

September 8, 2023

### Recruitment for Assistant Professor Position

Institute of Fluid Science (IFS), Tohoku University invites applications for an Assistant Professor position. Preference will be given to highly motivated candidates, with an outstanding academic background.

Kaoru Maruta  
Director  
Institute of Fluid Science, Tohoku University

#### 1. Division, Laboratory, Number of Positions and Job Title

Division	Laboratory	Number of Positions and Job Title
Global Collaborative Research and Education Center for Integrated Flow Science	Green Nanotechnology Laboratory	One position open for Assistant Professor

#### 2. Job Description

We promote education, research, and international industry-academia-government collaboration on innovative green nanotechnology that contributes to the realization of an ultra-smart sustainable society through secure and low-cost energy and efficient energy use.

#### 3. Required Qualifications and Conditions

Candidates must have a doctoral degree upon arrival at the post and a distinguished achievement in the above-mentioned specialized field.

#### 4. Starting Date

January 1, 2024

(Term: Eight years. Renewal of contract will be permitted for another 2 years at most.)

#### 5. Application Deadline

Application documents must arrive by Wednesday, October 25, 2023, at 17:00 (JST).

## 6. Requested Documents

### I. Curriculum Vitae

Please be sure to include your current postal address and e-mail address.

### II. List of research accomplishments\*

- 1: Peer-reviewed journal papers (Specify the latest impact factor of the journals, as much as possible.)
- 2: Review papers (same as above)
- 3: Peer-reviewed full-length proceedings
- 4: Books, chapters
- 5: Invited lectures (international and domestic conferences) (only the lectures presented by the applicant)
- 6: Presentations at international conferences other than invited lectures (Indicate the presenter.)
- 7: Experience in organizing international/domestic conferences
- 8: Patent applications/registrations
- 9: Background in international/domestic research collaboration, and achievements of overseas research activities
- 10: Awards received
- 11: Competitive research funding obtained
- 12: Other outstanding achievements

\* All the above documents should be prepared on separate pages. All the names of co-authors for No. 1-No. 6 in II above and all the names of joint inventors for No. 8 in II above should be specified, and the name of the applicant underlined. Also, the roles of the applicant for No.1-No. 8 in II above should be mentioned. The number of citations for No.1-No. 6 in II above should be written and the source of the number of citations should be indicated.

III. Offprints of 5 papers of research achievements from No.1-No. 4 in II above. (Electronic files are acceptable.)

IV. Outline of your research achievements selected in III above (should be around 300 words each).

V. Statement describing the applicant's future research and education plan at IFS. (Please include past educational or other experiences in subjects related to mechanical engineering and describe them in concrete terms.)

VI. Contact information of reference(s): name, name of institution, position title, postal address, telephone number and email address. (about 3 people.)

All documents should be prepared in A4 format in separate PDF files. Please put all the files into suitable media (CD-R, SD memory card, USB flash memory, etc.) and send it by registered mail. Please write “Application Documents for Assistant Professor of Spacecraft Thermal and Fluids Systems Laboratory” in red on the envelope.

Submission by a secure web transfer service and e-mail is also acceptable. Please write “Application Documents for Assistant Professor of Spacecraft Thermal and Fluids Systems Laboratory” in the subject line of the e-mail. An acknowledgment of receipt of the application will be sent to the applicant. If you do not receive it, please contact us.

During the screening process, we may ask you to submit some additional documents. Application documents are not returnable.

If an interview is required, an online interview is possible.

## 7. Contact

Director Kaoru Maruta

Institute of Fluid Science, Tohoku University

2-1-1, Katahira, Aoba-ku, Sendai, 980-8577, Japan

Phone: +81-22-217-5300, Fax:+81-22-217-5311

E-mail: director [at] ifs.tohoku.ac.jp (replace [at] with @)

For more information on the Institute of Fluid Science, please visit:

<http://www.ifs.tohoku.ac.jp/>

## References

Global Collaborative Research and Education Center for Integrated Flow Science, IFS-GCORE, promotes research activities to be applied for various developments such as innovative semiconductor devices and fuel ammonia, based on integrated flow science. For the purpose, we promote collaborative research and education, utilizing the network with overseas bases in France, Taiwan, Saudi Arabia and United States. Also, as cooperative courses of the Mechanical Engineering course of the Graduate School of Engineering, Department of Mechanical and Aerospace Engineering of the School of Engineering at Tohoku University, faculty members are in charge of lectures related to mechanical engineering.

