Kim Tuan Do

Department of Mathematics
University of California, Santa Barbara

Academic Position

2025 **University of California, Santa Barbara**
Visiting Assistant Professor

2022 – 2025 **University of California, Los Angeles**
Assistant Adjunct Professorship

Education

2016 – 2022 **Princeton University**
Ph.D. in Mathematics
Advisor: Christopher Skinner
Thesis: Construction of an anticyclotomic Euler system with applications

2015 – 2016 **University of Cambridge**
Master of Advanced Study in Mathematics
Graduated with Distinction

2012 – 2015 **Imperial College London**
BSc in Pure Mathematics
Graduated with 1^{st} class honours

2011 – 2012 **Hanoi University of Science**

Completed 1^{st} year BSc in Pure Mathematics

Research Interests

Number Theory, Arithmetic geometry, Iwasawa theory, Galois representations as well as solving Applied Maths problems in Physics and Biology

Awards and Achievements

2024 **Liggett Instructor Distinguished Faculty Teaching Award** in UCLA, awarded for valuable contributions to the teaching program.

2015 **Governors' BSc Prize in Mathematics** in Imperial College London, awarded to the best BSc in Mathematics at their final examination.

2014 **Ken Allen Prize** in Imperial College London, awarded for academic excellence.

2013 **First year project Prize** in Imperial College London, awarded for the best poster presented by a student as their first year project.

2012 **Vietnam National University's Scholarship**, awarded for academic excellence.

2011 **Bronze Medal in IMO 52nd**, as member of the Vietnam team.

2011 **Second Prize in the Vietnamese National Mathematical Olympiad**, as member of the Hanoi team.

2010 **Third Prize in the Vietnamese National Mathematical Olympiad**, as member of the Hanoi team.

Publications and preprints

2024 K. T. Do *Anticyclotomic Euler system over biquadratic fields*, **accepted** to appear in Algebra & Number Theory, preprint available at `https://arxiv.org/abs/2409.19819`

2023 K. T. Do and F. Castella, *Diagonal cycles and anticyclotomic Iwasawa theory of modular forms*, **submitted**, preprint available at `https://arxiv.org/abs/2303.06751`

2023 Ao, V.D., Tran, D.V., Pham, K.T., Nguyen, D.M., Tran, H.D., Do, T.K., Do, V.H., Phan, T.V. , *A Schrödinger Equation for Evolutionary Dynamics* Quantum Rep. **2023**, 5, 659-682, available at `https://doi.org/10.3390/quantum5040042`

2022 L. T. Nguyen, T. K. Do and T. V. Phan, *On the Electrostatic Interaction Between Point Charges Due to Dielectrical Shielding* , Progress In Electromagnetics Research Letters, Vol. **107**, 111-118, 2022, available at `https://doi:10.2528/PIERL22071401`

2022 T. K. Do and T. V. Phan, *Equal Radiation Frequencies from Different Transitions in the Non-Relativistic Quantum Mechanical Hydrogen Atom*, Quantum Rep. **2022**, 4(3), 272-276, available at `https://doi.org/10.3390/quantum4030019`

2021 T. V. Phan, G. Wang, T. K. Do, I. G. Kevrekidis, S. Amend, E. Hammarlund, K. Pienta, J. Brown, L. Liu and R. H. Austin, *It doesn't always pay to be fit: success landscapes*, J Biol Phys (**2021**), available at `https://doi.org/10.1007/s10867-021-09589-2`

2019 T. V. Phan, R. Morris, M. E. Black, T. K. Do, K. Lin, K. Nagy, J. C. Sturm, J. Bos and R. H. Austin, *Bacterial route finding and collective escape in Mazes and Fractals*, Phys. Rev. X **10**, 031017, available at `https://journals.aps.org/prx/abstract/10.1103/PhysRevX.10.031017`

Teaching and work experience

2024 – 2025 Instructors for Math 110B Group Theory (x2), Math 115A Linear Algebra (x2), Math 61 Discrete Maths (x2)

2023 – 2024 Instructors for Math 115A Linear Algebra (x3), Math 32B Multivariable Calculus (x2), Math 61 Discrete Maths

2022 – 2023 Instructors for Math 115A Linear Algebra (x2), Math 32B Multivariable Calculus (x2), Math 61 Discrete maths (x2)

2021 – 2022 Teaching assistance in Foundations of Calculus and Honors Linear Algebra

2020 – 2021 Teaching assistance in Multivariable Calculus and Analytic Number Theory

2019 – 2020 Teaching assistance in Introduction to Riemann Surfaces and Algebra I

2018 – 2019 Taught review sessions in Advanced Linear Algebra with Applications and Teaching assistance in Numbers, Equations, and Proofs

2017 – 2018 Teaching assistance in Multivariable Calculus and Complex Analysis with Applications

2018 – 2019 Tutored Undergraduate Mathematics for high school students

Research and expository talks

Nov 2024 'Diagonal anticyclotomic Euler systems', in the 2024 Canadian Mathematical Society Winter Meeting

Nov 2024 'Anticyclotomic Euler systems over imaginary quadratic and biquadratic fields', in the UCLA Number Theory seminar

Oct 2024 'Gross Zagier formula', in the UCLA participating Number Theory seminar

Dec 2023 'Cohomology of Shimura varieties and Matsushima's formula', in the UCLA participating Number Theory seminar

Sep 2023 'Construction of an anticyclotomic Euler system', in the UT Austin Number Theory seminar

July 2023 'Construction of an anticyclotomic Euler system', in the HRI Arithmetic/Algebraic Geometry seminar

Apr 2023 'Construction of an anticyclotomic Euler system', in the Caltech Number Theory seminar

Nov 2022 'Construction of an anticyclotomic Euler system', in the UCSB Number Theory seminar

Oct 2022 'Construction of an anticyclotomic Euler system', in the UCLA Number Theory seminar

Mar 2022 'Ihara lemma, anticyclotomic Euler systems for $V_f(\chi)$, and applications', in Automorphic forms and special values of L-functions class taught by Christopher Skinner

Apr 2021 'Selberg Sieve - Λ^2 method', in Analytic Number Theory class taught by Peter Sarnak

Oct 2020 'Classic arithmetic results about partition number $p(n)$', in Number Theory tea talk

Dec 2019 'Overconvergent modular forms and Galois deformations', in IAS-Princeton University learning seminar about singular moduli for real quadratic fields led by Jan Vonk

Oct 2019 'Introduction of theta correspondences', in a learning seminar on theta correspondences led by Gyujin Oh

Apr 2019 'Mazur-Tate-Teitelbaum one-variable p-adic L-function and Fukaya-Kato two-variable p-adic L-function', in IAS-Princeton University learning seminar about Sharifi's conjecture led by Preston Wake

Nov 2018 'Primitive roots and Erdos Moser Conjecture', in Numbers, Equations, and Proofs class taught by Christopher Skinner

Mar 2015 'Erdös Moser Conjecture' in Undergraduate Colloquium of Imperial College London

Experience

2024 – 2025 Organizer of a seminar about the Gross-Zagier formula

2022 – 2024 Organizer of the UCLA Number Theory Seminar

2018 – 2019 Volunteer in **PUMaC**, proctored exams

2014 – 2015 Volunteer in **School Plus**, tutored Mathematics for students from disadvantaged background

2013 – 2015 Volunteer in **Enactus**, created new recipes and sell the recipes to college cafeterias, money raised was used to fund other Enactus social projects

Nationality

Vietnamese