

Postdoc application

English Ver.

Motoko Fujiwara (Technical University of Munich)





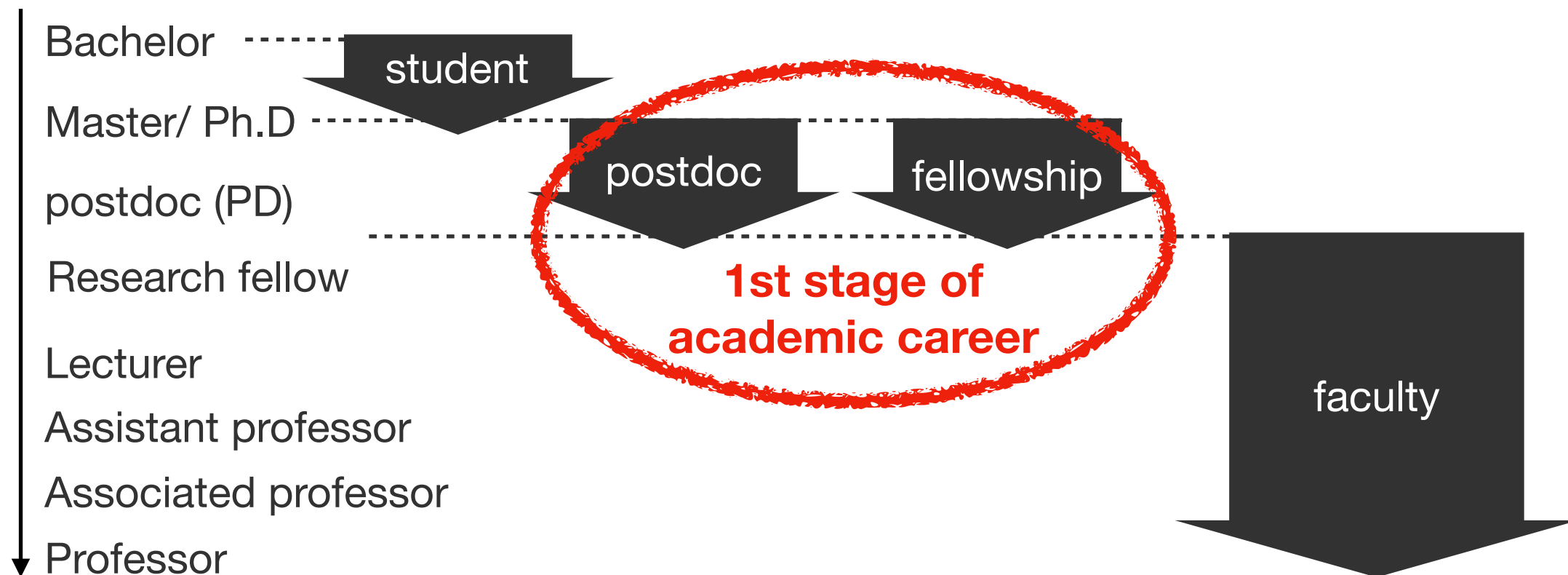
First Stage of Academic Career



How to work as researcher ?

Global picture

(※ fine structure/name of position depends on each countries)



Principal Investigator (PI):

Persons who are responsible for their group

Role: organise their group (including students & postdocs), publish papers, earn research grants

Tenure

The position guaranteed by their retirement (Retirement age exists for some countries)

Tenure track position → The contract w/ possibility to be promoted for tenure position

Postdoc vs Fellowship (1/3)

Hired as a Postdoc = Work to complete project w/ your boss

- Application form → **Current achievement** & Future plan
Evaluation items?:
 - Which kinds of project you can conduct w/ group members?
 - Whether you can have sufficient abilities to complete projects
- Work in the research group of your boss
Basically, you will work for your collaboration w/ your boss
It sounds passive but it will be great chance to work with world-leading researcher!
※ Whether you can collaborate w/ other researchers around you highly depends on each place
It should be better to check the condition before you accept your offer
- Important factor: Compatibility of your boss, atmosphere in the group, etc
 - Personality/Philosophy/Approach of your boss?
 - Structure of group members? Ratio of students/postdocs? International?
- Reality there is difficult to see from outer side (especially for oversea institution)
If you know local people there, please do not hesitate to contact them!

