

KENTA TSUKUURA

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RESEARCH INTERESTS

My research interests are around set theory, logic, and infinitary combinatorics. I am interested in the effects of generic large cardinal properties on combinatorics, and the consistencies of these using forcing method. I am working on the classification of the universe of saturated ideals, by studying the saturation properties of certain ideals. These are based on the philosophy of Gödel's program.

I am also interested in the education of information (e.g., Programming Languages, Computer Architecture, Computer Science, and Management Engineering).

SKILL

Language	Japanese (native), English.
Programming Language	OCaml, C, VBA, Java, shell script.

EDUCATION

PERIOD	2020-4 — 2023-3	
DEGREE	Ph.D. of Science	
COURSE	Mathematics	
UNIVERSITY	University of Tsukuba	Tsukuba, Japan

PERIOD	2018-4 — 2020-3	
DEGREE	Master of Science	
COURSE	Mathematics	
UNIVERSITY	University of Tsukuba	Tsukuba, Japan

PERIOD	2014-4 — 2018-3	
DEGREE	Bachelor of Science	
COURSE	Information Science	
UNIVERSITY	Toho University	Funabashi, Japan

EMPLOYMENT

PERIOD	2024-11 — present	
POSITION	Assistant Professor	
DEPARTMENT	Fisheries Distribution & Management	
FACULTY	-	
UNIVERSITY	National Fisheries University	Shimonoseki, Japan

PERIOD	2023-6 — 2024-10	
POSITION	Academic Associate	
DEPARTMENT	Industrial & System Engineering	
FACULTY	Science and Engineering	
UNIVERSITY	Hosei University	Koganei, Japan

PERIOD	2023-4 — 2023-5	
POSITION	Postdoctoral Researcher	
DEPARTMENT		
FACULTY		
UNIVERSITY	University of Tsukuba	Tsukuba, Japan

PERIOD	2020-4 — 2023-3	
POSITION	Research Fellow (JSPS)	
COURSE		
UNIVERSITY	University of Tsukuba	Tsukuba, Japan

THESIS

- “Polarized partition relations, Pcf theory, and Prikry-type forcings.” supervised by Masahiro Shioya, Master Thesis for the degree at University of Tsukuba, May 2020.
- “Saturated ideals over higher cardinals” supervised by Masahiro Shioya, Ph.D. Thesis for the degree at University of Tsukuba, May 2023.

SOCIETY

- The Mathematical Society of Japan (MSJ), since 2017-4.
- Japan Society of Mathematical Education (JSME), since 2024-5.

PROJECTS

- [1] “An applications of Prikry-type forcings to singular cardinal combinatorics”, Grant-in-Aid for JSPS Fellows, No.20J21103, Japan Society for the Promotion of Science(JSPS), 2020-4–2023-3
- [2] “Study of anti-compactness of saturated ideals”, Grant-in-Aid for Early-Career Scientists, No.24K16959, Japan Society for the Promotion of Science(JSPS), 2023-4–2026-3

AWARD

- [1] Prize of director of research department of pure and applied science (for master thesis), University of Tsukuba, 2020.
- [2] Exemption from return of class I scholarships, Japan Student Services Organization(JASSO), 2020.
- [3] Outstanding Conference Award, Conference Co-Chair, IEOM Society International, 2024.

TEACHING EXPERIENCE

- Information Science IB (Toho University, TA, 2016–2017).
- Schooling (Toho University, TA, 2016–2017).
- Computer Exercise (University of Tsukuba, TA, 2019, 2021, 2022).
- Linear Algebra (University of Tsukuba, Instructor, 2023).
- Computer Exercise A, (Hosei University, SubInstructor, 2023, 2024).
- Computer Exercise B, (Hosei University, SubInstructor, 2023, 2024).
- Programing Language C, (Hosei University, SubInstructor, 2023, 2024).
- Exercise of Programing Language C, (Hosei University, SubInstructor, 2023, 2024).
- Calculation Exercise of Management Engineering A, (Hosei University, SubInstructor, 2023, 2024).
- Calculation Exercise of Management Engineering B, (Hosei University, SubInstructor, 2024).
- Information Science (National Fisheries University, Instructor, 2024–).
- Computer Literacy (National Fisheries University, Instructor, 2025–).

