Curriculum Vitae

QIYU SUN

Department of Mathematics

University of Central Florida, Orlando, FL 32816

Phone: 407-823-4839; Email: `qiyu.sun@ucf.edu`

Website: `http://sciences.ucf.edu/math/qsun/`

MINI RESUME

I. GENERAL INFORMATION
   - I was conferred with a PhD in 1990, joined the University of Central Florida in 2003, and was promoted to Professor in 2013.
   - I am working on applied and computational harmonic analysis, optimal control theory, sampling theory and mathematical signal processing.

II. PUBLICATIONS
   - I have published more than 130 journal papers on various journals, including Advance in Mathematics(2), Advanced in Computational Mathematics(6), Applied and Computational Harmonic Analysis(14), Constructive Approximation(3), IEEE Transaction on Image Processing/Information Theory/ Signal Processing/Signal and Information Processing over Networks/Control of Networks(11), Journal of Fourier Analysis and Applications(8), Journal of Functional Analysis(5), Memoirs/Transaction of American Mathematical Society(3), Mathematische Annalen(1), SIAM Journal of Mathematical Analysis/Control and Optimizations(4), etc
   - My publications have been cited 1693 times according to MathSciNet, and 4320 times according to Google Scholar.
   - I am on the World's Top 2% list of the most influential researchers ranked by a Stanford University research group (2023).

III. PRESENTATIONS
   - I gave more than 120 presentations of various types, including keynote/plenary talks, colloquia and lecture series.

IV. GRANTS and AWARDS
   - My research was continuously funded by the National Science Foundation, single PI research awards, since 2011 (DMS-1109063, DMS-1412413 and DMS-1816313).
   - Recipient of the 2019 SIAG/CST Best SICON Paper Prize for making "*a fundamental contribution to spatially distributed systems theory, showing in particular that quadratically optimal state feedback controllers for spatially decaying systems are sparse and spatially localized.*" The prize is awarded biennially to the author or authors of the two most outstanding papers published in SICON (SIAM Journal of Control and Optimization, the top journal in the Control

and System Theory community) in the three calendar years preceding the award year.

– Recipient of UCF Research Incentive Awards, 2016-17 and 2021-22.

V. EDUCATIONAL ACTIVITIES

– I taught various courses from lower undergraduate to graduate level.

– I have (co-)supervised one postdoc, seven PhD students and one master student at the University of Central Florida. The recent five PhD students accepted postdoc position at University of Central Florida (2024), Boston College (2020), Duke University (2017), University of Mexico (2017) and King Abdullah University of Science and Technology (KAUST, 2016). The postdoc is now an associate professor at Department of Mathematics, North Carolina Agricultural and Technical State University. Currently, one postdoc and three PhD students are under my (co-)supervision.

VI. SERVICES

– I am currently on the editorial board of journals, Axioms (2022–); Journal of Fourier Analysis and Applications (2021–); Frontiers in Signal Processing (2021–,); Sampling Theory, Signal Processing, and Data Analysis (2020–, area editor); Numerical Functional Analysis and Optimization (2010–).

– I reviewed journal paper submissions, grant proposals, promotion and tenure dossiers, etc.

– I was the math graduate program coordinator (Fall 2015-Summer 2024). The graduate program has been improved on quality of incoming students, and number of placements of our graduates into postdoc and faculty positions, federal government agencies, and industries pertinent to their fields of focus. 30 Math PhD degree conferred since 2016 with 13 of them have postdoc positions at Duke University, Michigan State University, Washington University in Saint Louis etc, after graduation. Four of them have tenure-track position at research universities at USA, including University of Minnesota, University of Central Florida, Middle Tennessee State University and University of Memphis. Also I have served and chaired on several committees at department/college/university levels since 2003.

REGULAR RESUME

I: GENERAL INFORMATION

Education

- **Ph.D.** in Mathematics, Hangzhou University, China, 1990. Dissertation: "Singular Integral Operator and Related Topics". Thesis Supervisor: Professor Xianliang Shi.
- **B.S.** in Mathematics, Hangzhou University, China, 1985.

Professional Experience

- **Professor**, Department of Mathematics, University of Central Florida, 2013.8–
- **Professor and Math Graduate Coordinator**, Department of Mathematics, University of Central Florida, 2015.8–2024.7
- **Associate Professor**, Department of Mathematics, University of Central Florida, 2008.8 – 2013.7
- **Visited Professor**, School of Computer and Communication Sciences, Ecole Polytechnique Federale de Lausanne, 2010.1–2010.5
- **Visiting Associate Professor**, Department of Mathematics, Vanderbilt University, 2009.8–2009.12
- **Assistant Professor**, Department of Mathematics, University of Central Florida, 2003.8 – 2008.7.
- **Postdoctoral Fellow**, Department of Chemistry, University of Houston, 2003.1 – 2003.7; 2002.5 – 2002.7.
- **Visiting Assistant Professor**, Department of Mathematics, Vanderbilt University, 2002.8 – 2002.12.
- **Research Fellow**, Department of Mathematics, National University of Singapore, 1998.3 – 2002.5.
- **Lecturer to Associate Professor**, Department of Mathematics, Zhejiang University, 1990 – 1998.

Research Interests

Applied and Computational Harmonic Analysis, Optimal Control Theory, Sampling Theory and Mathematical Signal Processing.

II: PUBLICATIONS

I have published 136 refereed journal articles, 1 monograph, 26 refereed conference proceeding papers or book chapter, 2 non-refereed conference proceeding papers and 2 research announcements.

Monograph

1. Qiyu Sun, Ning Bi and Daren Huang, *An Introduction to Multiband Wavelets*, Zhejiang University Press, China, 2001.

Refereed Journal Articles

(1) A. Amini, C. Zheng, Q. Sun and N Motee, Carleman linearization of nonlinear systems and its finite-section approximations *Discrete and Continuous Dynamical Systems Series B*, Vol. 30, No. 2, 2025, pp. 577-603.

(2) Nazar Emirov, Guohui Song and Qiyu Sun, A divide-and-conquer algorithm for distributed optimization on networks, *Applied and Computational Harmonic Analysis*, Volume 70, Article No. 101623, 2024.

(3) L. Li, S. Pu, M. Jing, Y. Mao, X. Liu, and Q. Sun, Phase retrieval based on the distributed conditional generative adversarial network *Journal of the Optical Society of America A*, vol. 41(9), 1702-1712, 2024.

(4) E. Atallah, N. Rahnavard, and Q. Sun, CoDGraD: A Code-based Distributed Gradient Descent Scheme for Decentralized Convex Optimization, *Poincare Journal of Analysis and Applications*, (Special Issue for the celebration of the 65 birthday for Akram Aldroubi), vol.10(3), 137-163, 2024.

(5) Cheng Cheng, Yang Chen, Jeonyu Lee and Qiyu Sun, Graph Fourier transforms on directed product graphs, *IEEE Transactions on Signal and Information Processing over Networks*, **9**(2023), 531–541. (One of the IEEE Signal Processing Society's top 25 downloaded articles from Sept. 2023-Sept. 2024 for IEEE Transactions on Signal and Information Processing over Networks)

(6) Yang Chen, Cheng Cheng and Qiyu Sun, Graph Fourier transform based on singular value decomposition of directed Laplacian, *Sampling Theory, Signal Processing, and Data Analysis*, **21**(2023), no. 2, Paper No. 24, 28 pp.

(7) Arash Amini, Hossein K. Mousavi, Qiyu Sun and Nader Motee, Space-Time Sampling for Network Observability, *IEEE Transactions on Control of Network Systems*, **10**(2023), 1159–1171.

(8) Peng Li, Wengu Chen and Qiyu Sun, Inertial proximal ADMM for separable multi-block convex optimizations and compressive affine phase retrieval, *Acta Mathematica Sinica*, **39**(2023), no. 8, 1459–1496.

(9) Yang Chen, Cheng Cheng and Qiyu Sun, Phase retrieval of complex and vector-valued functions, *Journal of Functional Analysis*, **283**(2022), Article No. 109593.

(10) Nader Motee and Qiyu Sun, Localized stability certificates for spatially distributed systems over sparse proximity graphs, *SIAM Journal of Control and Optimization*, **60**(2022), no. 2, 917-944.

(11) Nazar Emirov, Cheng Cheng, Junzheng Jiang and Qiyu Sun, Polynomial graph filter of multiple shifts and distributed implementation of inverse filtering, *Sampling Theory, Signal Processing, and Data Analysis*, **20**(2022), Article number 2.

(12) Nazar Emirov, Cheng Cheng, Qiyu Sun and Zhihua Qu, Distributed algorithms to determine eigenvectors of matrices on spatially distributed networks, *Signal Processing*, **196**(2022), no. 108530

(13) Yaxu Li, Qiyu Sun and Jun Xian, Random sampling and reconstruction of concentrated signals in a reproducing kernel space, *Applied and Computational Harmonic Analysis*, **54**(2021), 273–302.

(14) Qiquan Fang, Chang-Eon Shin and Qiyu Sun, Polynomial control on weighted stability bounds and inversion norms of localized matrices on simple graphs, *Journal of Fourier Analysis and Applications*, **27**(2021), Article No. 83, 33 pages.

(15) Cheng Cheng and Qiyu Sun, Stable phaseless sampling and reconstruction of real-valued signals with finite rate of innovations, *Acta Applicandae Mathematicae*, **177**(2021), Article No. 3, 34 pages.

