

Kiko Kawamura

Department of Mathematics,
University of North Texas
1155 Union Circle 311430
Denton, Texas, USA 76203-5017

EDUCATION:

1998 Ph.D. Mathematics Nara Women's University, Japan
1995 M.S. Mathematics Nara Women's University, Japan
1993 B.S. Mathematics Ritsumeikan University, Japan

ACADEMIC (FULL TIME) APPOINTMENTS:

2023 – present	Clinical Associate Professor	University of North Texas
2019 – 2023	Principal Lecturer	University of North Texas
2013 – 2019	Senior Lecturer	University of North Texas
2018	Visiting Research Fellow	Utrecht University, Netherlands
2007 – 2013	Lecturer	University of North Texas
2009	Global Center of Excellence Research Fellow	RIMS, Kyoto University, Japan
2001–2002	Visiting Assistant Professor	University of North Texas
1999–2001	Postdoctoral Research Fellow	University of North Texas

AWARDS/HONORS:

- College of Science Commencement Speaker UNT, May 2023
- Teacher of Merit, Society for Science's Regeneron Science Talent Search 2020
- College of Science Faculty Award for Teaching UNT, 2019
- Faculty Teaching Award, Department of Mathematics UNT, 2019
- Teaching Excellence Spotlight Award, CLEAR UNT, 2018
- College of Science Faculty Award for Service UNT, 2018
- Faculty Service Award, Department of Mathematics UNT, 2018
- Recognition for Exceptional Teaching Stanford University, 2015
- Yale Educator Award Yale University, 2015
- J. H. Shelton Excellence in Teaching Award (nominated) UNT, 2014 and 2019
- Faculty Teaching Award, Department of Mathematics UNT, 2013
- Guest Speaker for "Meet Leading Female Scientist" Nara Women's University 2009
- Best Graduate Student Award (University-wide award with certificate of merit and prize money) Nara Women's University, 1995

UNIVERSITY TEACHING ACTIVITIES:

Courses taught at University of North Texas:

- MATH 1100, College Algebra
- MATH 1350, Mathematics for Elementary Education Majors I
- MATH 1650, Precalculus
- MATH 1710, Calculus I
- MATH 1720, Calculus II
- MATH 1780/3370, Probability Models
- MATH 2700, Linear Algebra and Vector Geometry
- MATH 2730, Multivariable Calculus
- MATH 3000, Real Analysis I
- MATH 3180, Probability for Engineers
- MATH 3410, Differential Equations I
- MATH 3680, Applied Statistics
- MATH 4610, Probability
- MATH 4900, Special Problems
- MATH 5810, Probability and Statistics

COURSE DEVELOPMENT:

- Course redesign, Math 3370 (formerly Math 1780), Spring and Summer 2025
- Renewal of Math 3680 INET, Summer 2024 – Summer 2025
- Renewal of Math 1780/3780 INET, Spring 2024 – Summer 2025
- Developed new interdisciplinary course MATH 3180 Spring and Summer 2022
- Developed new Math 1780 online course, Fall 2020
- Developed new Math 3680 online course, Spring-Summer 2020
- Redesigned Math 1710/1720 Calculus courses (with Dr. Matthew Dulock), Fall 2018 – Spring 2019

COURSE COORDINATION:

- Course Coordinator for Undergraduate Probability and Statistics, (MATH 1780/3180/3680), Fall 2019 - Present
- Course Coordinator for Calculus sequences (with Dr. Dulock): Fall 2016 – Spring 2019
- Course Coordinator for Calculus sequences (with Dr. Tran): Fall 2011 – Spring 2012
- Course Coordinator for Elementary Math Education: Fall 2007 – Spring 2008

TEACHING INNOVATIONS:

Partnership with Cengage in Research Opportunity for UNT Calculus – Funded \$2,000 to the Math department. (2019)

DIRECTED STUDENT LEARNING:

Undergraduate Honor's Thesis advising for

- Jonathan Leung (with Dr. Daniel Prokaj, Spring 2026). His honors thesis is published in **arXiv: 2605.02988**.

