

# Curriculum Vitae

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## Academic Degree

- ▷ **Bachelor of Engineering**: Department of Applied Physics, Waseda University, March 2017 (Supervisor: Mitsuharu Ôtani)
- ▷ **Master of Science**: Department of Pure and Applied Physics, Waseda University, March 2019 (Supervisor: Mitsuharu Ôtani)
- ▷ **Doctor of Science**: Department of Pure and Applied Physics, Waseda University, March 2022

Chief referee: Tohru Ozawa

Co-referees: Shigeaki Koike

Hideo Kozono

Kousuke Kuto

Vladimir Simeonov Gueorguiev

## Professional Position

- ▷ April 2020 – March 2022  
  JSPS Research Fellow: DC2
- ▷ April 2022 – March 2024  
  Lecturer (Department of Physics, School of Advanced Science and Engineering, Waseda University)
- ▷ April 2024 –  
  Postdoctoral Researcher (JSPS Research Fellow: PD), Tohoku University

## Research Interests

- ▷ Elliptic and parabolic equations
- ▷ Qualitative theory
- ▷ Nonlinear boundary conditions
- ▷ Nonlinear semigroups
- ▷ Dissipative wave equations

# Publication List

## Original papers

- [1] (with M. Ôtani; H. Sakamoto) On some parabolic systems arising from a nuclear reactor model with nonlinear boundary conditions, *Adv. Math. Sci. Appl.*, **27**, No.2 (2018), 193-224.
- [2] (with M. Ôtani) Bounds for global solutions of a reaction diffusion system with the Robin boundary conditions, *Differ. Equ. Appl.*, **11** (2019), no. 2, 227-242.
- [3] (with M. Ôtani) Bounds for global solutions of nonlinear heat equations with nonlinear boundary conditions, to appear in *Libertas Math. (N.S.)*.
- [4] (with M. Ôtani) On a comparison theorem for parabolic equations with nonlinear boundary conditions, *Adv. Nonlinear Anal.*, **11** (2022), no. 1, 1165-1181.
- [5] (with R. Kusaba) A remark on the blowing up of solutions to Nakao's problem, *J. Math. Anal. Appl.*, **513** (2022), no. 1, Paper No. 126199.

## Proceedings (without peer review)

- [1] 原子炉モデルに起因するある反応拡散系について, 第39回発展方程式若手セミナー報告集, 125-134, 2017 (in Japanese).
- [2] On some parabolic systems arising from a nuclear reactor model, *RIMS Kôkyûroku*, Kyoto University, **2090**, 42-59, 2018.
- [3] The uniform boundedness of global solutions for a reaction diffusion system, 第40回発展方程式若手セミナー報告集, 121-128, 2018 (in Japanese).
- [4] 非線形境界条件に支配される放物型方程式に対する比較定理とその応用について, *Hokkaido University technical report series in Mathematics*, **176**, 319-324, 2019 (in Japanese).
- [5] 非線形境界条件を伴う非線形熱方程式の大域解の有界性について, 第41回発展方程式若手セミナー報告集, 259-264, 2020 (in Japanese).

# Talk List

## International conference

- [1] On a weighted estimate for the solution to the damped wave equation in 3D, *Workshop on Nonlinear Hyperbolic PDEs. On the occasion of 60th birthday of Professor Yi Zhou*, Tohoku Univeristy, Nov. 2023.
- [2] On critical phenomena for Fujita type equation on a bounded domain characterized by boundary conditions, *Workshop on Nonlinear Partial Differential Equations China-Japan Joint Project for Young Mathematicians 2023*, Shanghai, Tongji Univeristy, Nov. 2023.

- [3] Weighted pointwise estimates for the damped wave equation in three dimensions, *International Workshop on “Fundamental Problems in Mathematical and Theoretical Physics”*, Waseda University, Jul. 2023.
- [4] On critical phenomena for nonlinear heat equations on bounded domains characterized by nonlinear boundary conditions, *The 13th AIMS Conference on Dynamical Systems, Differential Equations and Applications*, Wilmington, NC USA, Jun. 2023.
- [5] Comparison theorem for parabolic equations governed by nonlinear boundary conditions and its applications, *International Workshop on Multiphase Flows: Analysis, Modelling and Numerics*, via Zoom, Dec. 2020.
- [6] On some parabolic systems arising from a nuclear reactor model with nonlinear boundary conditions, *12th AIMS Conference Series on Dynamical Systems and Differential Equations*, Taipei, July 2018.
- [7] On some parabolic systems arising from a nuclear reactor model, *RIMS Workshop Theory of Evolution Equation and Mathematical Analysis of Nonlinear Phenomena*, Kyoto, Oct. 2017.

National conference (in Japanese)

- [1] On Nakao’s problem in three space dimensions, 東北大学応用数理解析セミナー, Tohoku University, Apr. 2024.

(other 35 talks)

## Award

▷ March 2017

Koizumi Prize (2016 master thesis award of Department of Pure and Applied Physics)