(16) Yang Chen, Cheng Cheng, Qiyu Sun and Haichao Wang, Phase retrieval of real-valued signals in a shift-invariant space, *Applied and Computational Harmonic Analysis*, **49**(2020), 56–73.

(17) Cheng Cheng, Nazar Emirov and Qiyu Sun, Preconditioned gradient descent algorithm for inverse filtering on spatially distributed networks, *IEEE Signal Processing Letter*, **27**(2020), 1834–1838.

(18) Junzheng Jiang, David B. Tay, Qiyu Sun and Shan Ouyang, Recovery of time-varying graph signals via distributed algorithms on regularized problems, *IEEE Transactions on Signal and Information Processing over Networks*, **6**(2020), 540–555.

(19) Junzheng Jiang, David B. Tay, Qiyu Sun and Shan Ouyang, Design of nonsubsampled graph filter banks via lifting schemes, *IEEE Signal Processing Letters*, **27**(2020), 441–445.

(20) Cheng Cheng, Yingchun Jiang and Qiyu Sun, Spatially distributed sampling and reconstruction, *Applied and Computational Harmonic Analysis*, **47**(2019), 109–148.

(21) Chang Eon Shin and Qiyu Sun, Polynomial control on stability, inversion and powers of matrices on simple graphs, *Journal of Functional Analysis*, **276**(2019), 148–182.

(22) Cheng Cheng, Junzheng Jiang and Qiyu Sun, Phaseless Sampling and Reconstruction of Real-Valued Signals in Shift-Invariant Spaces, *Journal of Fourier Analysis and Applications*, **25**(2019), 1361–1394.

(23) Junzheng Jiang, Cheng Cheng, and Qiyu Sun, Nonsubsampled Graph Filter Banks: Theory and Distributed Algorithms, *IEEE Transaction on Signal Processing*, **67**(2019), 3938–3953

(24) B. Gao, Qiyu Sun, Y. Wang and Z. Xu, Phase retrieval from the magnitudes of affine linear measurements, *Advances in Applied Mathematics*, **93**(2018), 121–141.

(25) Yang Chen, Cheng Cheng and Qiyu Sun, A phaseless reconstruction algorithm for real-valued signals in a shift-invariant space, *Scientia Sinica Mathematica*, **48**(2018), 1237–1252.

(26) Qiyu Sun and Wai-Shing Tang, Nonlinear frames and sparse reconstructions in Banach spaces, *Journal of Fourier Analysis and Applications*, **23**(5)(2017), 1118–1152.

(27) Nader Motee and Qiyu Sun, Sparsity and Spatial Localization Measures for Spatially Distributed Systems, *SIAM Journal on Control and Optimization*, **55**(1)(2017), 200–235. **The 2019 SIAG/CST Best SICON Paper.**

(28) Brian Millikan, Aritra Dutta, Qiyu Sun and Hassan Foroosh, Fast detection of compressively-sensed IR targets using stochastically trained least squares and compressed quadratic correlation filters, *IEEE Transactions on Aerospace and Electronic System*, **53**(5)(2017), 2449–2461.

(29) Syad A. Abbas, Qiyu Sun and Hassan Foroosh, An exact and fast computation of discrete Fourier transform for polar and

spherical grid, *IEEE Transactions on Signal Processing*, **65**(8)(2017), 2033–2048.

(30) Lan Li, Cheng Cheng, Deguang Han, Qiyu Sun and Guangming Shi, Phase retrieval from multiple-window short-time Fourier measurements, *IEEE Signal Processing Letter*, **24**(4)(2017), 372–376.

(31) Xin-rong Dai and Qiyu Sun, The *abc*-problem for Gabor systems, *Memoirs of American Mathematical Society*, **244(1152)**(2016), 1–109.

(32) Cheng Cheng, Yingchun Jiang and Qiyu Sun, Sampling and Galerkin reconstruction in reproducing kernel spaces, *Applied and Computational Harmonic Analysis*, **41(2)**(2016), 638–659.

(33) Yang Chen, Qiquan Fang and Qiyu Sun, Spectra of Bochner-Riesz means on L^p, *Numerical Functional Analysis and Optimization*, **37**(2016), 1203–1212.

(34) Syed Alam Abbas, Qiyu Sun and Hassan Foroosh, Frequency estimation of sinusoids from nonuniform samples, *Signal Processing*, **129**(2016), 67–81.

(35) Xin-rong Dai and Qiyu Sun, Spectral measures with arbitrary Hausdorff dimensions, *Journal of Functional Analysis*, **268**(2015), 2464–2477.

(36) Yang Chen, Cheng Cheng and Qiyu Sun, Reconstruction of sparse wavelet signals from partial Fourier measurements, *IEEE Signal Processing Letter*, **22**(2015), 2299–2303.

(37) Qiyu Sun, Localized nonlinear functional equations and two sampling problems in signal processing, *Advances in Computational Mathematics*, **40**(2014), 415–458.

(38) Michael Unser, Pouya D. Tafti and Qiyu Sun, A unified formulation of Gaussian vs. sparse stochastic process – Part I, *IEEE Transaction on Information Theory*, **60**(2014), 1945–1962.

(39) Dorin E. Dutkay, Deguan Han and Qiyu Sun, Divergence of mock and scrambled Fourier series on fractal measures, *Transaction of American Mathematical Society*, **366**(2014), 2191–2208.

(40) Qiyu Sun and Jun Xian, Rate of innovation for (non-)periodic signals and optimal lower stability bound for filtering, *Journal of Fourier Analysis and Applications*, **20**(2014), 119–134.

(41) Qiquan Fang, Chang Eon Shin and Qiyu Sun, Wiener's lemma for singular integral operators of Bessel potential type, *Monatschefte fur Mathematik*, **173**(2014), 35–54.

(42) M. Z. Nashed, Qiyu Sun and Jun Xian, Convolution sampling of signals in a reproducing kernel subspace, *Proceeding of American Mathematical Society*, **141**(2013), 1995–2007.

(43) Chang Eon Shin and Qiyu Sun, Wiener's lemma: localization and various approaches, *Applied Mathematics-A Journal of Chinese Universities*, **28**(2013), 465–484

(44) Qiyu Sun, Recovery of sparsest signals via ℓ^q-minimization, *Applied and Computational Harmonic Analysis*, **32**(2012), 329–341.

(45) Qiyu Sun and Michael Unser, Left-inverse of fractional Laplacian and sparse stochastic processes, *Advances in Computational Mathematics*, **36**(2012), 399–441.

(46) Kyung Soo Rim, Chang Eon Shin and Qiyu Sun, Stability of localized integral operators on weighted L^p spaces, *Numerical Functional Analysis and Optimization*, **33**(2012), 1166–1193.

(47) Akram Aldroubi, Qiyu Sun and Haichao Wang, Uncertainty principles and Balian-Low type theorems in principal shift-invariant spaces, *Applied and Computational Harmonic Analysis*, **30**(2011), 337–347.

(48) Deguang Han, Qiyu Sun and Wai-Shing Tang, Topological and geometric properties of refinable functions and MRA affine frames, *Applied and Computational Harmonic Analysis*, **30**(2011), 151–174.

(49) Qiyu Sun, Wiener's lemma for infinite matrices II, *Constructive Approximation*, **34**(2011), 209–235.

(50) Dorin Ervin Dutkay, Deguang Han, Qiyu Sun, and Eric Weber, On the Beurling dimension of exponential frames, *Advances in Mathematics*, **226**(2011), 285–297.

(51) Qiyu Sun, Sparse approximation property and stable recovery of sparse signals from noisy measurements, *IEEE Trans. Signal Processing*, **10**(2011), 5086–5090.

(52) M. Zuhair Nashed and Qiyu Sun, Sampling and reconstruction of signals in a reproducing kernel subspace of $L^p(R^d)$, *Journal of Functional Analysis*, **258**(2010), 2422–2452.

(53) Qiyu Sun, Local reconstruction for sampling in shift-invariant space, *Advances in Computational Mathematics*, **32**(2010), 335–352.

(54) Qiyu Sun, Stability criterion for convolution-dominated infinite matrices, *Proceeding of American Mathematical Society*, **138**(2010), 3933–3943.

(55) Dorin Ervin Dutkay, Deguang Han, and Qiyu Sun, On the spectra of a Cantor measure, *Advances in Mathematics*, **221**(2009), 251–276.

(56) Chang Eon Shin and Qiyu Sun, Stability of localized operators, *Journal of Functional Analysis*, **256**(2009), 2417–2439.

(57) M. Zuhiar Nashed, Qiyu Sun and Wai-Shing Tang, Average sampling in L^2, *C. Acad. Sci. Paris, Ser I*, **347**(2009), 1007–1010.

(58) Ning Bi, M. Zuhair Nashed, and Qiyu Sun, Reconstructing signals with finite rate of innovation from noisy samples, *Acta Applicandae Mathematicae*, **107**(2009), 339–372.

(59) Deguang Han, M. Zuhiar Nashed, and Qiyu Sun, Sampling expansions in reproducing kernel Hilbert and Banach spaces, *Numerical Functional Analysis and Optimization*, **30**(2009), 971–987.

(60) Qiyu Sun, Wiener's lemma for localized integral operators, *Applied and Computational Harmonic Analysis*, **25**(2008), 148-167.

(61) Qiyu Sun, Frames in spaces with finite rate of innovation, *Advances in Computational Mathematics*, **28**(2008), 301-329.

(62) Dorin Ervin Dutkay, Deguang Han, Gabriel Picioroaga and Qiyu Sun, Orthonormal dilations of Parseval wavelets, *Mathematische Annalen*, **341**(2008), 483-515.

