Ken Sakayori

Research Interests

Semantics of (concurrent) programs. Most of my previous studies are related to the π-calculus, but, broadly speaking, my interest lies in the field of programming language semantics, logics (in computer science) and programming verification.

Employment

The University of Tokyo	Tokyo, JP
Assistant professor/Research associate	April 2023 –
University of Bologna	Bologna, IT
Postdoctoral researcher (Assegno di ricerca)	October 2021 – March 2023
The University of Tokyo	Tokyo, JP
Postdoctoral researcher	April 2021 – September 2021

Education

The University of Tokyo — Tokyo, JP
Ph.D. course in Information Science and Technology — 2018–2021
Thesis Title: "A Categorical and Logical Analysis of the π-calculus"
Supervisor: Naoki Kobayashi

The University of Tokyo — Tokyo, JP
Master's course in Information Science and Technology — 2016–2018
Thesis Title: "A Categorical Model for a Variant of the π-calculus"
Supervisor: Naoki Kobayashi

The University of Tokyo — Tokyo, JP
Undergraduate course in Dept. of Information Science — 2012–2016

Publications

[1] **K. Sakayori** and T. Tsukada, "Output without delay: A π-calculus compatible with categorical semantics", in *6th International Conference on Formal Structures for Computation and Deduction, FSCD 2021*, ser. LIPIcs, vol. 195, Schloss Dagstuhl - Leibniz-Zentrum für Informatik, 2021, 32:1–32:22.

[2] T. Shimoda, N. Kobayashi, **K. Sakayori**, and R. Sato, "Symbolic automatic relations and their applications to SMT and CHC solving", in *Static Analysis - 28th International Symposium, SAS 2021*, ser. Lecture Notes in Computer Science, vol. 12913, Springer, 2021, pp. 405–428.

[3]   T. Shoshi, I. Takuma, N. Kobayashi, **K. Sakayori**, R. Sato, and T. Tsukada, "Termination analysis for the π-calculus by reduction to sequential program termination", in *Programming Languages and Systems - 19th Asian Symposium, APLAS 2021*, Cham: Springer International Publishing, 2021, pp. 265–284.

[4]   **K. Sakayori** and T. Tsukada, "A categorical model of an **i**/**o**-typed π-calculus", in *Programming Languages and Systems - 28th European Symposium on Programming, ESOP 2019*, L. Caires, Ed., ser. Lecture Notes in Computer Science, vol. 11423, Springer, 2019, pp. 640–667.

[5]   **K. Sakayori** and T. Tsukada, "A truly concurrent game model of the asynchronous π-calculus", in *Foundations of Software Science and Computation Structures - 20th International Conference, FOSSACS 2017*, ser. Lecture Notes in Computer Science, vol. 10203, 2017, pp. 389–406.

Selected Talks

1. **K. Sakayori** and D. Sangiorgi, "Extensional and Non-extensional Functions as Processes ", *38th Annual ACM/IEEE Symposium on Logic in Computer Science (LICS 2023)*, Boston, USA, June 2023

2. **K. Sakayori** and T. Tsukada, "Output Without Delay: A π-Calculus Compatible with Categorical Semantics", *6th International Conference on Formal Structure for Computation and Deduction (FSCD 2021)*, Online, July 2021

3. **K. Sakayori** and T. Tsukada, "A Categorical Model of an **i**/**o**-typed π-calculus", *28th European Symposium on Programming (ESOP 2019)*, Prague, Czech Republic, April 2019

4. **K. Sakayori** and T. Tsukada, "A Categorical semantics for a variant of π-calculus the Asynchronous π-Calculus", *20th Foundations of Software Science and Computation Structures (FoSSaCS 2017)*, Uppsala, Sweden, April 2017

Awards

- LICS Distinguished Paper Award   2023

Scholarships and Grants

- Grant-in-Aid for JSPS Fellows (DC2), Grant Number: 20J13473   FY2020–FY2021
- Research Internship Scholarship: The University of Tokyo Study and Visit Abroad Program   Summer 2015

Research Visits (Longer than a Week)

Carnegie Mellon University with Jeremy Avigad   Summer 2015

Worked on the Lean Theorem Prover

Teaching

- **Instructor** at The University of Tokyo   Apr. 2023–Sep. 2023
  Functional and Logic Programming Lab
- **Teaching Assistant** at The University of Tokyo   Apr. 2016–Sep. 2016, Apr. 2019–Sep. 2019
  Functional and Logic Programming Lab
- **Teaching Assistant** at The University of Tokyo   Oct. 2016–Mar. 2017, Oct. 2019–Mar.2020
  Processor and Compiler Lab (compiler part)

Professional service

PC member	PPL 2022 (Japanese domestic workshop)
Artifact evaluation committee	ICFP 2022, 2023

As an external reviewer, I reviewed papers submitted to LICS (2023), CONCUR (2018, 2022), ICALP (2018, 2021, 2023), FoSSaCS (2023), CSL (2023) and CMCS (2022). For jounrals, I have been a reviewer of LMCS.