Postdoc vs Fellowship (2/3)

Get a Fellowship = Get grant for your own research work

- Application form → **Current achievement & Future plan**
Evaluation items?:
 - Whether your plan is valuable enough to assign specific grant
 - Whether your plan is plausible/realistic judging from your current achievement
- You can focus on your research projects if you are selected as a research fellow
- e.g. of research fellowship
 - Pappalardo Fellowship [<https://physics.mit.edu/research/pappalardo-fellowships-in-physics/>]
 - Marie Curie Fellowship [<https://ec.europa.eu/research/mariecurieactions/actions/postdoctoral-fellowships>]
 - Humboldt Fellowship [<https://www.humboldt-foundation.de/en/apply/sponsorship-programmes/humboldt-research-fellowship>]
- Please check detailed information for each fellowship
e.g. How to apply / Way to contact host institute / Qualification for applicants
- Caution: Deadlines tend to be earlier compared to postdoc positions
in university/institute!

Postdoc vs Fellowship (3/3)

Pros. & Cons.?

- Case by case!
Make use of opportunities depending on your situation
- Pros. for postdoc:
Direct employment by your boss → deep relationship w/ local members
- Pons. for fellowship:
You can earn your salary by yourselves
You can directly sell your expertise wherever you want
- Conclusions: **Please try every chance you have!**
Whether selected or not should be next step
- If you have various options, you may negotiate your working conditions
e.g. Extension of period, salary, starting date of contract, etc
- Please consider wide possibilities & try any chance in front of you

In this talk, we focus on university/institute postdoc (→ next page)



Postdoc application



How to find information

- **Academic Jobs Online (AJO)**

[<https://academicjobsonline.org/ajo>]

The biggest Web-portal-site in academia

Many opening positions are listed

Keyword-search is available

(eg. High energy physics, Particle physics, ...)

Collecting AJO link is convenient

because submissions are often via AJO

AcademicJobsOnline.org Portfolio | Jobs Search Status | Help | Logout

Search the job listings

If we put a broad keyword, then you may find $O(100)$ position
Perform full-search (time consuming...), or focus on specific areas

Position ID / Title & Description

Fulltext Search: particle physics

Disciplines: Select One

Position Types: Postdoctoral

Employer Name

Country / State: Any Country Any State

Posted during: any this week this month last month

For me: any unread new since last read read
any marked not interested neither either not my notes:

Sort by: alphabetical deadline posting time last update last read

Limit: all 20 50 100

Submit Reset

- **Inspire** [<https://inspirehep.net/>]

Database for opening positions

(not only for papers!)

You should check both **AJO + inspire**

Note: There are opening positions only listed in inspire, vice versa

IRE! Learn more. Take the survey

jobs Literature Authors Jobs Seminars Conferences More...

Select Job Filters: astro-ph hep-ph PostDoc Europe

22 results Most Recent

Postdoctoral Research Associate (E)
hep-ph PostDoc
Deadline on Jan 28, 2022

Postdoctoral Fellow (U. Southampton (main) - Europe)
hep-ph hep-th PostDoc
Deadline on Jan 31, 2022 Posted 10 days ago

Postdoctoral position to work on the LHCb upgrade (Syracuse U. (main) - Europe, North America)
hep-ex hep-ph Experiments: CERN-LHC-LHcb - PostDoc

Choosing these table, you can filter conditions (e.g. Research field, Position, Area, etc)

- **Mailing lists**

For each area, there may exist mailing list to share/advertise available positions

e.g. EuCAPT mailing list

Necessary documents

Usual quintuplet (specified for each application)

- Curriculum Vitae
- Publication List
- Research Statement
- Cover Letter
- Recommendation Letters (ask reference writers allowing plenty of time!!!)