(63) Akram Aldroubi, Casey Leonetti, and Qiyu Sun, Error analysis of frame reconstruction from noisy samples, *IEEE Transactions on Signal Processing*, **56**(2008), 2311–2325.

(64) X. Wang, Q. Sun, R. Eastes, B. Reinisch, C. E. Valladares, Short-term relationship of total electron content with geomagnetic activity in equatorial regions, *J. Geophys. Res.*, **113**(2008), A11308, pp. 1–7.

(65) Qiyu Sun, Wiener's lemma for infinite matrices, *Transactions of the American Mathematical Society*, **359**(2007), 3099–3123.

(66) Ning Bi, Qiyu Sun, Daren Huang, Zhihua Yang and Jiwu Huang, Robust image watermarking based on multiband wavelets and empirical mode decomposition, *IEEE Transactions on Image Processing*, **16**(2007), 1956–1966.

(67) Yanfei Wang, Zaiwen Wen, Zuhair Nashed, and Qiyu Sun, On direct methods for time-limited signal and image reconstruction and enhancement, *International Journal of Wavelets, Multiresolution and Information Processing*, **5**(2007), 51–68.

(68) C. K. Chui and Qiyu Sun, Tight over-sampled affine frame system and over-sampling rates, *Applied and Computational Harmonic Analysis*, **22**(2007), 1–15.

(69) Charles A. Micchelli and Qiyu Sun, Interpolating filters with prescribed zeros and their refinable functions, *Communication on Pure and Applied Analysis*, **6**(2007), 789–808.

(70) Qiyu Sun, Non-uniform average sampling and reconstruction of signals with finite rate of innovation, *SIAM Journal of Mathematical Analysis*, **38**(2006), 1389–1422.

(71) C. K. Chui and Qiyu Sun, Affine frame decompositions and shift-invariant spaces, *Applied and Computational Harmonic Analysis*, **20**(2006), 74–107.

(72) B. G. Bodmann, M. Papadakis, and Qiyu Sun, An inhomogenous uncertainty principle for digital low-pass filters, *Journal of Fourier Analysis and Applications*, **12**(2006), 181–211.

(73) Xiaojie Gao, S. L. Lee and Qiyu Sun, Eigenvalues and biorthogonal eigensystems of scaling operators, *Proceeding of American Mathematical Soceity*, **134**(2006), 1051–1057.

(74) Yanfei Wang, Zaiwen Wen, Zuhair Nashed, and Qiyu Sun, Direct fast method for time-limited signal reconstruction, *Applied Optics*, **45**(2006), 3111–3126.

(75) Akram Aldroubi, Qiyu Sun and Wai-shing Tang, Convolution, average sampling, and a Calderon resolution of the identity for shift-invariant spaces, *Journal of Fourier Analysis and Applications*, **22**(2005), 215–244.

(76) Qiyu Sun, Wiener's lemma for infinite matrices with polynomial off-diagonal decay, *Comptes Rendus Mathematique*, **340**(2005), 567–570.

(77) Qiyu Sun, Local dual and poly-scale refinability, *Proceeding of American Mathematical Society*, **133**(2005), 1175–1184.

(78) Lixin Shen and Qiyu Sun, Bi-orthogonal wavelet system for high-resolution image reconstruction, *IEEE Transaction on Signal Processing*, **52**(2004), 1997–2011.

(79) Akram Aldroubi, Qiyu Sun and Wai-Shing Tang, Non-uniform average sampling and reconstruction in multiply generated shift-invariant spaces, *Constructive Approximation*, **20**(2004), 173–189.

(80) Tim N. T. Goodman and Qiyu Sun, Total positivity and refinable functions with general dilation, *Applied and Computational Harmonic Analysis*, **16**(2004), 69–89.

(81) D. Hardin, T. Hogan and Qiyu Sun, The matrix-valued Riesz lemma and local orthonormal bases in shift-invariant spaces, *Advance in Computational Mathematics*, **20**(2004), 367–384.

(82) C. K. Chui, W. He, J. Stoeckler and Qiyu Sun, Compactly supported tight affine frames with integer dilations and maximum vanishing moments, *Advance in Compuational Mathematics*, **18**(2003), 159–187.

(83) C. K. Chui and Qiyu Sun, Tight frame oversampling and its equivalence to shift-invariance of affine frame operators, *Proceeding of American Mathematics*, **131**(2003), 1527–1538.

(84) Qiyu Sun, Convergence of cascade algorithms and smoothness of refinable distributions, *Chinese Annals of Mathematics*, **24**(2003), 367–386.

(85) Akram Aldroubi and Qiyu Sun, Locally finitely dimensional shift-invariant spaces in $\mathbb{R}^d$, *Proceeding of American Mathematical Society*, **130**(2002), 2641–2654.

(86) Qiyu Sun, M-band scaling functions with minimal support are asymmetric, *Applied and Computational Harmonic Analysis*, **12**(2002), 166–170.

(87) Xinrong Dai, Daren Huang and Qiyu Sun, Local polynomial property and linear independence of refinable distributions, *Archiv der Mathematik*, **78**(2002), 74–80.

(88) C. A. Micchelli and Qiyu Sun, Refinable functions from their values at integers, *Vietnam Journal of Mathematics*, **30**(2002), 395–411.

(89) Guoen Hu, Qiyu Sun and Xin Wang, $L^p(R^n)$ bounds for commutators of convolution operators, *Colloquium Mathematicum*, **93**(2002), 11–20.

(90) Akram Aldroubi, Qiyu Sun and Wai-Shing Tang, p-frames and shift-invariant subspaces of L^p, *Journal of Fourier Analysis and Applications*, **7**(2001), 1–21.

(91) Qiyu Sun, Stability of the shifts of global supported distributions, *Journal of Mathematical Analysis and Applications*, **261**(2001), 113–125.

(92) Qiyu Sun, Compactly supported distributional solutions of non-stationary nonhomogeneous refinement equations, *Acta Mathematica Sinica, English Series*, **17**(2001), 1–14.

(93) Ai-Hua Fan and Qiyu Sun, Regularity of Butterworth refinable functions, *Asia Journal of Mathematics*, **5**(2001), 433–440.

(94) Qiyu Sun, Convergence and boundedness of cascade algorithm in Besov spaces and Triebel-Lizorkin spaces: Part II , *Advance in Mathematics (China)*, **30**(2001), 22–36.

(95) Daren Huang, Yunzhang Li and Qiyu Sun, Multivariate subdivision schemes in L^p-spaces. *Advance in Mathematics (China)*, **30**(2001), 525–532.

(96) Qiyu Sun, Linear independence of the integer translates of compactly supported distributions and refinable vectors. *Appl. Math. J. Chinese Univ. Ser. B*, **16**(2001), 381–396.

(97) Guoen Hu and Qiyu Sun, $L^p(\mathbb{R}^n)$ boundedness for the commutators of convolution operators. *Chinese Annal of Mathematics, Ser. A* **22**(2001), 509–516. English translation in *Chinese Journal of Contemporary Mathematics*, **22**(2001), 289–298.

(98) K. S. Lau and Qiyu Sun, Asymptotic regularity of Daubechies' scaling functions, *Proceeding of American Mathematical Society*, **128**(2000), 1087–1095.

(99) Xinrong Dai, Qiyu Sun and Zeyin Zhang, Compactly supported both m and n refinable distributions, *East Journal of Approximations*, **6**(2000), 201–209.

(100) Qiyu Sun, Convergence and boundedness of cascade algorithm in Besov spaces and Triebel-Lizorkin spaces, Part I, *Advance in Mathematics (China)*, **29**(2000), 507–526.

(101) Guoen Hu, Bolin Ma and Qiyu Sun, Boundedness of the multiple singular integral operators on product spaces, *Hokkaido Mathematical Journal*, **29**(2000), 659–667.

(102) Qiyu Sun, Sobolev exponent estimate and asymptotic regularity of M band Daubechies' scaling functions, *Constructive Approximation*, **15**(1999), 441–465.

(103) Ning Bi, Xinrong Dai and Qiyu Sun, Construction of compactly supported M band wavelets, *Applied and Computational Harmonic Analysis*, **6**(1999), 113–131.

(104) Bolin Ma and Qiyu Sun, Compactly supported refinable distribution in Triebel-Lizorkin spaces and Besov spaces, *Journal of Fourier Analysis and Applications*, **5**(1999), 87–104.

(105) Qiyu Sun and Zeyin Zhang, A characterization of compactly supported both m and n refinable distribution, *Journal of Approximation Theory*, **99**(1999), 198–216.

(106) Daren Huang, Yunzhang Li and Qiyu Sun, Refinable function and refinement mask with polynomial and exponential decay, *Chinese Annal of Mathematics*, **20A**(1999), 483–488.

(107) Daren Huang and Qiyu Sun, Affine similarity of refinable functions, *Approximation Theory and its Applications*, **15(3)**(1999), 81–91.

(108) Xianliang Shi and Qiyu Sun, A class of M-dilation scaling functions with regularity growing proportionally to filter support width, *Proceeding of American Mathematical Society*, **126**(1998), 3501–3506.

(109) Qiyu Sun and Zeyin Zhang, M-band scaling function with filter having vanishing moments two and minimal length, *Journal of Mathematical Analysis and Applications*, 222(1998), 225–243.

(110) Youming Liu, Qiyu Sun and Daren Huang Some extension of Paley-Wiener theorem, *Chinese Annual of Mathematics*, **19B**(1998), 331–340.

