

Yen Q. Do's CV

- CONTACT The University of Virginia,
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WWW: people.virginia.edu/~yqd3p
- RESEARCH INTERESTS Fourier Analysis and Probability.
- POSITIONS Associate Professor, **University of Virginia**, 2020–present.
Assistant Professor, **University of Virginia**, 2014–2020.
Gibbs Assistant Professor, **Yale University**, 2011–2014.
NSF Math Institutes Postdoc, **Georgia Tech/IAS**, 2010–2011.
- DEGREES 2010: **Ph.D. in Mathematics, University of California, Los Angeles.**
2005: **B. Engineering, University of Technology, Sydney (Australia).**
- RESEARCH VISITS Vietnam Institute for Advanced Study in Mathematics (07-08/2016).
- GRANTS 2018-2021: NSF Grant DMS–1800855 (“Topics in Harmonic Analysis and Probabilistic Analysis”).
2012-2016: NSF Grant DMS–1201456/DMS–1521293 (“Fourier analysis and applications to completely integrable systems”).
2010-2011: NSF Grant DMS–0635607002 (sub-award).
- PUBLICATIONS
1. *Random orthonormal polynomials: local universality and expected number of real roots*, (with O. Nguyen and V. Vu), **27 pages**, arXiv:2012.10850.
 2. *Generalized Carleson embeddings into weighted outer measure spaces*, (with M. Lewers), **(30 pages)**, arXiv:2007.13997.
 3. *Random trigonometric polynomials: universality and non-universality of the variance for the number of real roots*, (with H. Nguyen, O. Nguyen), **(45 pages)**, arXiv:1912.11901.
 4. *Real roots of random polynomials with coefficients of polynomial growth: a comparison principle and applications*, **(47 pages)**, arXiv:1905.02101.
 5. *Oscillations and integrability of the vorticity in the 3D NS flows* (with A. Farhat, Z. Grujic, and L. Xu), **Indiana Univ. Math. J., to appear, (17 pages)**, arXiv:1801.09040.

6. *Central limit theorems for the real zeros of Weyl polynomials (with Van Vu)*, **American Journal Math**, **accepted**, (37 pages), arXiv:1707.09276.
7. *Positive sparse domination of variational Carleson operators (with Francesco Di Plinio and Gennady Uraltsev)*, **Ann. Sc. Norm. Super. Pisa Cl. Sci.** (5) Vol. XVIII (2018), 1443-1458 (15 pages).
8. *Roots of random polynomials with coefficients having polynomial growth (with O. Nguyen & V. H. Vu)*, **Annals of Probability**, 2018, Vol. 46, no. 5, 2407–2494 (87 pages).
9. *Variational estimates for the bilinear iterated Fourier integral (with C. Muscalu & C. Thiele)*, **J. Funct. Anal.** (2017), vol. 272, no. 5, 2176–2233 (57 pages).
10. *Variation-norm and fluctuation estimates for ergodic bilinear averages (with R. Oberlin & E. A. Palsson)*, **Indiana Uni. Journal Math.** (2017) vol. 66, issue 1, 55–99 (44 pages).
11. *Real roots of random polynomials: expectation and repulsion (with H. Nguyen & V. H. Vu)*, **Proc. London Math. Soc.** (3) 111 (2015), no. 6, 1231–1260 (30 pages).
12. *L_p theory for outer measures and two themes of Lennart Carleson united (with C. Thiele)*, **Bulletin of the AMS (N.S.)** 52 (2015), no. 2, 249–296 (47 pages).
13. *An operator van der Corput estimate arising from oscillatory Riemann–Hilbert problems (with P. T. Gressman)*, **Journal of Funct. Analysis** 267 (2014), no. 12, pp. 4775–4805 (30 pages).
14. *Weighted bounds for variational Fourier series (with M. Lacey)*, **Studia Mathematica** (2012), vol 211, no. 2, pp. 153–190 (37 pages).
15. *The spectrum of random kernel matrices (with V. H. Vu)*, **Random Matrices: Theory Appl.** 02, 1350005 (2013) (29 pages)
16. *Variational bounds for a dyadic model of the bilinear Hilbert transform (with R. Oberlin and E. A. Palsson)*, **Illinois J. Mathematics** (2013), vol 57, no. 1, 105–119 (14 pages).
17. *Weighted bounds for variational Walsh–Fourier series (with M. Lacey)*, **J. Fourier Analysis Appl.** (2012), vol 18, no. 6, pp. 1318-1339 (21 pages).
18. *On the convergence of lacunary Walsh–Fourier series (with M. Lacey)*, **Bulletin London Math. Soc.** (2012), vol 44, no. 2, pp. 241–254 (14 pages).
19. *Variational estimates for paraproducts (with C. Muscalu and C. Thiele)*, **Revista Mat. Iberoamericana** (2012), vol 28, no. 3, pp. 857–878 (31 pages).