PAPERS

- [1] “Prikr-type forcing and the set of possible cofinalities”, Kenta Tsukuura, Tsukuba Journal of Mathematics, vol.45(2), 83–96, 2021.
- [2] “The extent of saturation of induced ideals”, Kenta Tsukuura, Arch. Math. Logic 63, p723–739, 2024.
- [3] “Prikr-type forcings after collapsing a huge cardinal”, Kenta Tsukuura, submitted.
- [4] “On the centeredness of saturated ideals”, Kenta Tsukuura, Tsukuba J.Math, vol.47(1), p29–29, 2023.
- [5] “On semiproperness of Namba forcings and ideals in Prikr extensions”, Kenta Tsukuura, submitted.
- [6] “Walks along a weak square sequence and the non-semiproperness of Namba forcings”, Kenta Tsukuura, submitted.

The following papers are no peer reviewed.

- [1] “Polarized partition on successors of singular cardinals with the GCH”, Kenta Tsukuura, RIMS kokyuroku, 2141, 20–28, 2019.
- [2] “On the centeredness of Kunen’s saturated ideal”, Kenta Tsukuura, RIMS kokyuroku, 2213, 48–53, 2022.
- [3] “Note on lateredness of saturated ideals over successors of singular cardinals”, Kenta Tsukuura, RIMS kokyuroku, 2261, p.88–95, 2023.

- [4] “Stepping-up Semiproperness of Namba forcings”, Kenta Tsukuura, RIMS kokyuroku, 2290, 2024.
- [5] “A complete filter associated with a thin list”, Kenta Tsukuura, RIMS kokyuroku, to appear.

INVITED TALKS

- [1] “The quotient of Prikry-type forcings and saturated ideals”, MSJ2023, Tohoku University, 2023.
- [2] “Axioms needed to constructions in transfinitely many times”, Tsukuba University, 2024.
- [3] “Combinatorics on \aleph_1 ”, Symposium on Mathematical Logic by Young Researchers, Kanagawa University, 2024.

SELECTED TALKS

- [1] “Prikry-type forcing and true cofinal sequence”, Kenta Tsukuura, RIMS workshop Axiomatic set theory and its applications, Kyoto university, 2018.
- [2] “Prikry forcing and universal collapse”, Kenta Tsukuura, Prikry Forcing Online, on Online, 2020.
- [3] “Some saturation properties in quotient forcing”, Kenta Tsukuura, RIMS workshop Recent Developments in Set Theory of the Reals, on Online, 2021.
- [4] “The extent of saturation of induced ideals”, Kenta Tsukuura, MSJ2022, Saitama university, 2022.
- [5] “Huge cardinal and Prikry forcing”, Kenta Tsukuura, MSJ2022, Hokkaido University, 2022.
- [6] “Centeredness of ideals in the extension by Prikry-type forcings”, Kenta Tsukuura, RIMS open symposium New Developments in Forcing and Cardinal Arithmetic, Kyoto University, 2022.
- [7] “The semiproperness of Namba forcings in Prikry-type extensions”, Kenta Tsukuura, RIMS open symposium Large cardinals and the continuum, Kyoto University, 2023.
- [8] “Minimal walk method and Namba forcings”, Kenta Tsukuura, RIMS open symposium Recent Developments in Axiomatic Set Theory, Kyoto University, 2024.

ACADEMIC ACTIVITIES

- Kanto Area Set Theory Seminar, (Organizer, 2024–).
- RIMS Set Theory 2024, (Co-Organizer, 2024).
- IEOM 2024 Tokyo, (Co-Organizer, 2024).