Formats are free in most of the case

How to apply → depending on each application

- Submit application forms via Academic Jobs Online
- Send a mail
- via Web system (Many institutes tend to have their own Web system)

mentioned later in more details

Curriculum Vitae (CV)

CV in academic career

- Personal information
- Education history
- Research history
- Research interests
- Research grants
- Teaching history
- Presentation history
- Awards
- Outreach
- Contact information for your reference writers (name/mail address)

etc

December 24, 2021

Curriculum Vitae

Motoko Fujiwara

*Department of Physics, Nagoya University,
Furo-cho Chikusa-ku, Nagoya, 464-8602 Japan*

Personal Data

First name : Motoko (素子)
Last name : Fujiwara (藤原)
Phone : +81(0)52-789-2450
E-mail : motoko@eken.phys.nagoya-u.ac.jp
Nationality : Japan
Citizenship : Japan
Sex : Female
Birth : Ibaraki, Japan, October 4, 1994
Homepage : <http://www.eken.phys.nagoya-u.ac.jp/~motoko/>

Education

Mar. 2022 : Ph.D. in Theoretical Physics (Advisor: Prof. Junji Hisano)
(expected) : Dissertation “Electroweakly Interacting Spin-1 Dark Matter and Its Phenomenology”
: E-lab, Nagoya University, Japan

Mar. 2019 : Master of Science in Theoretical Physics (Advisor: Prof. Junji Hisano)
: Master Thesis “Direct detection of a pseudoscalar mediator dark matter model”
: E-lab, Nagoya University, Japan

Mar. 2017 : Bachelor of Science in Theoretical Physics (Advisor: Prof. Tetsutaro Higaki)
: Bachelor's Degree Thesis “Magnetic Monopole in SU(5) Grand Unified Theory”
: Keio University, Japan

Fellowships

Apr. 2020 – Mar. 2022 : Research Fellow of Japan Society for the Promotion of Science (JSPS)
: Nagoya University, Japan

Oct. 2019 – Mar. 2020 : Research Assistant
: Nagoya University, Japan

Publication List (1/2)

Academic Publication History

- List all of your published papers
- If possible, w/ Publication Record!
- But it is worth listing preprints as well (w/ specifying status: e.g. submitted in XXX)

November 19, 2021

Publication List

Motoko Fujiwara

*Department of Physics, Nagoya University,
Furo-cho Chikusa-ku, Nagoya, 464-8602 Japan*

Publications with peer review process

- [1] T. Abe, **M. Fujiwara**, J. Hisano and K. Matsushita, “Gamma-ray line from electroweakly interacting non-abelian spin-1 dark matter,” *JHEP* **10**, 163 (2021) [arXiv:2107.10029 [hep-ph]].
- [2] **M. Fujiwara**, J. Hisano and T. Toma, “Vanishing or non-vanishing rainbow? Reduction formulas of electric dipole moment,” *JHEP* **10**, 237 (2021) [arXiv:2106.03384 [hep-ph]].
- [3] **M. Fujiwara**, J. Hisano, C. Kanai and T. Toma, “Electric dipole moments in the extended scotogenic models,” *JHEP* **04**, 114 (2021) [arXiv:2012.14585 [hep-ph]].
- [4] T. Abe, **M. Fujiwara**, J. Hisano and K. Matsushita, “A model of electroweakly interacting non-abelian vector dark matter,” *JHEP* **07**, 136 (2020) [arXiv:2004.00884 [hep-ph]].
- [5] T. Abe, **M. Fujiwara**, J. Hisano and Y. Shoji, “Maximum value of the spin-independent cross section in the 2HDM+a,” *JHEP* **01**, 114 (2020) [arXiv:1910.09771 [hep-ph]].
- [6] T. Abe, **M. Fujiwara** *et al.* [LHC Dark Matter Working Group], “LHC Dark Matter Working Group: Next-generation spin-0 dark matter models,” *Phys. Dark Univ.* **27**, 100351 (2020) [arXiv:1810.09420 [hep-ex]].
- [7] T. Abe, **M. Fujiwara** and J. Hisano, “Loop corrections to dark matter direct detection in a pseudoscalar mediator dark matter model,” *JHEP* **02**, 028 (2019) [arXiv:1810.01039 [hep-ph]].

