PERSONAL INFORMATION

Koki Otaki

✉ otaki@ccs.tsukuba.ac.jp

Sex Male | Nationality Japan

WORK EXPERIENCE

April 2024 – Present

Project researcher
Kagoshima University

April 2021 – March 2024

Research Fellowship for Young Scientists
Japan Society for the Promotion of Science

- Research on the project "Study of the formation of dark matter-deficient galaxies using high-performance computing".

April 2021 – March 2022

Learning Supporter
University of Tsukuba

- Learning support for students in the School of Comprehensive Studies at the University of Tsukuba

April 2020 – August 2020

Teaching Assistant
University of Tsukuba

- Assisting in teaching electromagnetics V in the Department of Physics at the University of Tsukuba.

EDUCATION AND TRAINING

April 2021 – March 2024

PhD in Science
Doctoral Program in Physics, University of Tsukuba
1-1-1, Tennodai, Tsukuba, Ibaraki, Japan

Thesis subject: "*Formation of Dwarf Galaxies Induced by Dark Matter Subhalo Collisions.*"

Supervisor: Prof. Masao Mori

April 2021 – March 2023

Master's Degree in Engineering (Dual Degree Program)
Master's Program in Computer Science, University of Tsukuba
1-1-1, Tennodai, Tsukuba, Ibaraki, Japan

Thesis subject: "*GPU Implementation and Performance Analysis of Hydrodynamic Code for Simulations of galaxy formation*"

Supervisor: Prof. Daisuke Takahashi

April 2019 – March 2021

Master's Degree in Science
Master's Program in Physics, University of Tsukuba
1-1-1, Tennodai, Tsukuba, Ibaraki, Japan

Thesis subject: "*Formation of Dark-Matter-Deficient Galaxies through Dark Matter Subhalo Collisions.*"

Supervisor: Prof. Masao Mori

April 2015 – March 2019

Bachelor's Degree in Science

College of Physics, School of Science and Engineering, University of Tsukuba
1-1-1, Tennodai, Tsukuba, Ibaraki, Japan

Thesis subject: "*Implementation of SPH method for Simulation of Galaxy Formation.*"

Supervisor: Prof. Masao Mori

April 2012 – March 2015 | **High School Diploma**

Tokyo Metropolitan Takehaya Senior High School
4-2-1, Koishikawa, Bunkyo, Tokyo, Japan

PERSONAL SKILLS

Mother tongue(s) | Japanese

Other language(s)

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
C1l	C1l	B2	B2	C1

English values shown above.

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

Digital skills

Programming languages:
  C, C++, Python, Fortran

High-Performance Computing:
  OpenMP (Open Multi-Processing), MPI (Message Passing Interface),
  OpenACC (Open Accelerators), CUDA (Compute Unified Device Architecture)

Typesetting System:
  LaTeX

Software:
  Microsoft Office Suite,

Driving licence | correspondent to A2 and B (Japanese license)

ADDITIONAL INFORMATION

Publications

(Refereed)
▪ "Frequency of the dark matter subhalo collisions and bifurcation sequence arising formation of dwarf galaxies"
  Koki Otaki, Masao Mori, Monthly Notices of the Royal Astronomical Society, 525, 2535 (2023)
▪ "The formation of dark-matter-deficient galaxies through galaxy collisions"
  Koki Otaki, Masao Mori, Journal of Physics: Conference Series, 2207, 012049 (2022)
▪ "Study of Galaxy Collisions and Thermodynamic Evolution of Gas Using the Exact Integration Scheme"
  Koki Otaki, Masao Mori, Lecture Notes in Computer Science, 13378 (2022)

(Non-refereed)
▪ "Collision-induced formation of dark-matter-deficient galaxies"
  Koki Otaki, Masao Mori, Proceedings of the International Astronomical Union, 17(S373), 147 (2023)