(111) Ning Bi, Lokenath Debnath and Qiyu Sun, Asymptotic behavior of M-band scaling functions of Daubechies type, *Zeitschrift fur Analysis und ihe Anwendugen*, **17**(1998), 813–830.

(112) Ning Bi and Qiyu Sun, Linear independence of refinable distributions supported on $[0,2] \times [0,2]$, *Acta Mathematics Applicatae Sinica(English Ser.)*, **14**(1998), 388–395.

(113) Li-Yuan Chen and Qiyu Sun, Behavior of an oscillatory singular integral on weighted local Hardy spaces, *Acta Math. Sinica (N.S.)*, **13**(1997), 305–320.

(114) Daren Huang, Qiyu Sun and Zeyin Zhang, Integral representation of M-band Daubechies type, *Chinese Sciences Bulletin*, **42**(1997), 803–807.

(115) Daren Huang, Qiyu Sun and Wei Wang, Multiresolution generated by several scaling functions, *Advances in Mathematics (China)*, **26**(1997), 165–180.

(116) Qiyu Sun, Refinable functions with compact support, *Journal of Approximation Theory*, **86**(1996), 240–252.

(117) Xinrong Dai, Daren Huang and Qiyu Sun, Some properties of five-coefficient refinement equation, *Archiv der Mathematique*, **66**(1996), 299–309.

(118) Qiyu Sun and Yanzhang Zheng, A compactly supported orthonormal wavelet of non-tensor type, *Applied Mathematics, A Journal of Chinese Universities*, **11B**(1996), 243–246.

(119) Qiyu Sun, A new kind of space of Triebel-Lizorkin type, *Approximation Theory and its Application*, **12:2**(1996), 80–84.

(120) Quande Chen and Qiyu Sun, A note on uncertainty principle, *Approximation Theory and its Application*, **11:1**(1995), 6–9.

(121) Ning Bi and Qiyu Sun, Hermite interpolation and stability of scaling functions, *Journal of Hangzhou Normal University*, 1995.

(122) Xianliang Shi and Qiyu Sun, Approximation of periodic continuous functions by logarithmic means of Fourier series, *Acta Mathematica Hungarica*, **63**(1994), 103–112.

(123) Qiyu Sun, Multiplier extension and sampling theorem on Hardy space, *Publicacions Matematiques*, **38**(1994), 441–454.

(124) Qiyu Sun, Weighted weak type (1, 1) boundedness for some rough operators, *Journal of Hangzhou University*, **21**(1994), 7–10.

(125) Albert Cohen and Qiyu Sun, An arithmetic characterization of the conjugate quadrature filters associated to orthonormal wavelet bases, *SIAM Journal of Mathematical Analysis*, **24**(1993), 1355–1360.

(126) Qiyu Sun, A note on the integer translates of a compactly supported distribution on R, *Archiv der Mathematique*, **60**(1993), 359–363.

(127) Qiyu Sun, A remark on multiresolution analysis of $L^p(R^d)$, *Colloquium Mathematiccum*, **66**(1993), 257–264.

(128) Qiyu Sun, Sequence spaces and stability of integer translates, *Zeitschrift für Analysis und ihre Anwendungen*, **12**(1993), 567–584.

(129) Daren Huang and Qiyu Sun, Some topics on wavelet analysis, *Appl. Mathemtics, A Journal of Chinese Universities*, **8**(1993), 86–110.

(130) Guoen Hu and Qiyu Sun, Weighted norm inequalities for a maximal operator, *Journal of Hangzhou University*, **20**(1993), 367–370.

(131) Guoen Hu and Qiyu Sun, On the L^p boundedness of a Marcinkiewicz integral, *Journal of Hangzhou University*, **20**(1993), 145–158.

(132) Xianliang Shi and Qiyu Sun, Weighted norm inequalities for Bochner-Riesz operators and singular integral operators, *Proceeding of American Mathematical Society*, **116**(1992), 665–673.

(133) Qiyu Sun, Weighted norm inequalities on spaces of homogeneous type, *Studia Mathematica*, **101**(1992), 241–251.

(134) Qiyu Sun, Pointwise convergence of solutions of Schrödinger equation with potential, *Acta Mathematica Scientia*, **12**(1992), 412–418.

(135) Qiyu Sun, Two problems about singular integral operator, *Approximation Theory and Applications*, **7:2**(1991), 83–98. (Abstract in *Journal of Mathematical Research and Exposition*, **11**(1991), 453–454.)

(136) Qiyu Sun, Weighted inequalities for a singular integral, *Journal of Hangzhou University*, **18**(1991), 357–358.

Refereed Conference Proceeding Articles or Book Chapter

(1) A. Amini, Q. Sun and N. Motee, Learning Nonlinear Couplings in Swarm of Agents from a Single Sample Trajectory In *2022 IEEE 61st Conference on Decision and Control (CDC)*, 168-173

(2) A. Amini, Q. Sun and N. Motee, Error Bounds for Carleman Linearization of General Nonlinear Systems, In *2021 Proceedings of the Conference on Control and its Applications*, 1–8.

(3) A. Amini, Q. Sun and N. Motee, Quadratization of Hamilton-Jacobi-Bellman Equation for Near-Optimal Control of Nonlinear Systems, In *59th IEEE Conference on Decision and Control (CDC)*, 2020, pp. 731–736.

(4) A Amini, Q. Sun and N. Motee, Approximate Optimal Control Design for a Class of Nonlinear Systems by Lifting Hamilton-Jacobi-Bellman Equation, In *2020 American Control Conference (ACC)*, pp. 2717–2722.

(5) Hossein K. Mousavi, Christoforos Somarakis, Qiyu Sun and Nader Motee, Koopman Performance Analysis of Nonlinear Consensus Networks, In *The Koopman Operator in Systems and Control*, Springer, 2020. pp 523–551.

(6) Cheng Cheng, Junzheng Jiang, Nazar Emirov and Qiyu Sun, Iterative Chebyshev Polynomial Algorithm for Signal Denoising on Graphs, In *Proceeding of SampTA 2019*, 5 pages.

(7) H. K. Mousavi, Qiyu Sun and Nader Motee, Measurable Observations for Network Observability, In *2019 American Control Conference (ACC)*, pp. 1438–1443

(8) Arash Amini, Qiyu Sun and Nader Motee, Carleman State Feedback Control Design of a Class of Nonlinear Control Systems, In *2019 IFAC*, **52**, pp. 229-234

(9) Nader Motee and Qiyu Sun, Localized Stability Analysis and Design of Symmetric Spatially Distributed Systems over Sparse Proximity Graphs, In *the 23rd International Symposium on Mathematical Theory of Networks and Systems*, Hong Kong University of Science and Technology, Hong Kong, July 16-20, 2018, pp. 185–188.

(10) Brian Millikan, Hassen Foroosh and Qiyu Sun, Deep Convolutional Neural Networks with Integrated Quadratic Correlation, In *PBVS 2018 : 14th IEEE Workshop on Perception Beyond the Visible Spectrum in conjunction with CVPR 2018*, Salt Lake City, Utah, June 18-22, 2018, pp. 1303–1310.

(11) Nader Motee and Qiyu Sun, Localized stability certificates for spatially distributed systems, In *2016 IEEE 55th Conference on Decision and Control (CDC)*, IEEE, pp. 1388–1393.

(12) Brain Millikan, Arita Dutta, Nazanin Rahnavard, Qiyu Sun, Hassen Foroosh, Initialized iterative reweighted least squares for automatic target recognition, In *Military Communications Conference, MILCOM 2015*, 2015 IEEE, pp. 506–510.

(13) Xin-Rong Dai and Qiyu Sun, The *abc*-Problem for Gabor systems and uniform sampling in shift-invariant spaces, In *Excursions in Harmonic Analysis, Volume 3*, edited by R. Balan, M. J. Begue, J. J. Benedetto, W. Czaja and K. A. Okoudjou, Springer 015, pp. 177–194.

(14) Cheng Cheng, Yingchun Jiang and Qiyu Sun, Spatially distributed sampling and reconstruction of high-dimensional signals, In *2015 International Conference on Sampling Theory and Applications (SAMPTA)*, IEEE, pp. 453–457.

(15) Yang Chen, Cheng Cheng and Qiyu Sun, Reconstruction of sparse multiband wavelet signals from Fourier measurements, In *2015 International Conference on Sampling Theory and Applications (SAMPTA)*, IEEE, pp. 78–81.

(16) Nader Motee and Qiyu Sun, Measuring sparsity in spatially interconnected systems, In *2013 IEEE 52nd Annual Conference on Decision and Control (CDC)*, Florence, Italy, December 10-13, 2013, pp. 1520–1525.

(17) Gayatri Ramesh, Elie Atallah and Qiyu Sun, Recovery of bilevel causal signals with finite rate of innovation using positive sampling kernels, In the *Proceeding of the 10th International Conference on Sampling theory and Applications (SAMPTA2013)*, 2013, pp. 129–32.

(18) M. Z. Nashed and Qiyu Sun, Function spaces for sampling expansions, IN *Multiscale Signal Analysis and Modeling*, edited by X. Shen and A. Zayed, Lecture Notes in Electrical Engineering, Springer, pp.81–104, 2012.

(19) Qiyu Sun, Localization of Stability and *p*-frames in the Fourier domain, *Proceedings of Special Sessions on Wavelets: WAVELETS, FRAMES, and OPERATOR THEORY , in AMS Contemporary*

18

Mathematics (CONM) series No. 345, Edited by: Christopher Heil, Palle E. T. Jorgensen, and David R. Larson, pp. 299–315, 2004.