Publication List (2/2)

Academic Publication History

- List all of your published papers
- If possible, w/ Publication Record!
- But it is worth listing preprints as well (w/ specifying status: e.g. submitted in XXX)

Presentation History

- Better to list presentation history
 - International conferences/workshops
 - Domestic conferences/workshops
 - Seminars
 - Outreach talk (Public lecture, Colloquium, etc)

Presentations

• Presentations at International Conferences

1. “Gamma-ray line from electroweakly interacting non-abelian spin-1 dark matter,” Aug. 2, 2021, Asia-Pacific Workshop on Particle Physics and Cosmology 2021, Seoul, Korea (Online)
2. “A model of electroweakly interacting non-abelian vector dark matter,” Jun. 17, 2021, PASCOS 2021, Daejeon, Korea (Online)
3. [poster] “A model of electroweakly interacting non-abelian vector dark matter,” Jun. 15, 2021, Quarkonia meet Dark Matter, Kashiwa, Japan (Online)
4. “A model of electroweakly interacting non-abelian vector dark matter,” May. 23, 2021, PHENO 2021, Pittsburgh, USA (Online)
5. [poster] “A model of electroweakly interacting non-abelian vector dark matter,” Mar. 27, 2021, Higgs as a Probe of New Physics 2021 (HPNP2021), Osaka, Japan (Online)
6. [poster] “A model of electroweakly interacting non-abelian vector dark matter,” Nov. 16, 2021, KMI School 2020, Nagoya, Japan (Online)
7. “Maximum value of the spin-independent cross section in the 2HDM+a,” Feb. 18, 2020, KEK-PH2020, Tsukuba, Japan
8. “Maximum value of the spin-independent cross section in the 2HDM+a,” Sep. 9, 2019, TAUP2019, Toyama, Japan
9. [poster] “Loop corrections to dark matter direct detection in a pseudoscalar mediator dark matter model,” Feb. 21, 2019, KMI School 2019, Nagoya, Japan
10. [poster] “Loop corrections to dark matter direct detection in a pseudoscalar mediator dark matter model,” Feb. 18, 2019, Higgs as a Probe of New Physics 2019 (HPNP2019), Osaka, Japan
11. “Loop corrections to dark matter direct detection in a pseudoscalar mediator dark matter model,” Dec. 4, 2018, KEK-PH2018, Tsukuba, Japan
12. [poster] “Loop corrections to dark matter direct detection in a pseudoscalar mediator dark matter model,” (Poster) Nov. 15, 2018, Mini-workshop “Hints for New Physics in Heavy Flavor Physics”, Nagoya, Japan

• Presentations at National Conferences (Japan)

13. “EFT approach for DM annihilation,” Nov. 3, 2021, EFT Study Meeting, Morioka, Japan

Research Statement (RS)

Current Achievement & Future Plan

- It is often said "**At most 3 pages**"
(otherwise ppl do not read through the whole)
- Sometimes the maximum pages is specified
- What to write:
 - What are your strong points?
 - What do you want to sell yourself the most?
 - What is your potential for future collaboration?
- No Typos, of course!
- Sophisticating English is also important
- **Feedback from others** are always useful!!!
- It is time-consuming to customise RS
for each position
→ **You may recycle RS for multiple positions**

Broad enough, but Specific enough!

Research Statement

Motoko Fujiwara

*Department of Physics, Nagoya University,
Furo-cho Chikusa-ku, Nagoya, 464-8602 Japan*

Overview & Past Research

Identifying Dark Matter (DM), an unknown gravitational source in our universe XXXX...

Cover Letter

Letter for PIs

- Advertise yourself so that they will include your name in their shortlist!
Customise cover letter can be effective
(e.g. mentioning names of PIs and possible projects)
- Length: 1 page for A4 paper, in letter format
- What to write:
 - Current achievement & your research interests
 - Why you want to work there
 - List of reference writers
- There exist "template" for a cover letter
eg. U. of Washington, "Six Steps to a Great Cover Letter"
<https://www.washington.edu/doit/six-steps-great-cover-letter>
- In your institute, you may find lectures about how to write academic cover letters
cf. TUM Language Center (you can even ask English experts there to revise your application forms!)