Through this recruitment, we are planning to promote the following research.

Division (Laboratory)	Research Contents
Global Collaborative Research and Education Center for Integrated Flow Science, IFS-GCORE* (Green Nanotechnology Laboratory)	<p>We will promote education and research on innovative green nanotechnology that contributes to the realization of an ultra-smart sustainable society through the secure and low-cost energy supply and efficient use of energy, as well as international industry-academia-government collaboration based on the Tohoku University-Taiwan National Yang-Ming Chiao Tung University Joint Laboratory.</p> <ol style="list-style-type: none"> <li>1. Research on high-speed and optical device systems with ultra-low power consumption</li> <li>2. Research on high-efficiency energy (power generation, storage, power saving) device systems</li> <li>3. Research on surface physical-chemical control using nanostructures and novel nanomaterials and nanodevices</li> <li>4. Research on the integration of biotechnology and nanotechnology and their application to nanodevices</li> <li>5. Research on material processing processes using plasma beams and green technology using plasma</li> </ol>

\* Global Collaborative Research and Education Center for Integrated Flow Science consists of twelve laboratories: Green Nanotechnology Laboratory, High Speed Reacting Flow Laboratory, Energy Resources Geomechanics Laboratory, Energy Dynamics Laboratory, Multiphase Flow Energy Laboratory, Multi-Physics Design Laboratory, Mechanical Systems Evaluation Laboratory, Advanced Materials and Fluid Design Laboratory, Flow Dynamics (Concurrent) Laboratory, Novel Battery Nanoscale Flow (Concurrent) Laboratory, Integrated Flow Science and Technology (Visiting) Laboratory, Advanced Integrated Flow Science (Visiting) Laboratory.

## Diversity, Equity and Inclusion (DEI)

- Tohoku University promotes activities to increase Diversity, Equity and Inclusion (DEI) and encourages people of varied talents from all backgrounds to apply for positions at the university.

Tohoku University's website about the DEI Declaration is here:  
<http://tumug.tohoku.ac.jp/dei/>

- Pursuant to Article 8 of the Act on Securing, Etc. of Equal Opportunity and Treatment between Men and Women in Employment, Tohoku University shall, as a measure for increasing the presence of women among the academic staff, prioritize the hiring of women deemed qualified for each job opening, based on impartial evaluation.
- Tohoku University has published 'Tohoku University - Live as Who You Are - Guidelines for Gender and Sexual Diversity' to provide explanations and details of how those at the university should respond with respect to diverse sexuality. The purpose of the guidelines is to create an environment in which all students, faculty, and staff respect diverse sexuality in their academic, research, and professional activities.

Please see the Center for Diversity, Equity, and Inclusion, Tohoku University website:

[http://tumug.tohoku.ac.jp/tu\\_guideline\\_rev2-2/](http://tumug.tohoku.ac.jp/tu_guideline_rev2-2/)

- Tohoku University has the largest on-campus childcare system of all Japanese national universities. This network comprises three nurseries: Kawauchi Keyaki Nursery school (capacity: 22) and Aobayama Midori Nursery school (116), both open to all university employees, as well as Hoshinoko Nursery school (120), which is open to employees working at Tohoku University Hospital. In addition, Tohoku University Hospital runs a childcare room for mildly ill and convalescent children which is available to all university employees.
- See the following website for information on these and other programs that Tohoku University runs to assist work-life balance, to support researchers, and to advance gender equality, including measures to promote childcare leave among male employees.

Center for Diversity, Equity, and Inclusion, Tohoku University website:

<http://www.tumug.tohoku.ac.jp/>

Human Resources and Planning Department website:

<https://c.bureau.tohoku.ac.jp/jinji-top/external/a-4-kosodate/>

#### Notice

This recruitment is an English translation of the Japanese version. The content of the recruitment is based on the Japanese version.