20. *A nonlinear stationary phase method for oscillatory Riemann-Hilbert problems.*, **Int. Math. Res. Notices** **2011**, issue 12, pp. 2650–2765 (**105 pages**).

INVITED
RESEARCH
TALKS

- 2019: **American Institute of Math**, Workshop in random polynomials, San Jose, Aug.
 2017: **Fields Institute**, Focus Program on Nonlinear Dispersive Partial Differential Equations and Inverse Scattering (Aug);
 2017: **University of Maryland, College Park**, Harmonic Analysis Seminar (Mar);
 2016: **Approximation Theory Conference**, special symposium in random polynomials, San Antonio, May.
 2016: **Yale University**, Probability and Combinatorics Seminar (Feb);
 2015: **Brown University**, Analysis Seminar (April);
 2015: **University of Kentucky**, Analysis and PDE Seminar (March);
 2014: **University of Virginia**, Renormalization Theory and Harmonic Analysis Conference (April);
 2014: **University of Maryland, College Park**, Applied PDE Seminar (Mar);
 2014: **Southeastern Analysis Meeting**, Clemson University (Mar);
 2014: **Indiana University, Bloomington**, Colloquium (Jan);
 2014: **University of Wisconsin-Madison**, Colloquium (Jan);
 2013: **University of Virginia**, Colloquium (Dec);
 2013: **Washington University in St. Louis**, Colloquium (Nov);
 2013: **Indiana University, Bloomington**, Complex Analysis Seminar (Oct);
 2013: **Georgia Institute of Technology**, Analysis Seminar (May);
 2013: **University of Rochester**, Analysis Seminar (April);
 2012: **University of Delaware**, Probability Seminar (Dec);
 2012: **Yale University**, Applied Mathematics Seminar (Nov);
 2012: **The Coifman-Jones-Rokhlin conference**, Yale (June);
 2012: **UCLA**, Analysis Seminar (Jan);
 2011: **Erwin Schrödinger Institute**, Vienna (July);
 2010: **Cornell University**, Analysis Seminar (Nov);
 2010: **UIUC**, Harmonic Analysis & PDE Seminar (Nov);
 2010: **Institute for Advanced Study**, Analysis & Math Physics Seminar (Oct);
 2009: **Indiana University, Bloomington**, Analysis Seminar (Nov).

CONFERENCES
& WORKSHOPS

- 2019: **AIM Workshop in random polynomials**, San Jose, Aug.
 2019: **Madison Lectures in Fourier Analysis**, University of Wisconsin, Madison, May.
 2018: **Southeastern Analysis Meeting**, Georgia Tech, Mar.
 2017: **Focus Program on Nonlinear Dispersive Partial Differential Equations and Inverse Scattering**, Fields Institute, Aug.
 2016: **Seminars in Probability: Random polynomials and random ma-**