(20) A. Aldroubi, Qiyu Sun and W.-S. Tang, Localization of Calderon convolution in the Fourier domain, *Advance in Constructive Approximation, Vanderbilt 2003 , Edited by: M. Neamtu and E. B. Saff*, Nashboro Press, Brentwood, 2004. pp. 25–35.

(21) Xiaojie Gao, S. L. Lee and Qiyu Sun, Spectrum of transition, subdivision and multiscale operators, In "*Wavelet Analysis (Hong Kong 2001), edited by Ding-xuan Zhou*", World Science Publishing, 2002, pp. 123–138.

(22) A. Aldroubi, Qiyu Sun, and W.-S. Tang, Non-uniform sampling in multiply generated shift-invariant subspaces of $L^p(\mathbb{R}^d)$, In "*Wavelet analysis and applications (Guangzhou, 1999), edited by D. Deng, D. Huang, R.-Q. Jia, W. Lin and J. Wang*", AMS/IP Stud. Adv. Math., 25, Amer. Math. Soc., Providence, RI, 2002, pp. 1–8.

(23) Qiyu Sun, Homogeneous and nonhomogeneous refinable distributions in $F^{q,\gamma}$. In "*Wavelet analysis and applications (Guangzhou, 1999) edited by D. Deng, D. Huang, R.-Q. Jia, W. Lin and J. Wang*", AMS/IP Stud. Adv. Math., 25, Amer. Math. Soc., Providence, RI, 2002, pp. 235–244.

(24) Xiao-jie Gao, S. L. Lee and Qiyu Sun, Spectrum of convolution dilation operators on weighted L^p spaces, In "*Challenges for the 21st Century, Proceedings of the International Conference on Fundamental Sciences: Mathematics and Theoretical Physics, edited by L H Y Chen, J P Jesudason, C H Lai, C H Oh, K K Phua and E-C Tan*", World Scientific Press, 2001, pp. 51–72.

(25) S. L. Lee and Qiyu Sun, Boundedness of cascade algorithms in Besov spaces, *First International Congress of Chinese Mathematicians (Beijing, 1998), edited by L. Yang and S.-T. Yau*, AMS/IP Stud. Adv. Math., 20, Amer. Math. Soc., Providence, RI, 2001, pp. 473–479.

(26) Qiyu Sun, An algorithm for the construction of symmetric and anti-symmetric M-band wavelets, In "*Wavelet Applications in Signal and Image Processing VIII, Proceedings of SPIE 4119, edited by A. Aldroubi, Andrew F. Laine, and Michael A. Unser*", SPIE 2000, pp. 384–394.

(27) Akram Aldroubi, Qiyu Sun and Wai-Shing Tang, Connection between p-frames and p-Riesz bases in locally finite SIS of $L^p(R^d)$, In "*Wavelet Applications in Signal and Image Processing VIII,*

Proceedings of SPIE 4119, edited by A. Aldroubi, Andrew F. Laine, and Michael A. Unser", SPIE 2000, pp. 668–674.

Non-refereed Proceeding Articles

(1) Wei Hu, Xianliang Shi and Qiyu Sun, A_∞ condition characterized by maximal geometric mean operator, In *"Harmonic Analysis, Proceeding,Tianjin, 1988, Lecture Notes in Mathematics 1494, edited by Min-Teh Cheng, Xing-wei Zhou and Dong-Gao Deng"*, Springer Verlag, 1991, pp. 68–72.

(2) Xianliang Shi and Qiyu Sun, A singular integral on product space, IN *"A Friendly Collection of Mathematical Papers I, edited by Wang Renhong & Zhou Yunshi"*, Jilin University Press, Changchun, China, 1990, pp. 129–132.

III: PRESENTATIONS

(1) Give talks at Hunan Normal University, Zhejiang Normal University and Guangxi University, China, December 2024.
(2) Give a talk at Lehigh University, Autonomous and Intelligent Robotics Lab, September 13, 2024.
(3) Give a talk at Workshop on Approximation Theory, Wavelet and Imaging, Department of Mathematics, National University of Singapore, July 8, 2024.
(4) Give talks at Guilin University of Electronic Technology and Xinjiang University, June 2024.
(5) Give a talk at AMS Sectional Meeting, Florida State University, March 2024.
(6) Give a seminar talk at Ewha Womans University, Korea, March 2024.
(7) Give a talk at Shanks Workshop on Dynamical Sampling, Frame Theory, Harmonic Analysis, and Applications, Vanderbilt University, March 2024
(8) Give a talk at One World Mathematics of INformation, Data, and Signals (1W-MINDS) Seminar, February 15, 2024
(9) Give a talk at Beijing University of Technology, Beijing Normal University, Nankai University and Linyi University, December 2023.
(10) Give a talk at eighth Hangzhou workshop on harmonic analysis and applications, December 8-11, 2023.
(11) Give a talk on International Conference on Approximation Theory and Beyond in conjunction with the 35th Annual Shanks Lecture, Nashville, Vanderbilt University, May 15-18, 2023.
(12) Give a talk on Data-Enabled Science Seminar, Friday 02/24/23, University of Houston.
(13) A virtual talk at the Workshop on Manifold and Graph-Based Learning, May 16-20, 2022, The Fields Institute.
(14) A virtual talk on graph signal processing at the 2022 Hangzhou Workshop on Harmonic Analysis and Applications, March 4-6, 2022.
(15) A virtual talk on graph signal processing and data science at Computational and Data Science Seminar, Middle Tennessee State University , February 22, 2022.
(16) A virtual talk at the Inverse Problem and Analysis seminar at Department of Mathematics, University of Delaware, October 5, 2021.

(17) An invited virtual talk at the special session "Infinite Dimensional Analysis and Stochastic Processes" organized by Palle Jorgensen, Myung-Sin Song, James Tian, International Workshop on Operator Theory and its Applications 2021, Chapman University, August 9-13, 2021.

(18) A seminar talk at Nankai University, July 2, 2021, on recent progress on phase retrieval and phaseless sampling.

(19) An invited virtual talk at International Academic Forum on "The Theory and Application of Big Data and Artificial Intelligence", Lanzhou University, May 21-25, 2021.

(20) A virtual Faraway Fourier Talk at The Norbert Wiener Center on Harmonic Analysis and Applications, January 4, 2021. The Norbert Wiener Center for Harmonic Analysis and Applications is located in the Department of Mathematics at the University of Maryland, College Park and it is one of top research center in applied harmonic analysis field. It promotes research Activities in harmonic analysis and applications; education from undergraduate to post doctoral; and interaction within the International Harmonic Analysis Community. Honored to give the first Faraway Fourier Talk at 2021. Lecture video is available at YouTube https://www.youtube.com/watch?v=-7akjHU6WZQ

(21) A virtually talk at the 5th Hangzhou workshop on Harmonic and Applications, December 18-20, 2020

(22) A talk at the AMS Special Session on "Interactions of Inverse Problems, Computational Harmonic Analysis, and Imaging", at the Joint Mathematical Meetings in Denver, Colorado, January 15-18, 2020.

(23) A talk at Sun Yat-sen University, December 2019

(24) A talk on 13th International Conference on Sampling Theory and Applications, July 8-12, 2019.

(25) A talk at Department of Mathematics, Northwest University, June 17, 2019

(26) A talk at a modern analysis conference on Analysis at Jiaxin University, June 7-8, 2019.

(27) A talk at the HDU Workshop on Optimization Methods for Imaging and Big Data Problems, May 24-25, 2019.

(28) A talk at Dongseo University on May 22, 2019.

(29) A talk at the International Conference on Computational Harmonic Analysis and Statistical Learning 2019 to be held at Hohai University during May 17-21, 2019.

(30) A talk at Hangzhou Dianzi University, December 26, 2018.

(31) Colloquium talk at Department of Mathematics, Sam Houston University, November 5, 2018.

(32) An invited talk at the Special Session on Applied Harmonic Analysis: Frame Theory and Applications, AMS Fall Western Sectional Meeting, San Francisco University, October 27-28, 2018.

(33) Colloquium talk at Department of Mathematics, University of South Alabama, October 18, 2018.

(34) Invited talk at the 23rd International Symposium on Mathematical Theory of Networks and Systems, Hong Kong University of Science and Technology, July 16-20, 2018.

(35) Invited talk at Sun yet-sen University and Shenzhen University, July 12-15.

(36) Invited talk at the International Symposium on Computational Harmonic Analysis, June 23-24, 2018, Behang University.

(37) Invited talk at Beijing University of Science and Technology, Chinese Academy of Science, Chinese University of Geosciences, Guiling University of Electronic, Guangxi University, Hunan Normal University from June 20 to June 29, 2018.

(38) Invited talk at the International Conference on Harmonic Analysis and Its Applications, June 15-19, 2018, Yanqi Lake, Beijing.

(39) Invited talk on special workshop to celebrate the 60th birthday of Akram Aldroubi, Nashville, TN , May 14-19, 2018.

(40) Colloquium talk at Department of Mathematical Sciences, University of Wisconsin at Milwaukee, April 20, 2018.

(41) Invited talk on the Workshop on Mathematical Challenges of Structured Function Systems, Erwin Schrdinger International Institute for Mathematics and Physics, March 19 -23, 2018.

(42) Colloquium talk at Department of Mathematics, Sogang University, Korea on March 15, 2018.