December 31, 2021

To whom it may concern,

I am writing to apply for a post-doctoral position in your laboratory. Attached please find my curriculum vitae, publication list, and research statement for your consideration.

I have experience in particle physics and its phenomenology. For the past five years, XXXX...

Please contact me if you need any further information. Thank you very much for your time and consideration.

Yours sincerely,

Motoko Fujiwara

Motoko Fujiwara
Physics Department, Nagoya University
Furo-cho, Chikusa-ku, Nagoya, Japan
+81(0)52-789-2450
motoko@eken.phys.nagoya-u.ac.jp
<http://www.eken.phys.nagoya-u.ac.jp/~motoko/>

Recommendation Letter

Sufficiently in advance!

- Most positions require **3 recommendation letters**
It may be challenging for Ph.D. candidates
- Remember that reference writers also need time! (and typically they are ultimately busy...!)
It is better to ask them to write ~one month before your earliest deadline
- How to ask:
 - (1) Notice writers about deadline/how to submit letters
 - (2) Share your application forms (CV, Publication list, Research statement)
- Imagine that you lack of one recommendation letter
→ You will miss tons of opening positions because of this...Be careful!
- Send reminders to writers sufficiently in advance
- Once you fix your decision, please write a mail to appreciate their letters / report your results

Who can be reference writers?

- Best choice: **"Person who knows you very well & who evaluates the most"**
e.g. Your supervisor, collaborators, PIs in your university/institute who know you well, etc
- If you are interested in the specific positions, ask persons who have connections there

Submission [via AJO]

Register your Cover Sheet

- Submission via Academic Jobs Online (AJO) is quite common for postdoc applications
- Please make your account in AJO & create Cover Sheet to register your fundamental information
 - Name, Affiliation
 - Research interests
 - Reference writers etc
- Note: Hiring persons seems to be accessible to your Cover Sheet
→ Write sufficiently in organised/details!

How to submit

- Click "Apply" to start application
- Ask recommendation letters via AJO
- Recommendation letters are uploaded by writers
(once uploaded, you can use them repeatedly)

The screenshot shows the AcademicJobsOnline.org application form. It includes sections for Research Interests, Reference Writers, and Application Forms. Red arrows point to these sections from the right side of the image.

AcademicJobsOnline.org Portfolio | Jobs | Search | Status | Help | Logout ※ sample

Research interests: Please enter your research interests for this employer (only need to answer once for each employer).
Primary Interest: * XXXX
Secondary Interest: XXXX
Tertiary Interest: XXXX

Select reference writers for this position (check the checkboxes to select and number them in your preferred order. You can [add more references](#) on your Standard Coversheet before applying if needed. Click on below to send an email request to the reference writer requesting a tailored letter specifically for this position or a generic letter if needed. Click on below (if any) to list existing letters. Among the existing letters those with will be used if not being excluded (by clicking on there to turn it into and submit this form.))

<input checked="" type="checkbox"/>	1	XXXX <XXX@YYY.ZZ> (last emailed XXXX/XX/XX)
<input checked="" type="checkbox"/>	2	XXXX <XXX@YYY.ZZ> (last emailed XXXX/XX/XX)
<input checked="" type="checkbox"/>	3	XXXX <XXX@YYY.ZZ> (last emailed XXXX/XX/XX)

Select requested materials to be submitted online (need to select for each position)
(Note: If a required item is not available from your portfolio at this time, you can either upload a new file right here, or go to your portfolio to upload more files and then apply for this position again. You need to upload files in your Portfolio first if uploading them all together here doesn't work. Click on or the Browse / Choose File button below to upload new files right here.)

