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.

Skill

Language	Japanese (native), English.
Programming Language	OCaml, C, 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	**2023-6 — present**	
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	**Mathematics**
FACULTY	**School of Science and Enginnering**
UNIVERSITY	**University of Tsukuba** Tsukuba, Japan

PERIOD	**2020-4 — 2023-3**
POSITION	**Research Fellow (JSPS)**
DEPARTMENT	**Mathematics**
FACULTY	**Graduate School of Science and Technology**
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.

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), 2024-4–2027-3.

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.

TEACHING EXPERIENCE

- Information Science IB (TA, Toho university, 2016–2017).

- Schooling (TA, Toho university, 2016–2017).

- Computer Exercise (TA, University of Tsukuba, 2019, 2021, 2022).

- C Programming Language (Sub Instructor, Hosei university, 2023–)

- Exercise of C Programming Language (Sub Instructor, Hosei university, 2023–)

- Computer Exercise A (Sub Instructor, Hosei university, 2023–).

- Computer Exercise B (Sub Instructor, Hosei university, 2023–).

- Computing Exercise of Management Science B (Sub Instructor, Hosei university, 2023–)

- Linear Algebra I (Instructor, University of Tsukuba, 2023).

PAPERS

[1] "Prikry-type forcing and the set of possible cofinalities", Kenta Tsukuura, Tsukuba J. of Math., vol.45(2), 83-96, 2021.

[2] "On the centeredness of saturated ideals", Kenta Tsukuura, Tsukuba J. Math., vol.47(1), 29-39, 2023.

[3] "The extent of saturation of induced ideals", Kenta Tsukuura, Arch. Math. Log., accepted.

[4] "Prikry-type forcings after collapsing a huge cardinal", Kenta Tsukuura, submitted, arXiv preprint arXiv:2207.04665.

[5] "On semiproperness of Namba forcings and ideals in Prikry extensions, 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, 88–95, 2023.

[4] Stepping-up semiproperness of Namba forcings, Kenta Tsukuura, RIMS kokyuroku, to appear.

INVITED TALKS

[1] "The quotient of Prikry-type forcings and saturated ideals", MSJ2023, Tohoku university, 2023.

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 Set Theory Workshop 2023 Large Cardinals and the Conitnuum, Kyoto University, 2022.