(43) Invited talk at AMS Special Session on Interactions of Inverse Problems, Signal Processing, and Imaging, AMS Annual Meeting, San Diego, January 10-13, 2018.

(44) Invited talk at the From Approximation Theory to Real World Applications Workshop Sanya, China, December 11-15, 2017.

(45) Invited talk at Guiling University of Electronic Technology, December 7, 2017.

(46) Invited talk at International Workshop on Computational Harmonic Analysis, Nankai University, China, June 15-18,2017.

(47) Invited talk at The 5th East Asian Conference in Harmonic Analysis and Applications, Zhejiang University of Science and Technology, Hangzhou, China, June 9-12, 2017.

(48) Invited talk at Workshop on Frame Theory and Sparse Representation for Complex Data, National University of Singapore, Singapore, 29 May - 2 June 2017.

(49) Invited talk at the International Conference on Computational Harmonic Analysis 2017, Fudan University, China, May 24-28, 2017.

(50) Invited talk at Hunan Normal University, and Wuhan Texitle University, May 15 and 16, 2017.

(51) Invited talk at International Workshop on Generalized Inverses, Space Structure, Methods of Functional Analysis and their Applications, May 12-14, 2017, Harbin Normal University, Harbin, China.

(52) Invited talk at *Hangzhou Workshop on Harmonic Analysis 2016*, Zhejiang University of Science and Technology, December 24-25, 2016.

(53) Invited talks at Zhejiang University, and Zhejiang Jiliang University, December 21, 2016.

(54) Invited talk on phase-retrieval on shift-invariant spaces at *2016 International Conference on Some Mathematical Approximation Approaches in Data Science*, Zhejiang University, Hangzhou, December 12-14, 2016.

(55) Talk on *Northeastern Analysis Meeting NEAM - 1st Northeastern Analysis Meeting* October 14-16, 2016, Brockport, New York, USA

(56) Invited talks at Beijing University of Technology, Guiling University of Electronic Technology, Sun Yat-sen University, and Jiaxing University on phase retrieval and compressive sensing, June–July 2016.

(57) Invited talk at Beijing University of Technology, Beijing Normal University, Nankai University, Zhejiang Normal University and North China Electric Power University, December 2015.

(58) Colloquium talk at Syracuse University and Clarkson University on Wiener's lemma and spatially distributed sampling.

(59) Colloquium talk at Auburn University at Montgonery on Wiener's lemma and its application to sampling.

(60) Two talks at Guiling University of Electronic Technology and Jiaxing University on spatially distributed sampling.

(61) Invited talk at a workshop in Carnegie Mellon University, April 2015, on spectral measures with arbitrary Hausdorff dimensions.

(62) Invited talk at AMS Central Spring Sectional Meeting, Michigan State University, March 2015.

(63) Invited talk at SIAM Minisymposium on multivariate signals processing and inverse problems, January 2015, on spatially distributed sampling.

(64) Invited talk on sampling in reproducing kernel spaces on AMS Fall Sectional Meeting, October 18–19, 2014, Dalhousie University, Halifax, Canada.

(65) Invited speaker on nonlinear frames and sparse reconstruction, the International Conference on Harmonic Analysis and Applications, Nankai University, Tianjin, China, June 11–17, 2014.

(66) Seminar talks on nonlinear frames and sparse reconstructions at Beijing University of Technology and Jiaxin College, June 2014.

(67) **Keynote** speaker on the *abc*-problem for Gabor system, the 5th International Conference on Computational Harmonic Analysis, Vanderbilt University, Nashville, TN, May 19-23, 2014.

(68) Invited one-hour talk on the *abc*-problem for Gabor system, Erwin Schrodinger Institute, University of Vienna, January 13 to 17, 2014.

(69) Seminar talks on nonlinear frames and sparse reconstructions at Zhejiang University and Sun Yat-sen University, December 2013.

(70) Invited talk on Sparsity of Spatially Decaying Matrices in the Special Session on Wavelets, Frames and Related Expansions, the AMS Sectional meeting in Washington University, St. Louis, October 18-20, 2013.

(71) Colloquium talk on Wiener's lemma: Localization and Various Approach, at Department of Mathematics, Northern Illinois University on October 4th, 2013.

(72) Invited talks on the abc-problems for Gabor systems and on nonlinear frames and sparse reconstructions, Applied Harmonic Analysis at University of Calgary and the workshop Recent Progress on Applied and Computational Harmonic Analysis from August 27–September 1, 2013.

(73) Invited talks on the *abc*-problem for Gabor systems, CIMPA13, New Trends in Applied Harmonic Analysis: sparse representation, compressive sensing and multifractal analysis, from August 5 to August 16, 2013, Mar del Plata, Argentina.

(74) Invited talk on the *abc*-problem for Gabor systems, the conference "Modern Analysis Conference in memory of Professor Jian-Gong Chen 120th anniversary", Fudan University, China, June 3–7, 2013.

(75) Seminar talks on inverse problems in Fourier analysis at Zhejiang Normal University (June 7, 2013) and Zhejiang University of Science and Technology (June 25, 2013).

(76) Invited talk on Convolution stability for signals with finite rate of innovation, the 14th International conference Approximation Theory at San Antonio, Texas, April 7-10, 2013.

(77) Invited talk on "The abc-problem for Gabor systems and sampling", the Norbert Wiener Center for Harmonic Analysis and Applications, University of Maryland, College Park, February 21–22, 2013.

(78) Seminar talks at Sun Yat-sen University and NanKai Univeristy, December 2012.

(79) Invited talk on "The abc-problem for Gabor systems", the International Conference on "Advances on Fractals and Related Topics", December 10–14, 2012

(80) Colloquium talk in the department on November 1, 2012.

(81) Invited talk on "The abc-problem for Gabor systems", the International Conference on Harmonic Analysis and its Applications, Zhejiang Normal Univeristy, Jinhua, China, October 12–16, 2012.

(82) Invited talk on "The abc-problem for Gabor systems", the "Frame Theory and Maps between Operator Algebras" and "Larsonfest" at Texas A&M University from July 16–22, 2012.

(83) Invited talk on "Wiener's lemma and Nonlinear Sampling Theorem", the Applied Harmonic Analysis at the Korean Federation of Science and Technology Societies (KOFST), Seoul, Korea, from June 18–20, 2012.

(84) Invited talk on "Spectra of fractal measures and the abc problem for Gabor frames", the International Conference on Harmonic Analysis and Applications at Nanjing University from May 21–25, 2012.

(85) Invited talk on "Nonlinear Wiener's lemma and its application to a sampling problem", in the special session on Analysis of Wavelets, Frames and Fractals, the 2012 Spring Eastern sectional meeting at George Washington University, Washington DC, March 17–18.

(86) Invited 30-minutes talk on "A nonlinear sampling problem about signals with finite rate of innovation", the *SIAM Minisymposium on Sparsity in Inverse Problems and Signal Processing*, Annual Joint Mathematical Meeting, Boston, January 4–7, 2012.

(87) Invited 40-minutes talk on "Wiener's lemma and two nonlinear sampling problems in signal processing", the *International*

Conference on Applied Harmonic Analysis and Multiscale Computing, University of Alberta, Canada, July 25–28, 2011.

(88) Department seminar on "Wiener's lemma and two nonlinear sampling problems in signal processing", Sun Yat-Sen University, China, June 15, 2011.

(89) Invited talk on "Two nonlinear sampling problems", the *International Symposium in Approximation theory in conjunction with the 26th Annual Shanks Lecture* at Vanderbilt University, Nashville TN, May 17–21, 2011.

(90) Seminar on "Wiener's lemma and two nonlinear sampling problems in signal processing", Department of Mathematics, National University of Singapore, May 11, 2011.

(91) Invited 20-minute talk on "Left inverse of fractional Laplacian and sparse stochastic process", special session on fractal and tilings, the *AMS Sectional Meeting at Statesboro, March 12-13, 2011*.

(92) Seminar talk on "Sparse approximation property in compressive sampling" at Rice University, January 18, 2011.

(93) Colloquium talk "Wiener's lemma and nonlinear sampling theory" at Department of Mathematics, Chinese University of Hong Kong, January 7, 2011, and at Department of Mathematics, City University of Hong Kong, January 4, 2011.

(94) Invited 20-minute talk "Nonlinear Wiener's lemma and numerical implementation", presented on the workshop on "*Operator Algebras and Representation Theory: Frames, Wavelets and Fractals*", Banff, Canada, October 10, 2010.

(95) Colloquium talk "Wiener's Lemma and Sampling", Chern Institute of Mathematics, Tianjin, China, June 17, 2010.

(96) Seminar talks at EPFL on March 16 and May 11, 2010, Shanghai Jiaotong University on June 10, Nankai University on June 15 and 16, and Zhejiang University on June 23.

(97) Invited 20-minute talk "Sampling and reconstruction of signals in reproducing kernel subspaces of L^p", presented on *Special Session on Inverse Problems and Signal Processing* of AMS 2009 Fall Southeastern Meeting, Boca Raton, FL, Oct. 30–Nov. 1, 2009.

(98) Seminar talk on "Wiener's lemma for infinite matrices and its applications" at Vanderbilt University, December 11, 2009

(99) Invited 4-hour lecture series on "Infinite matrices and their applications", presented at Department of Mathematics, KAIST, Korea, December 26–30, 2008.

(100) Invited 30-minute talk "Wiener's lemma for localized integral operators", presented on *Special Session on Wavelets, Frames, and Multi-Scale Constructions of 2008 Spring Southeastern Meeting*, Baton Rouge, LA, March 28-30, 2008.

