

Application Guideline for academic staff position
at the Institute of Space and Astronautical Science, JAXA

1.	Position	Professor (Academic Staff)
2.	Number of Positions	One
3.	Affiliation	Department of Space Flight Systems, Institute of Space and Astronautical Science (ISAS)
4.	Work Location	JAXA Sagamihara Campus (3-1-1 Yoshinodai, Chuo-ku, Sagamihara, Kanagawa, JAPAN)
5.	Starting Date	September, 1st, 2022 or the earliest possible date thereafter
6.	Term of Employment	Non fixed term
7.	Term of Probationary	First 6 months from the date of hire
8.	Job	academic research on space flight systems including return pass investigation for future reusable launch vehicles
9.	Job Details and Responsibilities	<p>ISAS/JAXA is conducting research on space transportation systems aiming to secure more flexible access to space and mobility as part of advanced space science research and is also operating the sounding rocket which is constructed by the achievements of the space transportation system studies. Department of Space Flight Systems is promoting research on new space transportation systems while capturing the needs of the space science community such as science observation and space exploration. As a new space transportation system, research on advanced technologies related to high efficiency and reuse of rockets is attracting attention both in Japan and worldwide. ISAS has also carried out research and development of space transportation systems represented by the reusable rocket vehicle RVT. In response to the results, ISAS also deeply engages in development of the RV-X test vehicle promoted across directorates in JAXA. Furthermore, system studies on sounding rockets actively utilizing the atmosphere are proceeding with in recent years.</p> <p>The reusable rocket is certainly characterized by the return flight phase compared to the conventional expendable rocket. After accelerating the upper stage or payload to the specified altitude and velocity, the rocket to be reused will be decelerated and descend, then safely returns to the ground. Promotion of advanced research on the efficiency in return flight phase is required for future reusable rocket. Although the reuse of some rocket systems has already been realized, launch capability is reduced due to the need to consume a large amount of propellant during their return flight phase. To realize a</p>

future reusable rocket, it is required to promote research on advanced technologies, including actively utilizing the aerodynamic force during return flight. In order to utilize the aerodynamics efficiently, it is necessary to understand the phenomenon of the sloshing of the liquid propellant in the tank, including the large-scale behavior with the crushing of the liquid surface and the phase change between liquid and gas. In addition, it is also necessary to clarify the mechanism of unsteady flow with separation and vortices around slender bodies at a high angle of attack.

For this position, we are seeking a candidate who will carry out basic research on reusable space transport systems, especially focusing on aerodynamics and system design in the return flight phase, and will lead empirical research in cooperation with researchers and engineers in the community including other directorates in JAXA, as well as engineers in the industrial field. In addition, the candidate is expected to participate in the space transportation project that ISAS will carry out in the future and actively contribute it.

Responsibilities include (but are not limited to):

- Perform research on reusable transportation systems, mainly in the return flight phase, with flight demonstration opportunities including JAXA cross-sectional activities in mind.
- Engaging in development research on transportation systems that ISAS is organizationally studying.

Furthermore, we are looking for a highly motivated candidate who can carry out his/her academic research in a project-oriented style, in collaboration with university researchers under the inter-university framework. Active participation to various JAXA projects and R&Ds to demonstrate his/her academic expertise is also expected. Human resource development for future space development and utilization is anticipated as natural outcome of the above-mentioned activities. We also hope for human resource who can promote joint research in collaboration with related companies as needed.

To fulfill these duties, the successful candidate of the Professor needs to satisfy, at minimum, the following conditions.

		<ul style="list-style-type: none"> ● Have research and practical experience in advanced aerodynamic technology in the return flight phase of the reusable transportation system, and having achievements that are highly evaluated both in Japan and worldwide ● Have the willingness to promote research on reusable transportation systems in cooperation with other universities, companies, and other directorates of JAXA, and to lead the entire space transportation system field of ISAS. ● Provide leadership in system design, development and operation of various space transportation projects and activities including sounding rockets, and to actively engage in the activities required for project execution regardless of the specialized field. ● Be capable of teaching and directing graduate students.
10.	Conditions	<p>(1) Salary Salary will be determined under the provision of JAXA wage rules and regulations, considering qualifications and experience.</p> <p>(2) Working Hours In principle, The Discretionary Labor System for Professional Work shall be applied. Working hours are basically from 9:30-17:45. The break time shall be 45 minutes if the working hours per day exceed 6 hours, and 1 hour if the working hours exceed 8 hours. Regardless of the above, those who apply The Discretionary Labor System for Professional Work shall have a deemed working time of 7 hours and 30 minutes per day. Overtime work may be required depending on the work situation.</p> <p>(3) Holidays Saturdays and Sundays, National Holidays, New Year Holidays (December 29th - January 3rd), others when JAXA deems it necessary, etc.</p> <p>(4) Vacation Annual vacation, WLB (Work Life Balance) annual leave, celebration or condolence leave, maternity leave, child-care leave, care leave, nursing leave, etc.</p> <p>(5) Retirement age Retirement age is 63.</p> <p>(6) Lodgings</p>

