender: Male Date of birth: 17 Mar 1991	Nationality: Chinese
EDUCATION BACKGROUND	<b>Nanyang Technological University, Singapore</b> – B.Sc (Hons) in Mathematical Sciences <b>University of Wisconsin, Madison</b> – Ph. D in Mathematics	Sep 2010 to Aug 2014  Aug 2015 to May 2020
APPOINTMENTS	<b>Project Officer</b> Division of Mathematics, Nanyang Technological University.	Aug 2014 to May 2015
RESEARCH INTERESTS	* <b>Harmonic Analysis</b> , mainly in <ol style="list-style-type: none"><li>1. Vector fields, Radon transform and singular Radon transform;</li><li>2. Sparse domination, dyadic calculus, and its application in weight theory, analytic number theory and complex function theory, etc;</li><li>3. Decoupling theory and polynomial partitioning, and their application in restriction theory.</li></ol> * <b>Complex function theory</b> , mainly in <ol style="list-style-type: none"><li>1. Möbius invariant function spaces;</li><li>2. The behavior of various operators (composition operators, Hankel operators, etc) acting on these spaces.</li></ol>	
PUBLICATIONS AND PREPRINTS	<ol style="list-style-type: none"><li>1. Bingyang Hu, Songxiao Li, Yecheng Shi, Brett Wick, Sparse domination of the weighted composition operators on the weighted Bergman spaces, submitted, 2020.</li><li>2. Chun Gan, Bingyang Hu, Ilyas Khan, Dyadic decomposition on convex domains of finite type and applications, preprint available on arXiv, submitted, 2020.</li><li>3. Theresa C. Anderson, Bingyang Hu, On the general dyadic grids on <math>\mathbb{R}^d</math>, submitted, 2020..</li></ol>	

4. Bingyang Hu, Sparse bound of singular Radon transform, accepted publication in *Journal de Mathématiques Pures et Appliquées*, 2019, arXiv:1906.00329.
5. Anderson, Theresa C., Bingyang Hu, Jiang, Liwei, Olson, Connor, and Wei, Zeyu. On the translates of general dyadic systems on  $\mathbb{R}$ . accepted publication in *Math. Ann*, 2019.
6. Anderson, Theresa C. and Bingyang Hu. A unified method for maximal truncated Calderon-Zygmund operators in general function spaces by sparse domination. to appear in *Proc. Edinb. Math.Soc*, 2019.
7. Bingyang Hu, Hai Khoi Le, Sets of uniqueness, weakly sufficient sets and sampling sets for weighted spaces of holomorphic functions in the unit ball, preprint available on arXiv, 2019.
8. Bingyang Hu and Songxiao Li,  $\mathcal{N}(p, q, s)$ -type spaces in the unit ball of  $\mathbb{C}^n$  (I): Basic properties and Hadamard gaps, to appear in *Complex Var. Elliptic Equ*, 2019. , 2019.
9. Bingyang Hu and Songxiao Li,  $\mathcal{N}(p, q, s)$ -type spaces in the unit ball of  $\mathbb{C}^n$  (II): Carleson measure and its application, to appear in *Forum Math*, 2019.
10. Bingyang Hu and Songxiao Li,  $\mathcal{N}(p, q, s)$ -type spaces in the unit ball of  $\mathbb{C}^n$  (III): Various characterizations, accepted publication in *Publ Math-Debrecen*. 2019.
11. Bingyang Hu and Songxiao Li,  $\mathcal{N}(p, q, s)$ -type spaces in the unit ball of  $\mathbb{C}^m$ (IV): Atomic Decomposition, Gleasons Problem and Distance problems, submitted, preprint, 2019.
12. Bingyang Hu and Songxiao Li,  $\mathcal{N}(p, q, s)$ -type spaces in the unit ball of  $\mathbb{C}^m$ (V): Riemann- Stielthes operators and Multipliers, submitted, preprint, 2019.
13. Anderson, Theresa C, Bingyang Hu, Roos. Joris, Sparse bounds for discrete Radon transforms, submitted, preprint, 2019.
14. Bingyang Hu, Songxiao Li, Difference of weighted composition operators on weighted-type spaces in the unit ball. accepted publication in *Analysis Mathematica*, 2019.
15. Bingyang Hu, Hai Khoi Le, Trieu Le, On the structure of  $\mathcal{N}_p$ -spaces in the ball, *Acta Mathematica Vietnamica* 43 (2018), no. 3, 433 - 448. 2 of 5.
16. Bingyang Hu, Dongxi Ye, Sign-change of the Fourier coefficients of a Hauptmodul for  $\Gamma_0(2)$ , *International Journal of Number Theory*, Int. J. Number Theory 14 (2018), no. 8, 22692276.
17. Bingyang Hu, Songxiao Li, Hadamard gap series in weighted-type spaces on the unit ball, *Ann. Funct. Anal.* 8 (2017), no. 2, 259269, doi:10.1215/20088752-0000011X.
18. Doan M.L., Bingyang Hu, Hai Khoi Le, Queffelec H, Approximation numbers for composition operators on spaces of entire functions, *Indagationes Mathematicae* (available online on 24 Jul 2016, DOI: 10.1016/j.indag.2016.07.003).
19. Bingyang Hu, Hai Khoi Le, Trieu Le, Essential norm for weighted composition operators on  $\mathcal{N}_p$  spaces in the ball, *Vietnam Journal of Mathematics*, 44 (2016), no. 2, 431 – 439.