(101) Colloquium talk on "Wiener's lemma", presented at Department of Mathematics, Zhongshan University, Guangzhou, China, December 25, 2007.

(102) Invited 30-minute talk "Wiener's lemma for localized integral operators", presented at the Conference *The fourth International Congress of Chinese Mathematicians (ICCM 2007)*, Zhejiang University, Hangzhou, China, December 18-22, 2007.

(103) Invited 30-minute talk "Sampling and reconstruction of signals with finite rate of innovation", presented at the conference *Special Session on Splines and Wavelets with Applications in the AMS sectional meeting*, Middle Tennessee State University, Murfreeboro, TN, November 3-4, 2007.

(104) Colloquium talk "Sampling and reconstruction of signals with finite rate of innovation", at Department of Mathematics, University of Central Florida, October 25, 2007.

(105) Invited 30-minute talk "Sampling and reconstruction of signals with finite rate of innovation", presented at the conference *Trends in Applied Harmonic Analysis*, Banff International Research Station, Banff, Alberta, Canada, September 23-28, 2007.

(106) Invited one-hour talk "Sampling and reconstruction of signals with finite rate of innovation", presented at the conference *ISFMA Symposium on Wavelet Methods in Mathematical Analysis and Engineering: Wavelet Theory and its Applications*, Zhongshan University, Guangzhou, China, August 20-25, 2007.

(107) Invited 30-minutes talk "Average sampling and stable reconstruction signals with finite rate of innovation", presented at the "*Concentration Week on Frames, Banach spaces and Signal Processing*", College Station, Texas A & M University, August 7–11, 2006.

(108) Invited 20-minutes talk "Oversampling a tight affine frame", presented at the "*Joint Mathematics Meetings of American Mathematical Society*", San Antonio, TX, January 12–15, 2006.

(109) Invited 20-minutes talk "Average sampling in shift-invariant spaces", presented on the "*2004 Fall Southeastern Section Meeting of American Mathematical Society*", Nashville, TN, Oct. 16-17, 2004.

(110) Invited 45-minutes **Keynote** talk "Shift-invariant spaces and affine frames", presented at the "*Second International Conference on Computational Harmonic Analysis*", Vanderbilt University, Nashville, May 24-30, 2004.

(111) Invited 20-minutes talk "Average sampling and Calderon resolution of the identity in shift-invariant spaces", presented at the "*Joint AMS-SMM International meeting*", Houston, TX, May 13-15, 2004.

(112) Invited 20-minutes talk "Localization of stability, frame and sampling in Fourier domain", presented at the "*Spring Southeastern Sectional Meeting of AMS*", Baton Rouge, LA, March 14-16, 2003.

(113) Invited 20-minutes talk "Symmetric univariate QM filters with Gaussian decay II", presented at the "*Joint Mathematics Meetings of American Mathematical Society*", Baltimore, MD, January 15-18, 2003.

(114) Invited 20-minutes talk "Local dual generator of shift-invariant spaces with local generator", presented at the "*2002 Fall Southeastern Section Meeting of AMS*", Orlando, FL, November 9-10, 2002.

(115) Invited 30-minutes talk "Asymmetry of orthonormal scaling functions with minimal support", presented at the "*International Conference of Computational Harmonic Analysis*", June 4 - 8, 2001.

(116) Invited one-hour **Plenary** talk "Convergence of cascade algorithm and smoothness of refinable distributions", presented at the "*International Conference on Wavelet Analysis and its Applications*", Zhongshan University, Guangzhou, China, October 2000.

(117) Invited talk "Construction of symmetric and anti-symmetric M band wavelets", presented at the "*SPIE Conference: Wavelet Applications in Signal and Image Processing VIII*", San Diego, July 30 - August 4, 2000.

(118) Invited talk "p-frame and shift-invariant spaces of L^p", present at the "*Wavelet Conference*", University of Missouri, Saint Louis, June 2000.

(119) Invited talk "Linear independence of the shifts of a compactly supported distribution", presented at the "*Approximation Conference*", Vanderbilt University, June 2000.

(120) Invited 20-minutes talk "Representation of compactly supported distribution by integer translates of linear independent distribution", presented at the "*Second Congress ISAAC 1999*", Fukoka, Japan, August 1999.

(121) Invited talk "Arcwise connectivity of M-band wavelets with N vanishing moments", presented at the "*Wavelet Conference*", The Chinese University of Hong Kong, Hong Kong, May 1997.

(122) Invited **one-hour** talk "Recent progress on M-band wavelets", presented at the "*Wavelet Conference*", Institute of Mathematics, Beijing, China, June 1996.

(123) Invited talk "Characterization of both m and n refinable distributions", presented at the "*Conference on Boundary Value Problem and Wavelet Analysis*", Zhongshan University, Guangzhou, China, Jan. 1996.

(124) Invited talk "Refinable functions with compact support", presented at "*Conferences on Approximation Theory*", Hangzhou University, Hangzhou, China, April 1995.

(125) Invited talk "Stability of integer translates", presented at the "*Conference in Memory of Chen JianGong*", Hangzhou University, Hangzhou, China. May 1994.

(126) Invited talk " Wavelet analysis at Zhejiang university", presented at the *French-China Joint Wavelet Conference*, Wuhan University, Wuhan, China, May 1992.

(127) Invited talk "Weighted weak type (1,1) boundedness for some rough operators", presented at the "*Conference on Approximation Theory*", Zhejiang University, Qiandaohu, China, Oct. 1990.

IV: GRANTS

(1) Qiyu Sun (sole-PI), National Science Foundation (DMS 1816313): "Mathematical Foundation for Signal Processing on Spatially Distributed Networks", $195,231.00, 09/2018-08/2022.

(2) Qiyu Sun (sole-PI), National Science Foundation: "Nonlinear Sampling Theory:Sparsity, Localization and Optimization", $148,204.00, 09/2014–08/2018.

(3) Qiyu Sun (sole-PI), National Science Foundation: "Nonlinear Sampling Theory for Signals with Finite Rate of Innovation", $136,285 (100%), 09/2011-08/2014.

(4) Yuanwei Qi (PI), Qiyu Sun (co-PI), Jiongmin Yong (co-PI) and Alexandru Tamasan (co-PI), National Science Foundation: "Computational analysis of inverse problems", $26290.00 DMS 1312644 05/2013–08/2014.

(5) Deguang Han(PI), Ram Mohapatra(co-PI),Qiyu Sun(co-PI) and Zuhair Nashed (co-PI), National Science Foundation: Collaborative research "Operator theory/operator algebras," , $40,000, Conference GPOTS 05-06, 03/2005–03/2007.

(6) Fall 2023 Office of Research Mentoring Award, $3000.

V: EDUCATIONAL ACTIVITIES

Courses Taught

University of Central Florida

- Graduate Courses
  - Advanced Linear Algebra and Matrix Theory (Fall2023/Fall 2015/Fall 2010)
  - Applied and Computational Harmonic Analysis (Spring2024/Spring 2022/Spring 2020/Fall 2016)
  - Approximation Technique (Spring 2023/Spring 2021/Spring 2019/Fall 2011)
  - Functional Analysis (Spring 2004)
  - Optimization Theory (Fall 2021/Fall 2020/Fall 2019)
  - Special Functions (Summer 2022)
  - Wavelets and Their Applications (Spring 2018/Fall 2014/Fall 2012/Fall 2005)
- Undergraduate Courses
  - Advanced Calculus I (Fall 2022)
  - Analytic Trigonometry (Spring 2005/Fall 2004)
  - Calculus I (Fall 2014(honor)/Summer 2009/Fall 2008/Summer 2008/Summer 2007/Fall 2004)
  - Calculus II (Spring 2017(honor)/Spring 2016 (honor)/Spring 2007/Summer 2006/Fall 2005/Spring 2005/Summer 2004)
  - Calculus III (Spring 2011/ Spring 2009/Spring 2008/Fall 2006/Spring 2004)
  - College Algebra (Fall 2007/Spring 2006(honor))
  - Differential Equation (Spring 2014/ Fall 2013/ Spring 2013/Fall 2012/Summer 2010/Summer 2009)
  - Linear Algebra (Fall 2018)
  - Logic and Proof in Mathematics (Spring 2012)
  - Matrix and Linear Algebra (Fall 2024/Spring 2014/Fall 2013(honor)/Spring 2013/Spring 2012/Fall 2011/ Summer 2011/Fall 2010/ Summer 2010/Fall 2008/Spring 2008/Fall 2007/Spring 2007/Spring 2006/Fall 2003)
  - Optimization (Fall 2024)
  - Numerical Methods for Differential Equations (Spring 2025)
  - Ordinary Differential Equation (Spring 2025 (honor)/Summer 2023)

Vanderbilt University

Fall 2002	Calculus II (MATH170A)
Fall 2009	Calculus II (MATH170A)

National University of Singapore

1998 − 2002	Taught courses ranging from entry to graduate level such as "Approximation Theory"and"Wavelet and Applications"

Zhejiang University

1990 − 1987	Taught courses ranging from entry to graduate level such as "Mathematical Analysis", "Ordinary Differential Equation", "Linear Algebra", "Wavelets" and"Interpolation Spaces"

Postdoc Supervision

- One postdoc is working under my supervision.
- John Paul Ward (2015–2016). He accepted an assistant professor at Department of Mathematics, North Carolina Agricultural and Technical State University, Fall 2016, and He was promoted to an associate professor.

