

Takuya INOUE

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EXPERIENCE

- 2020/9-present*** ***Academia Sinica Institute of Astronomy and Astrophysics (ASIAA),
Taipei, Taiwan***
Curricular Part-time Employee at ASIAA.
Supervisor: Teppei Okumura (Associate Research Fellow).
Secondary Supervisor: Wei-hao Wang (Research Fellow).
Research speciality: Cosmology, General Relativity.
- 2020/5-2020/8*** ***Uchu.Inc, Tokyo, Japan***
Internship.
Worked as a part of the Management of the events.
- 2020/3-2020/7*** ***Japan Public-Private Partnership Student Study Abroad Program-
TOBITATE! Young Ambassador, MEXT, Japan***
Internship(sub-contracting).
Worked as a part of the Management of the events.
- 2019/10*** ***International Space Education Board program (ISEB), Washington,
D.C., USA***
Participated in ISEB program and International Astronautical
Congress as a selected student sponsored by the Japan
Aerospace Exploration Agency (JAXA).
- 2019/1*** ***Space Exploration Mission Planning School at Kobe University, Japan***
Participated in Space Exploration Mission Planning School.
Sponsored by the Center for Planetary Science (CPS).
- 2018/5-2018/8*** ***Internship at Max-Planck-Institute for Astrophysics, Germany***
Research Internship for 4 months under Eiichiro KOMATSU (a
director of the Max-Planck-Institute for Astrophysics).

Research title: The effect of our local motion on the Sandage-Loeb test of the cosmic expansion.

2018/2-2018/4

Research project in Ecole Centrale de Lille, France

Related organization: Laboratory of Solid State Catalysis and Chemistry Unit

Research project under Professor Benjamin KATRYNIOK for 2 months.

Research title: Determination of thermodynamic parameters for esterification systems for carboxylic acids derived from the selective oxidation of glycerol.

2016/10-2018/2

Project in a team with our partner company, Ecole Centrale de Lille, France

Three semesters of experience in developing a 3D printer to bring multicolor printing to the world of 3D printers at low cost with a French enterprise called DAGOMA.

2016/9-2018/8

Japan Public-Private Partnership Student Study Abroad Program, Japan

Japanese government scholarship for 2 years.

2017/1-2017/2

Internship at a laboratory of hydrodynamics, Ecole Centrale de Lille, France

Research internship under Professor Patrick DUPONT for one month.

Research title: Three experiments about hydrodynamics (Measurement of flow through pump, Francis turbine and loss of charge in the pump).

EDUCATION

2020/9-present

P.h.D. in Physics, National Taiwan University, Taiwan

2018/4-2020/3

M.S. in Engineering, Doshisha University, Japan (GPA 3.8/4.5)

Heat transfer laboratory with Professor Kyoji INAOKA

Thesis: Three-Dimensional Numerical Analysis of Temperature

Difference Marangoni convection by Multiphase Flow
Calculation (Effect of Interface Shape Deformation).

2016/9-2018/8

Double Master's degree program with École Centrale de Lille (Major: General Engineering), France (GPA 3.19/4.00)

Studying abroad in Ecole Centrale de Lille for 2 years to obtain a double degree (both Ecole centrale de Lille and Doshisha University).

Ecole Centrale de Lille (ranked in the top 10 within the French Grandes-Ecoles system); I was a regular student who entered from the first year.

Main subjects: mechanical engineering, electrical circuits, electronic circuits, programming, management, sociology & economics. Focused on thermo-hydrodynamics through internship for the first year.

2014/4-2018/3

B.S. in Energy and Mechanical Engineering, Doshisha University, Japan (GPA 2.99/4.00)

Main subjects: hydrodynamics, thermodynamics, material mechanics, material science, mechanical mechanics & mechanical design.

2011/4-2014/3

Graduated from Seiryō High School, Hyogo, Japan

TEACHING EXPERIENCE

2019/4-present Teaching Assistant: Thermodynamics, Department of Mechanical Engineering, Graduate School of Science and Engineering, Doshisha University, Japan

- Planned and prepared teaching aids, such as worksheets and exercises.
- Tutored students with exercises to develop their understanding.
- Distributed tests, monitored testing.
- Checked submission of homework.

2014/8-2016/3 Tutor at a supplementary class (Physics, Mathematics, Chemistry), Japan

Tutored various students from elementary school to high school level in various subjects.

PUBLICATION

Journal publication

- T. Inoue, E. Komatsu, W. Aoki, T. Chiba, T. Misawa and T. Usuda, “The effect of our local motion on the Sandage-Loeb test of the cosmic expansion”, *Publications of the Astronomical Society of Japan*, Volume 72, Issue 1, January 2020.

e-print: [arXiv:1911.01467](https://arxiv.org/abs/1911.01467)

RESEARCH PRESENTATIONS

International Conferences

- T. Inoue, “The Space Education in the International Space Education Board program”, The 3rd International Moon Village Symposium and Outreach Event in Kyoto, ‘Space Education and Outreach Activities’, Maskawa Building for Education and Research, Yoshida North Campus, Kyoto University, December 2019 (delivered in English).
- T. Inoue, E. Komatsu, W. Aoki, T. Chiba, T. Misawa and T. Usuda, “The effect of our local motion on the Sandage-Loeb test of the cosmic expansion”, International Space Education Board program (ISEB), Washington, D.C., USA, October 2019 (delivered in English).

Domestic Symposia

- T. Inoue, E. Komatsu, W. Aoki, T. Chiba, T. Misawa and T. Usuda, “The effect of our local motion on the Sandage-Loeb test of the cosmic expansion”, Quantum Electronics workshop - Cosmic quantum electronics, The University of Tokyo, November 2019 (delivered in Japanese).
- T. Inoue, “Numerical analysis of transition mechanism and stability of Marangoni convection in a small liquid bridge”, Physics workshop, Osaka City University, July 2019 (delivered in Japanese).
- T. Inoue, E. Komatsu, W. Aoki, T. Chiba, T. Misawa and T. Usuda, “The effect of our local motion on the Sandage-Loeb test of the cosmic expansion”, New Academic Area Symposium 'Why does the Universe accelerate? - Exhaustive study and challenge for the future', Yukawa Institute for Theoretical Physics, Kyoto University, March 2019 (delivered in English).

AWARD

Scholarship

- MOST Regulations Governing Scholarship for Outstanding Doctoral Graduate Students (National Taiwan University scholarship award)
Provided a monthly stipend of TWD 40,000 for a maximum of 4 academic years.

SKILLS

<i>Languages</i>	Japanese (Native), English (Upper Intermediate), French (Intermediate)
<i>Certification</i>	Driver's License, Japan
<i>Computer Skills</i>	OS: Mac, Windows, Linux. MS: Word, Excel, PowerPoint
<i>Programming</i>	Python, C++(OpenFOAM), LATEX, HTML
<i>Sports</i>	Judo (Black belt), Running (Finished Half Marathon)