Cover Letter	Cover Letter#28 (CL.pdf, PDF, 2021/11/19)
Curriculum Vitae	Curriculum Vitae#6 (CV.pdf, PDF, 2021/11/19)
Research Statement	Research Statement#1 (RS.pdf, PDF, 2021/11/18)
Publication List	Publication List#1 (PL.pdf, PDF, 2021/11/18)

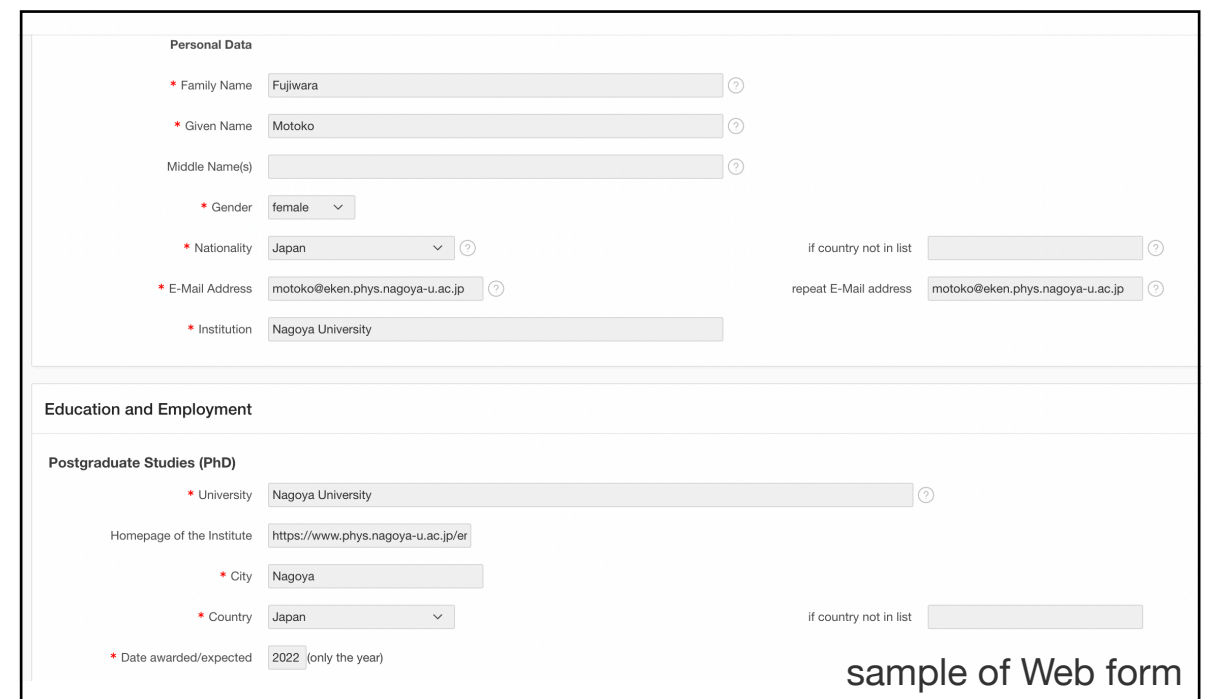
Submission [otherwise]

(1) Send a mail

- Send a mail to person who is in charge (eg. CV & Research statement as combined PDF file)
- Ask reference writers to send a recommendation letter directly to the contact address
- It should be good to summarize necessary information in organised way
Otherwise, they will miss important information
(e.g. AJO/inspire link, mail address to submit, specified subject in the submission mail etc)

(2) Web system

- University/Institutes sometimes have their own system for application process
- You can follow instruction in Web form
- Recommendation letters can be required to submit via Web system
- In some system, you can check status
e.g. whether letters are uploaded



The image shows a sample of a web form for application submission, divided into two main sections: Personal Data and Education and Employment.

Personal Data

- * Family Name: Fujiwara
- * Given Name: Motoko
- Middle Name(s):
- * Gender: female
- * Nationality: Japan
- * E-Mail Address: motoko@eken.phys.nagoya-u.ac.jp
- * Institution: Nagoya University
- if country not in list: (empty field)
- repeat E-Mail address: motoko@eken.phys.nagoya-u.ac.jp

Education and Employment

Postgraduate Studies (PhD)

- * University: Nagoya University
- Homepage of the Institute: https://www.phys.nagoya-u.ac.jp/er
- * City: Nagoya
- * Country: Japan
- * Date awarded/expected: 2022 (only the year)
- if country not in list: (empty field)

sample of Web form

Fin.

Thank you!

Good luck for your application!