20. Bingyang Hu, Hai Khoi Le, Ruhan Zhao, Topological structure of the spaces of composition operators on Hilbert spaces of Dirichlet series, *Z. Anal. Anwend.* 35 (2016), no. 3, 267284, doi: 10.4171/ZAA/1565.
21. Bingyang Hu, Hai Khoi Le, Trieu Le, Composition operators between  $\mathcal{N}_p$  spaces in the ball, *North-W. Eur. J. of Math.* 2(2016), no. 1, 103120.
22. Bingyang Hu, Songxiao Li,  $\mathcal{N}_p$ -type functions with Hadamard gaps in the unit ball, *Complex Var. Elliptic Equ.* 61 (2016), no. 6, 843853.
23. Bingyang Hu, Songxiao Li,  $\mathcal{N}(p, q, s)$ -type spaces in the unit ball of  $\mathbb{C}^n$ , arxiv: 1609:00957, 2016.
24. Bingyang Hu, Hai Khoi Le, Compact difference of weighted composition operators on  $\mathcal{N}_p$ -spaces in the ball, *Rev. Roumaine Math. Pures Appl.* 60 (2015), no. 2, 101116. – link
25. Bingyang Hu, Hai Khoi Le, Kehe Zhu, Frames and operators in Schatten classes, *Houston J. Math.* 41 (2015), 1191-1219.
26. Xiaolu Hou, Bingyang Hu, Hai Khoi Le, Hilbert spaces of entire Dirichlet series and composition operators, *J. Mathematical Analysis and Applications* 401(2013), no. 1, 416-429.
27. Bingyang Hu, Hai Khoi Le, Weighted composition operators on  $\mathcal{N}_p$  space in the ball, *Comptes rendus. Acad. Sci. Paris, Ser. I* 351 (2013), no. 19–20, 719-723.
28. Xiaolu Hou, Bingyang Hu, Hai Khoi Le, Composition operators on Hilbert spaces of entire Dirichlet series, *Comptes rendus Acad. Sci. Paris, Ser. I* 350(2012), no. 19–20, 875-878.
29. Bingyang Hu, Hai Khoi Le, Numerical range of composition operators on Hilbert spaces of entire Dirichlet series, in Proceedings of the 20th International Conference on Finite or Infinite Dimensional Complex Analysis and Applications, Science Technics Publishing House, Hanoi, 2012, 285-299.

AWARDS	<b>Singapore Government Linked Company Full (SM3) Scholarship</b> Dec 2009
	<b>Ng Kong Beng Best Project Prize in Mathematical Sciences</b> 03 Jul, 2014
	<b>Excellence in Mathematical Research Award,</b> UW-Madison 2019.
RESEARCH GRANT	<b>NSF grant DMS 1600458 and NSF grant 1500182</b> Summer 2018
SERVICE	<b>AMS reviewer</b> Sep 2015–Present
TEACHING EXPERIENCE	<b>Teaching Assistant in NTU</b>
	MH1201 - Linear Algebra II Feb 2014 to Apr 2014
	MH1810- Mathematics I Aug 2014 to Nov 2014

MH2100- Calculus III	Aug 2014 to Nov 2014
MH1201- Linear Algebra II	Feb 2015 to Apr 2015

**Teaching Assistant in UW-Madison**

MATH222- Calculus II	Aug 2015 to Dec 2015
MATH222- Calculus II	Jan 2016 to May 2016
MATH171- Calculus with Algebra and Trigonometry I	Aug 2016 to Dec 2016
MATH319- Techniques in Ordinary Differential Equations	Jan 2017 to May 2017
MATH221- Calculus I	Aug 2017 to Dec 2017
MATH222- Calculus II	Jan 2018 to May 2018
MATH211- Calculus	Aug 2018 to Dec 2018
MATH211- Calculus	Jan 2019 to May 2019
MATH211- Calculus	Aug 2019 to Dec 2019

TALKS

**SEAM 2016 32nd Southeastern Analysis Meeting** 13-15 Mar, 2016

- University of South Florida, Tampa, Florida, USA;
- Title of talk: “Composition operators on  $\mathcal{N}_p$  space in the unit ball”.

**Analysis RTG student seminar, 2017** 27 Oct, 2017

- University of Wisconsin, Madison;
- Title of talk: “Some applications of Sparse domination theory”.

**Geometric and Harmonic Analysis, 2019** 29–31 Mar, 2019

- University of Connecticut, Storrs, Connecticut, United States;
- Title of talk: “Sparse domination of singular Radon transforms”.

**Graduate analysis seminar** 14 Jan, 2019– 10 May, 2019

- Organizer;
- 12 weeks reading courses;
- Give four professional talks on polynomial methods and Kakeya problems.

**Analysis seminar** 6 Jun, 2019

- Fudan University, Shanghai, China;

-Title of talk: "Sparse bounds on singular Radon transforms".

**Analysis seminar**

29 Oct, 2019

-University of Wisconsin, Madison, WI, USA;

-Title of talk: "Sparse bounds on singular Radon transforms and its discrete analog".

**AMS section meeting**

Apr, 2020

-Purdue University, West Lafayette, IN, USA;

-Title of talk: "Sparse bounds on singular Radon transforms and its discrete analog";

-Cancelled due to COVID-19.

**CUNY Harmonic Analysis and PDE's Seminar**

May 29, 2020

-The Graduate Center, The City University of New York, NY, USA;

-Title of talk: "On the general dyadic system in Euclidean spaces";

- Zoom talk.

Last updated: July 7, 2020