

Job number: Kizu21045

**Recruitment for Postdoctoral Fellow
(Fixed-term researcher)
- Quantum Life and Medical Science Directorate,
Institute for Quantum Life Science -**

National Institutes for Quantum
Science and Technology (QST)

1. Number of position

1 person

2. Research Field / Theme : Study on the development of antibody via the molecular dynamics simulation

A postdoctoral position for the following topic is available in Molecular Modeling and Simulation Group. We are looking for a person who can work on developing antibodies (or antibody-like small molecules) with a good affinity, stability and productivity, via the molecular modeling, molecular dynamics simulations and sequence analyses. Specifically, the researcher will modify the amino acid sequence of the antibody (or antibody-like molecules) to improve the affinity to the target molecule, to stabilize the antibody, or to improve the productivity to it. In this position the researcher works by modeling the structure of the antibody, by performing molecular simulations, with a collaboration to the experimental biology groups and machine learning groups in this project. Works may include (1) molecular simulations, (2) simulation methodology development, and (3) modeling antibody (antibody-like) molecular structure; works assigned to the researcher are determined from her/his preference, background, and capability. The applicant may not be required to have an experience in the modeling or the molecular simulation work, but is expected to learn the new technology during the the work in this position. Applicants from e.g. computer science and experimental biology are also welcome.

These studies are conducted under the following project: Development of internationally competitive next-generation antibody drug production technology (国際競争力のある次世代抗体医薬品製造技術開発; https://www.amed.go.jp/koubo/11/01/1101C_00005.html), Japan Agency for Medical Research and Development.

3. Division Assigned to

Molecular Modeling and Simulation Group, Institute for Quantum Life Science (in Kansai Photon Science Institute), Quantum Life and Medical Science Directorate, National Institutes for Quantum Science and Technology

4. Place of employment

Kizu site (8-1-7 Umemidai Kizugawa-City Kyoto 619-0215, Japan)

5. Qualifications

Applicants should satisfy all the following conditions.

(1) Willing to pursue the research subjects set up by QST.

(2) Having a PhD obtained within the past eight years as of the date of employment.

*Foreign national researchers will also be qualified as candidates if they have, at the time of employment, a foreign license that is recognized by the Organization as equivalent to the one for a Japanese doctor, medical radiologist or medical physicist and was received, within the past eight years, and also if they are deemed to have the equivalent abilities as a PhD recipient. Those who have taken maternity leave before or after childbirth as defined in the Labor Standards Law, childcare leave as defined in the Child Care and Family Care Leave Law, or family care leave, are also eligible if the degree has been taken within eight years plus the period of the leave, as of the date of employment.

(3) No history of employment as a postdoctoral researcher in QST.

Applicants having experiences in any of the following fields are welcome (but they are not limited to.)

* Biomolecular simulations and/or modeling

* Free-energy calculations and its theory, including solution theory

* Wet experiments in the protein expression and purification

* Supercomputing

6. Working conditions

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|---------------------------|---|
| (1) Salary | Determined from the following categories based on research performance and experience: about 370,000 / 400,000 / 450,000 yen / month inclusive of social insurance premium and tax. |
| (2) Allowance | Commuting allowance, housing allowance, allowance for late night work, allowance for night work, etc. |
| (3) Holidays | Weekend (Saturday and Sunday), national holidays, new-year holidays, paid holidays, etc. |
| (4) Working Hours | Discretionary labor system |
| (5) Insurance | Health insurance, welfare pension insurance, science and technology corporate pension fund, employment insurance, workers compensation insurance |
| (6) Dormitory | Family / single person housing (You can move in only if there are vacancies) |
| (7) Relocation travel fee | The employee who relocated upon the employment will be paid the relocation travel fee (amount of the fee will be decided based on the QST travel fee regulations) |

7. Application documents

- (1) Curriculum Vitae (please download from QST website.)
 - (2) List of achievements (original works, review articles, and conference presentations in free-format in order from the latest)
 - (3) Outline of key achievements (free-format, up to two A4 pages)
 - (4) Description of perspective on the future research (free-format, up to two A4 pages)
 - (5) Reprints of up to five important scientific papers authored by the applicant
 - (6) Certificate of PhD
 - (7) Consent form for providing QST with personal data in accordance with GDPR regulations (only applicable to applicants residing in the EEA; European economic area, which includes all EU countries, Iceland, Liechtenstein, and Norway). <https://www.qst.go.jp/soshiki/8/24962.html>
- *A4 size, single-sided printing only.
- *Incomplete applications may not be accepted.
- *Do not fold application documents.