Master's Thesis Committee Member for

- Cameron Bernstein (Spring 2025), Advisor: Dr. Kai-Sheng Song
- Matthew Philips (Spring 2025), Advisor: Dr. Pieter Allaart
- Johanson Berlie (Spring 2024), Advisor: Dr. Pieter Allaart

Reading courses for Undergraduates, TAMS and Master's graduate students

- Miguel Gonzalez- Carriedo and Soham Kale (Spring 2026)
- Jonathan Leung (Fall 2025, Spring 2026)
- Audrey Perry (Fall 2024)
- Johanson Berlie (with Dr. Allaart, Fall 2023)
- Michalis Paizanis (Summer 2021)
- Tobey Mathis and Noah Fredrickson (Fall 2020, Spring 2021)
- Mike Trenfield, Aiden Young and Ben Schwaighofer (with Dr. Allaart, Spring 2014)

Undergraduate Research mentoring and advising:

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|----------------------------|---------------------------------|---------------------------|
| • Mike Trenfield | RTG Undergraduate Research | Summer 2013 -Spring 2014 |
| • Aiden Young | TAMS Research | Spring 2014 - Summer 2014 |
| • Paul Teszler | TAMS Research | Summer 2014 |
| • Chia Ting Han | RTG Undergraduate Research | Summer 2014 |
| • Noah Fredrickson | Undergraduate Research | Fall 2019 – Summer 2021 |
| • Michalis Paizanis | Undergraduate (Honors) Research | Summer 2021 – Fall 2021 |
| • Tobey Mathis | Undergraduate (Honors) Research | Fall 2019 – Spring 2022 |
| • Everest Zimmerman | TAMS Research | Fall 2023 – Summer 2024 |
| • Miguel Gonzalez-Carriedo | Undergraduate Research | Fall 2023 – Spring 2026 |
| • Audrey Perry | TAMS Research | Fall 2023 – Spring 2025 |
| • Jonathan Leung | Undergraduate (Honors) Research | Spring 2025 – Spring 2026 |
| • Soham Kale | Undergraduate Research | Spring 2026 – Present |
| • Anshika Pandey | Undergraduate Research | Spring 2026 – Present |

Research Collaboration with PhD graduates/Postdocs

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|-------------------|--|---------------------------|
| • Andrew Allen | PhD graduate student | Spring 2018 – Summer 2019 |
| • Nathan Dalaklis | PhD graduate student | Summer 2021– Spring 2025 |
| • Matthew Ortiz | PhD graduate student | Spring 2023 – Fall 2024 |
| • Jiajie Zhang | Visiting Assistant Professor (Postdoc) | Fall 2024 – Spring 2025 |
| • Daniel Prokaj | Visiting Assistant Professor (Postdoc) | Fall 2025 – Present |
| • Joel Saroni | PhD graduate student | Spring 2026 – Present |

Awards, Honors Scholarships Related to the Recognition of Students

- Jonathan Leung, Received Outstanding Undergraduate Student Award from the Department. He also featured as an [Undergraduate Student Spotlight in the College of Science](#) (2026).
- Jonathan Leung, Undergraduate Research Fellowship, Honors College, Granted \$500 (2026)
- Jonathan Leung, College of Science Undergraduate Research Presentation Award, Granted \$500 (2025)
- Miguel Gonzalez-Carriedo, Undergraduate Research Fellowship, Honors College, Granted \$500 (2025)
- Michalis Paizanis, Undergraduate Research Fellowship, Honors College, Granted \$500 (2022)
- Tobey Mathis, College of Science Undergraduate Research Presentation Award, Granted \$500 (2022)
- Tobey Mathis, Undergraduate Research Fellowship, Honors College, Granted \$500 (2021)
- Anushree Agrawal, Goldwater Scholarship Winner (2015) (Math instructor recommendation)
- Vishnu Dantu, Goldwater Scholarship Winner (2015) (Math instructor recommendation)
- Kevin Chang, fifth place for National Siemens Competition in Math, Science and Technology, Granted \$20,000 (2011) (Math instructor recommendation)

Organizing Seminars and Special events (for students):

- The founding organizer of **STaRS- Students Talk Research Seminar**, (Fall 2020 – Present)
- A founding organizer of **Meet Our Alumni: Career Paths & Conversations**, (Fall 2020, Spring 2026 - Present)

SCHOLARLY AND PROFESSIONAL ACTIVITIES:

PUBLICATIONS:

Peer-reviewed Publications:

- N. Dalaklis, K. Kawamura, T. Mathis, M. Paizanis, The Partial derivative of Okamoto's functions with respect to the parameter, *Real Analysis Exchange*, Vol. 48, No. 1, pp 1-14 (2023)
- K. Kawamura, A. Allen, Revolving Fractals, *Journal of Fractal Geometry*, Vol. 8, pp 289-304 (2021)
- P. Allaart, K. Kawamura, The Takagi function: a survey, *Real Analysis Exchange*, Vol. 37, No. 1, pp 1-54 (2011)
- K. Kawamura, On the set of points where Lebesgue's singular function has the derivative zero, *Proceedings of the Japan Academy Series A*, Vol. 87, No. 9, pp 162-166 (2011)
- P. Allaart, K. Kawamura, The improper infinite derivatives of Takagi's nowhere differentiable function. *Journal of Mathematical Analysis and Applications*, Vol. 372, pp 656-665 (2010)
- P. Allaart, K. Kawamura, Dimensions of coordinate functions of space-filling curves, *Journal of Mathematical Analysis and Applications*, Vol. 335, pp 1161-1176 (2007)
- P. Allaart, K. Kawamura, On the coordinate functions of Lévy's dragon curve, *Real Analysis Exchange*, Vol. 31, No. 1, pp 295-308 (2005/06)