Student Supervision

- Three PhD students are working on their dissertations.
- Panpan Chen was conferred her PhD at Summer 2024. She accepted a postdoc position at Department of Mathematics, University of Central Florida.
- Nazar Emirov was conferred his PhD at Fall 2020. He accepted postdoc at Department of Computer Science, Boston College. Now Senior Operations Research Scientist at Amadeus.
- Cheng Cheng obtained her PhD under supervision of Professor Xin Li in Summer 2017 with my co-supervision. She accepted a postdoc at Duke and Samsi under the supervision of Professor Ingrid Daubechies, Now she is promoted to Associate Professor at Sun Yat-sen University.
- Syed Alam Abbas obtained his PhD under supervision of Professor Hassen Foroosh (Department of Computer Science) in Summer 2017 with my co-supervision. He accept a postdoc position at University of Mexico.
- Mr. Arita Dutta obtained his PhD under supervision of Professor Xin Li in Fall 2016 with my co-supervision. He accept a postdoc position at King Abdullah University of Science and Technology after graduation and he is now an Assistant Professor in Department of Mathematics and Computer Science University of Southern Denmark. He joined UCF as Assistant Professor from Fall 2023.
- Ms. Gayatri Ramesh obtained her PhD under my supervision in 2013, co-supervised with Ram Mohapatra.
- Mr. Christopher Huff earned his Master under my co-supervision in 2012, supervised by Ram Mohapatra.
- Ms. Qiling Shi obtained her PhD degree under my supervision in 2009.

V: SERVICES

Professional Service

(1) **Editors** for
    (a) "*Axioms*" (2022–, Mathematical Analysis Section)
    (b) "*Journal of Fourier Analysis and Applications*" (2021–),
    (c) "*Frontiers in Signal Processing*", (2021–)
    (d) "*Sampling Theory, Signal Processing, and Data Analysis*", (2020–, area editor)
    (e) "*Numerical Functional Analysis and Optimization*" (2010 –). It is a journal aimed at development and applications of functional analysis and operator-theoretic methods and it was launched at 1979.
    (f) "*Frontiers in Applied Mathematics and Statistics*", (2015–2024).
    (g) "*Sampling Theory in Signal and Imaging Processing*", (2013–2020).
    (h) "*Advances in Computational Mathematics*" (2006 – 2013).

(2) **Guest editor** for
    (a) "*Journal of Fourier Analysis and Applications*", Special issue on Harmonic Analysis on Combinatorial Graphs, 2021.
    (b) "*Numerical Functional Analysis and Optimization*", Special issue on Operator Algebra and Representation Theory: Frames, Wavelets and Fractals (Volume 33, Issue 7–9, page 1166-1193, 2012).
    (c) "*Applicable Analysis*", Special Issue on Wavelet Analysis in PDE and Mathematical Imagery (Volume 90, Issue 8, 2011).
    (d) "*Acta Applicandae Mathematicae*", Special Issue on Applied Harmonic Analysis and Sampling (Volume 107, Numbers 1-3, 2009).
    (e) "*Advances in Computational Mathematics*", Special Issue on Frames (Volume 18, Numbers 2-4, 2003).

3. **Organizer** for
    (a) Co-organizer of the *Ninth Hangzhou Workshop on Harmonic Analysis and Applications*, November 9-10, 2024, Zhejiang University of Science and Technology.
    (b) Co-organizer of the *Eighth Hangzhou Workshop on Harmonic Analysis and Applications*, December 8-10, 2023, Zhejiang University of Science and Technology.

(c) Co-organizer of the *Seventh Hangzhou Workshop on Harmonic Analysis and Applications*, December 16-18, 2022, Zhejiang University of Science and Technology.

(d) Co-organizer of the *Sixth Hangzhou Workshop on Harmonic Analysis and Applications*, December 4-5, 2021, Zhejiang University of Science and Technology.

(e) Co-organizer of the *Fifth Hangzhou Workshop on Harmonic Analysis and Applications*, December 18-20, 2020, Zhejiang University of Science and Technology

(f) Co-organizer of the Fourth Hangzhou Workshop on Harmonic Analysis, December 14-15, 2019, Zhejiang University of Science and Technology

(g) Co-organizer of *the Third Hangzhou Workshop on Harmonic Analysis*, December 15-16, 2018, Zhejiang University of Science and Technology

(h) Organized a special session *Infinite Dimension Systems and Wavelets* with Marcin Bownik and Xingde Dai, of the International Workshop on Operator Theory and Applications (IWOTA) 2018, July 23-27, 2018, East China Normal University,Shanghai, China.

(i) Organize The *Second Hangzhou Workshop on Harmonic Analysis and Applications*, Zhejiang University of Science and Technology, December 16-17, 2017. (The co-organizers are Qianxing Tao, Song Li and Houyu Jia)

(j) Organize a one-day *workshop on high-dimensional data fitting and approximation*, March 30, 2017, Department of Mathematics, University of Central Florida. (The coorganizers are Charles Micchelli and Mourad Ismail)

(k) *Hangzhou Workshop on Harmonic Analysis 2016*, Zhejiang University of Science and Technology, December 24-25, 2016. (The co-organizers are Qianxing Tao and Houyu Jia)

(l) a special session on Dynamical, Mobile, and Nonlinear Sampling at the *11th International Conference on Sampling Theory and Applications (SampTA 2015)*, American University, Washington DC, May 25–29, 2015. (The co-organizers are R. Aceska and J. Romero)

(m) *International Conference on Orthogonal Polynomials and q-Series*, University of Central Florida, May 2015. (The co-organizers are Joseph Brennan, Xin Li, Piotr Mikusinski, Zuhair Nashed, and Alexander Tobvis.)

(n) *Computational Analysis of Inverse Problems and Partial Differential Equations*, University of Central Florida, May

9-11, 2013. (The co-organizers are Yanping Lin, Piotr Mikusinski, Yuanwei Qi, Alexandru Tamasan, Hongming Yin and Jiongmin Yong.)

(o) *SIAM Minisymposium on New Trends and Directions in Inverse Problems and Signal Processing*, AMS Annual meeting, San Diego, January 9-12, 2013. (The co-organizer is Zuhair Nashed)

(p) *Special Session on Inverse Problems and Signal Processing*, AMS 2009 Fall Southeastern Meeting Boca Raton, FL, October 30 - November 1, 2009. (The co-organizer is M. Zuhair Nashed).

(q) *Special session on Wavelets and Sampling* of the 32nd SIAM Southeastern Atlantic Section Conference (SIAM-SEAS 2008), University of Central Florida, Orlando, March 14-15 2008. (The co-organizers are Dorin Dutkay and Deguang Han).

(r) *The 32nd SIAM Southeastern-Atlantic Section Conference (SIAM-SEAS 2008)*, University of Central Florida, Orlando, March 14-15 2008. (The co-organizers are Jiongmin Yong, Piotr Mikusinski, Joseph Brennan, Constance Schober, Kuppalapalle Vajravelu, Brenton LeMesurier, and Lili Ju).

(s) *The 25th Great Plains Operator Theory Symposium*, June 7 –June 12, 2005, University of Central Florida, FL. (The co-organizers are Deguang Han, Xin Li, Piotr Mikusinski, Ram Mohapatra, and Zuhair Nashed).

(t) *The Special Session on Wavelets, Frames and Sampling* of AMS Southeastern Section Meeting, Nashville, TN, October 16-17, 2004. (The co-organizers are Akram Aldroubi and Douglas Hardin).

(u) *Workshop on Functional and Harmonic Analyses of Wavelets and Frames*, August 4 – 7, 2004, National Univerisity of Singapore. (The co-organizers are Judith Packer and Waishing Tang).

4. **Reviewer** for
   (a) "*Mathematical Reviews*" of American Mathematical Society, (2005 –).
   (b) "*Zentralblatt fur Mathematik und ihre Grenzgebiete*" edited by the European Mathematical Society (EMS), Fachinformationszentrum (FIZ) Karlsruhe, and the Heidelberger Akademie der Wissenschaften (2004 –)
   (c) National Science Foundation (Applied Mathematics); Austrian Science Fund; Israel Science Foundation

5. **Referee** for (incomplete list, more than six per year in last ten years)
   (a) *Advance in Computational Mathematics*
   (b) *Applied and Computational Harmonic Analysis*
   (c) *Applied Mathematical Letter*
   (d) *Constructive Approximation*
   (e) *IEEE Signal Processing Letter*
   (f) *IEEE Transaction on Information Theory*
   (g) *IEEE Transaction on Signal Processing*
   (h) *Inventiones Mathematicae*
   (i) *Journal of Fourier Analysis and Applications*
   (j) *Journal of Functional Analysis*
   (k) *Journal of Approximation Theory*
   (l) *Proceeding of American Mathematical Society*
   (m) *Science in China*
   (n) *Transaction of American Mathematical Society*

Departmental and University Service

2015 − 2024	Math graduate coordinator
2016 − 2023	Graduate Curriculum Committee (College of Science)
2013 − 2015	Departmental Steering Committee
2012 − 2014	Departmental Graduate Committee
2012 − 2013	Departmental Search Committee, Chair
2011 − 2012	University Senator
2009 − 2011	University Travel Committee
2009 − 2014	Departmental Web Committee, Chair
2007 − 2008	Departmental Events Committee
2007	Matrix Linear Algebra Textbook Committee
2004 − 2006	Departmental Graduate Committee
2004	Preparing and Marking Qualifying Exams
2003 − 2006	Departmental Library Committee