		<p>Lodgings suitable for a family or a single occupant may be provided under the provision of JAXA in consideration of the nature of the work. (Lodging term is limited to 7 years.) Alternatively, an allowance for lodging shall be paid.</p> <p>(7) Social insurance</p> <p>Social insurances (health insurance, pension plan, etc.) will be provided in full.</p>
11.	Research Funding	<p>Research funding is determined according to the budget situation of each year.</p> <p>*FY2021: Professor; ¥800,000, Associate professor; ¥800,000, Assistant professor; ¥400,000</p>
12.	Required Qualifications	PhD degree in Engineering
13.	Application Documents	<p>(1) Curriculum vitae</p> <p>(2) Research career</p> <p>(3) Summary of previous research and Outline of future research plan (Including contribution to projects and ambitions for educational activities)</p> <p>(4) List of published papers (with impact factors or citation number)</p> <p>(5) List of awarded research funds through competition (type of funds, amount, principal investigator, or co-investigator)</p> <p>(6) Contact information of two references (names, affiliation, telephone numbers, and e-mail addresses for a direct inquiry from JAXA). If you are recommended by others, please provide two letters of reference.</p> <p>(7) Photocopies of major research papers (up to 5) published in peer-reviewed or refereed academic journals</p> <p>*If you are a resident of the European Economic Area (the EU zone), you are required to submit the following document as well.</p> <p>(8) Consent form for handling personal information based on GDPR (Form NO.1)</p> <p>Download the form from the website listed in “14. Submission”</p>
14.	Submission	<p>Applicants are required to apply via the following website. Please access the application form at the following URL:</p> <p>https://isas-appli-form.jaxa.jp/forms1/1643076601</p> <p>(Notes)</p> <ol style="list-style-type: none"> All the files shall be in pdf format. Note that documents (2) to (5) should be merged into one pdf file.

		<p>3. If the applicant is recommended by others, we will request referee(s) to directly upload their letters of reference to the website. (This request will be automatically sent to the email addresses of referee(s) specified by the applicant. If the applicant is recommended by oneself, this request will not be automatically sent.)</p> <p>4. Application delivered in person or by mail shall not be accepted.</p>
15.	Application Deadline	<p>April, 4th, 2022, noon (JST)</p> <p>This deadline is for inputting the website and submitting all application documents (including reference letters by the referees if you are recommended by others).</p>
16.	Screening	<p>Screening will be conducted by the Advisory Council for Research* and Management of ISAS, JAXA.</p> <p>The council will conduct a document screening, and interview those who have passed the document screening. This process is subject to change.</p> <p>*https://www.isas.jaxa.jp/en/about/organization/committee.html</p>
17.	Contact Information	<p>Director of Department of Space Flight Systems Prof. Shujiro Sawai Email: sawai.shujiro[at]jaxa.jp *</p> <p>For inquiries regarding Application Submission in Section 14: Management and Integration Department Human Resources Section E-mail: ISAS-JINJI [at]ml.jaxa.jp *</p> <p>*Please replace [at] in the email address with @.</p>
18.	Name of Recruiter	Japan Aerospace Exploration Agency (JAXA)
19.	Others	<p>(1) Information submitted in your application documents will not be used for any purpose other than the selection process and for contacting you with necessary notices in connection with the selection. Once the selection process is complete, we will securely dispose of all application documents and personal information, except for those submitted by the successful candidate.</p> <p>(2) Please also check the notes on JAXA HP* before applying.</p> <p>* https://global.jaxa.jp/about/employ/index.html</p>