- P. Allaart, K. Kawamura, Extreme values of some nowhere differentiable functions, *Mathematical Proceedings of the Cambridge Philosophical Society*, Vol. 140, No. 2, pp 269-295 (2006)
- K. Kawamura, On the classification of self-similar sets determined by two contractions on the plane, *Journal of Mathematics Kyoto University*, Vol. 42, No. 2, pp 255-286 (2002)
- H. Kamo, K. Kawamura, I. Takeuti, Computational complexity of fractal sets, *Real Analysis Exchange*, Vol. 26, No. 2, pp 773-793 (2000/2001)
- H. Kamo, K. Kawamura, I. Takeuti, Hausdorff dimension and Computational Complexity, *A Satellite workshop on Computability and Complexity in Analysis, Informatik Berichte of Fern Universitat*, Vol. 235, pp 41-50 (1999) (Peer-reviewed conference proceeding)
- H. Kamo, K. Kawamura, Computability of self-similar sets, *Mathematical Logic Quarterly*, Vol. 45, pp 23-30 (1999)
- K. Kawamura, A Few Remarks on Real functions with Fractal Properties, *JMS Sugaku* Vol. 49, pp 301-302 (1997)
- H. Kamo, K. Kawamura, Computability of Koch curve and Koch Island, *Algorithm*, Vol. 54, pp 1-8 (1996)

Submitted Publications:

- M. Gonzalez-Carriedo, K. Kawamura, J. Leung, R. D. Prokaj, On the Revolving Structure of the Lévy dragon and its linear transforms, (12 pages, under review for *American Mathematical Monthly*)
- P. Allaart, N. Dalaklis, K. Kawamura, M. Ortiz, J. Zheng, The Higher Order Partial Derivatives of Okamoto's Function with Respect to the Parameter, (40 pages, under review for *Advances in Mathematics*)

Preprints:

- K. Kawamura, T. Mathis, Revolving Sequences and Terdragons [arXiv:2106.10549](#)
- K. Kawamura, T. Mathis, Delta-Revolving sequences and Self-similar sets in the plane, [arXiv:2208.08505](#)

Non-refereed Publications:

- Extreme values of some nowhere differentiable functions (with P. Allaart), *The 29th Summer Symposia in Real Analysis, Real Analysis Exchange*, pp 61- 64 (2005)
- On the coordinate functions of Levy's dragon curve (with P. Allaart), *The 29th Summer Symposia in Real Analysis, Real Analysis Exchange*, pp 55-60 (2005)
- Computational complexity of self-similar sets, *Report of meeting, The 24th Summer Symposia in Real Analysis, Real Analysis Exchange* (2001)
- On the classification of self-similar sets, *Report of meeting, the 37th international Symposium on Functional Equations, Aequationes Math.* Vol. 60, pp 182, 192, 196 (2000)
- Real Function with Fractal Property (communicated by Prof. A. Tsutsumi), *Report of meeting, the 35th international Symposium on Functional Equations, Aequationes Math.* Vol. 55, pp 309-310 (1998)
- Computability of self-affine sets, *Annual Reports of Graduate School of Human Culture of Nara Women's Univ.* Vol. 12, pp 135-150 (1997) (with H. Kamo)

GRANTS AND SPONSORED RESEARCH:

Grants Awarded:

- Co-P.I. Conference Grant "Conference: Dynamical Systems and Fractal Geometry," sponsored by National Science Foundation, Federal, \$32,017 Funded. (2024 - 2025).
- Certificate of Excellence for Teaching Online (CETO), sponsored by CLEAR, UNT. \$1,500 Funded (2024).
- P.I. "On nowhere differentiable functions", Sponsored by RIMS, Kyoto University, \$20,000 Funded (2009)
- P.I. "On a Classification of Self-similar sets", Sponsored by Japan Association for Mathematical Sciences, \$2,500 Funded (1999)
- P.I. "Computational Complexity of Fractals sets", Sponsored by International Information Science Foundation, \$8,000 Funded (1998)
- Consulting Interdisciplinary Research – An Economic Analysis of Non-Good SAMARITAN Behavior, \$500 Funded (1998)

External grants applied for:

- Co-P.I.: NSF Analysis Program, Not Funded. (2007)

Professional Development:

- Awarded: Faculty Development Leave "Interdisciplinary REU projects on Brain Waves," (Spring 2024) (First Lecturer in the College of Science)

ORGANIZED RESEARCH CONFERENCE:

- An organizer of NSF-funded International Conference: *Dynamical Systems and Fractal Geometry*. (2024)

INVITED RESEARCH PRESENTATIONS (Selected since 2018):

- Revisiting Lévy's Dragon Curve, International Conference for Fractals and Related Fields V, Ile de Porquerolles, France (2026)
- The Higher order partial derivatives of Okamoto's functions with respect to the parameter, International Conference for Numeration and Substitution 2025, Tsukuba University, Japan (2025)
- The Partial derivative of Okamoto's functions with respect to the parameter, One World Numeration Seminar (International Online Seminar), (2023)
- Revolving Fractals, AMS Fall Southeastern Sectional Meeting, University of Florida, Gainesville, FL (2019)
- Revolving Fractals, Number Theory Seminar, Tsukuba University, Japan (2019)
- Revolving Fractals, Dynamical Systems Seminar, Kyoto University, Japan (2019)
- Revolving Fractals, Workshop on 60 years of Dynamics and Number Expansions, Centro De Giorgi, Italy (2018)

- Relationship between sets of revolving sequences and self-similar sets, Workshop on Ergodic Theory and Fractals, Delft University, Netherlands (2018)

CONFERENCES ATTENDED (Selected since 2022):

- Texas Undergraduate Mathematics Conference, University of Texas, Tyler, TX (2024)
- Texas-Oklahoma Region Undergraduate Symposium (TORUS), Southern Nazarene University, Oklahoma (2024).
- International Conference for Geometry of Deterministic and Random Fractals, Budapest University of Technology and Economics, Hungary (2022)

SERVICE:

To the University:

2019 – 2021: Faculty Senate: Ad Hoc Committee on the Status of Non-tenure Track Faculty
 2018 – 2019: Faculty Senate: Faculty Participation in Governance Committee
 2016 – 2019: Faculty Senate: Group III Senator

To the Department:

2020 – Present The organizer of STaRS (Students Talk Research Seminar)
 2019 – Present Course Coordinator for Undergraduate Probability and Statistics (MATH 1780/3180/3680)
 2025 – 2026 New Faculty Mentor (For Dr. Jingxi Liao)
 2025 Lecturer of Actuary Mathematics Search Committee (1 successful hire)
 2025 Unit Review Committee for Lecturer Promotion (For Ms. Poonam Chanana).
 2023 Unit Review Committee for Lecturer Promotion (For Ms. Jodi Acker, Dr. Helen Elwood and Dr. Steven Widmer).
 2023 - 2024 New Faculty Mentor (For Dr. Kyranna Kioulafa)
 2021 Online Instructor Policy Committee
 2020 Unit Review Committee for Lecturer Promotion (For Dr. Helen Elwood and Dr. Steven Widmer)
 2019 Unit Review Committee Chair for Lecturer Promotion (For Ms. Krista Hines)
 2019 – 2021 Lecturer Evaluation Committee
 2016 – 2019 Course Coordinator for Calculus sequences (MATH 1710/1720)
 2014 – 2016 Lecturer Evaluation Committee
 2014 – 2016 Lecturer Hiring Committee (3 successful hires)
 2012 – 2016 Department Website Coordinator
 2013 – 2014 Outreach Committee
 2012 – 2013 Grade Appeal Committee
 2011 – 2012 Course Coordinator for Calculus sequences (MATH 1710/1720)
 2007 - 2008 Course Coordinator for Elementary Math Education (MATH 1350/1351)

In addition, as an experienced professional faculty member, I have contributed to the professional development and advancement of colleagues and students by:

- Conducting approximately five to six classroom observations each year and providing constructive feedback and guidance to instructors.
- Writing numerous letters of recommendation for undergraduate and graduate students, TAMS students, adjunct faculty, and other faculty members in support of their academic and professional advancement.

To other Colleges/departments:

2026 - Present	Advisor for Japanese Students Association
2025 - 2026	Honor's Thesis' Advisor
2022	Search Committee for Japanese Lecturer hiring (Department of World Languages, Literatures, & Cultures)
2015 – 2019	TAMS Liaison (TAMS placement testing)
2017, 2018	TAMS Preview Day: Invited mock lecturer
2015	TAMS Convocation: Presenter

To the Mathematical Community:

Reviewer	AMS Math Reviews
Referee	Journal of Mathematical Analysis and Applications
Referee	American Mathematical Monthly
Referee	Kyushu Journal of Mathematics
Referee	Taiwanese Journal of Mathematics
Referee	Japan Journal of Industrial and Applied Mathematics
Referee	Nonlinear Analysis