8. Application submission

Electronic application

Submit application materials in PDF format to

kizu_jinji=qst.go.jp (replace = with @)

*Please write email with the title "Application documents for Postdoctoral Fellow (Kizu21045)".

*If you do not receive an acknowledgement of your email, please send another email to ensure that QST has successfully received application materials.

*If total attachment file size exceeds 14 MB, please send files with separate email.

9. Deadline for the application

We will close the recruitment when the position is filled.

10. Examination

(1) Documentary examination

Applicants will be screened by the document submitted. The result of the documentary examination will be notified to each applicant by email.

(2) Evaluation of research achievements (oral presentation using power-point slide and Q&A).

(3) Interview

*Travel expenses for employment exams will not be provided by QST.

*Examination (2) and (3) may be carried out on the same day.

The date of (2) and (3) will be notified to the applicant after the application passed the documentary examination.

*Results will be notified by email or letter.

11. Place for the oral presentation and the interview

Kansai Photon Science Institute
National Institutes for Quantum Science and Technology
8-1-7 Umemidai Kizugawa-City Kyoto 619-0215, Japan

Note: examination may be held online.

12. Contract period

The contract period starts at the employment date and ends at the first March 31st after the employment date (i.e., the contract is renewed every Japanese fiscal year). The contract may be renewed up to 3 years after the employment date. Upon the renewal of the contract, the employee's performance on jobs will be considered. If the applicant has already been a fixed-term employee of QST, he/she can only renew the contract such that the total contract duration does not exceed 5 years. The employment date must be the 1st of a month.

13. Inquires

(1) About application: Ms. Makiko Inaba
General Affairs Section, Department of Administrative Service,
Kansai Photon Science Institute,
National Institutes for Quantum Science and Technology,
8-1-7 Umemidai Kizugawa-City Kyoto 619-0215, Japan
Tel: +81-774-71-3100
E-mail:kizu_jinji = qst.go.jp (Replace "=" with "@")

(2) About research theme: Dr. Shun Sakuraba
Molecular Modeling and Simulation Group,
Institute for Quantum Life Science,
National Institutes for Quantum Science and Technology
8-1-7 Umemidai Kizugawa-City Kyoto
619-0215, Japan
Tel: +81-774-71-3342
Fax: +81-774-71-3460
e-mail: sakuraba.shun=qst.go.jp (Replace "=" with "@")

14. Points to note

- (1) Foreign nationals are required to obtain a necessary visa status to work in Japan by the date of employment.
- (2) QST will use personal information only for the screening process. It will also be used for employment management for those employed. The information of the rejected applicants will be disposed soon after the screening process.

15. Others

The Article 15-2(1)(i) of Act on Improving the Capacity, and the Efficient Promotion of Research and Development through Promotion of Research and Development System Reform is applicable to those hired for this position, as well as the Article 18 of Labor Contracts Act.

Those hired for this position under 40 (as of April 1, 2021) may invest, if QST approves, 20 % of their "Effort" (i.e., working time) into their own research, and/or their research skill and management skill development, under the Policy on Voluntary Research Activities, etc. of Young Researchers Employed to Implement Projects with Competitive Research Funds (競争的研究費においてプロジェクトの実施のために雇用される若手研究者の自発的な研究活動等に関する実施方針).

The working place may change to Inage district of QST (Chiba city, Chiba, Japan) after 2022 April due to the relocation of the Institute for Quantum Life Science.