trices, Vietnam Institute for Advanced Study in Mathematics, Hanoi, July–Aug.
 2016: **15th International Conference in Approximation Theory**, San Antonio, TX, May 22-25.
 2016: **Conference in Harmonic Analysis in Honor of Michael Christ**, University of Wisconsin–Madison, May 16-20.
 2015: **17th International Conference on Random Structures and Algorithms "RS&A2015"**, Carnegie Mellon University, Pittsburg, July 27-31.
 2015: **AIM Workshop: Carleson theorems and multilinear operators**, American Institute of Math, Palo Alto, May 18–22;
 2014: **Southeastern Analysis Meeting**, University of Georgia (Mar);
 2014: **Renormalization Theory and Harmonic Analysis Conference**: University of Virginia (April);
 2014: **Southeastern Analysis Meeting**, Clemson University (Mar);
 2013: **Virginia Operator Theory and Complex Analysis Meeting**: In honor of Thomas Kriete & Barbara MacCluer, University of Virginia (Oct);
 2013: **NSF–Regional Conference**, Uncertainty Principle in Harmonic Analysis: Gap and Type Problems, Clemson University (Aug);
 2012: **Harmonic Analysis & Spectral Theory**, TAMU (Aug);
 2012: **The Coifman-Jones-Rokhlin conference**, Yale (June);
 2012: **February Fourier Talks**, Norbert Wiener Institute, Maryland (Feb);
 2011: **Oberwolfach Meeting**, MFO (Jul);
 2011: **Completely Integrable Systems and Applications**, Erwin Schrödinger Institute, Vienna (Jul);
 2011: **NSF-CBMS Conference**, Global Harmonic Analysis, University of Kentucky (Jun);
 2011: **The Stein Conference**, Princeton (May);
 2011: **27th SEAM and John Conway Day**, University of Florida (Mar);
 2011: **Workshop on Discrete Methods in Ergodic Theory**, Northwestern University (Feb);
 2011: **Ohio River Analysis Meeting**, University of Cincinnati (Jan);
 2010: **Mini Conference in Harmonic Analysis**, Auburn University (Nov).
 2010: **UCLA Summer School** on Weighted estimates for singular integrals, Lake Arrowhead (October);
 2010: **AMS Western Sectional Meeting**, Special Session on Harmonic Analysis and Weighted Estimates for Singular Integrals, UCLA (Oct);
 2010: **AMS Sectional Meeting**, Special Session on Dyadic and non-Dyadic Harmonic Analysis, University of New Mexico (April);
 2010: **Southeastern Analysis Meeting**, Georgia Tech (Mar);
 2010: **Arizona Winter School in Analysis and Applications** (Mar);
 2010: **February Fourier Talks**, Norbert Wiener Institute, Maryland (Feb);
 2010: **AMS Special Session on Harmonic Analysis**, San Francisco (Jan).
 2009: **Workshop on Fourier Analysis**, Wayne State University (Nov);
 2009: **UCLA/AMS Summer School on Harmonic Analysis** (Jun-Jul).
 2008: **UCLA Summer School on Additive Combinatorics** (Aug).
 2007: **IAS/PCMI's Summer School in Statistical Mechanics** (Jul).

SERVICE

Departmental Services (UVA):

Graduate Committee (2014).

Graduate Admission Committee (2015, 2017, 2018, 2019).

Undergraduate Committee (2016).

Co-organize (with Andrei Rapinchuk) the IMS Distinguished Lecture Series by Van Vu (Spring 2019).

Postdoc Search Committee (2019).

Advising (UVA):

Graduate advising: Mark Lewers (2016-2020), Nhan Nguyen (2019-present).

Undergraduate advising (2014-present).

Outreach:

Science Day at the Ruckersville Elementary School (Virginia, 2015).

Math club talk at the University of Virginia (2014).

Seminar co-organizing:

Reading seminar in Harmonic Analysis at UVA (2016-present).

Harmonic Analysis and PDEs seminar at UVA (2014-present).

Analysis seminar at Yale (2011-2014).

Service to mathematical community: Served on the NSF panel, referee for various mathematical journals.

Last update: Dec 2020.