

Tokyo Polytechnic University Wind Engineering Research Center  
2023 Fiscal Year Joint Usage / Research  
Application Guide

November 19, 2022

Wind Engineering Research Center  
Tokyo Polytechnic University

The Wind Engineering Research Center at Tokyo Polytechnic University was founded in 2000 and has since been involved in educational and research activities with various domestic and overseas institutes. It was recognized as the 21<sup>st</sup> Century Center of Excellence Program (Wind effects on Buildings and Urban Environment) in 2003 and the Global Center of Excellence Program (New Frontier of Education and Research in Wind Engineering) in 2008 by the Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT). Through these programs we have achieved fruitful results in both educational and research activities. Furthermore, in order to promote collaborations with international research institutes worldwide, we have been adopted by the Joint Usage Research Center (JURC) by MEXT. Currently, under the JURC program, more than 20 research activities in total have been ongoing annually since 2013.

We plan to continue JURC research activities and to carry out innovative Joint Research Programs with further promotions of collaborations with various agencies such as domestic and international research institutes in industry, academia and government. As we plan to use government subsidy for the part of Joint Research activities, please be aware that the part of this plan is changed due to the results of the budget finalization in April 2023 by MEXT. The results of adoptions will be notified in May 2023.

In order to prevent new Coronavirus (COVID-19) infection, we have set a strict rule for visitors (wearing a mask, hand sanitizer, entry/exit record and so on...) to enter our facility. You can personally carry out experiments in our facility, but if you prefer to observe an experiment remotely, please ask your collaborative TPU member.

1. Types of research topics

There are five types of joint research topics, and applicants can apply for plural themes. The research period is 1 year (April 1st, 2023 ~ March 31st, 2024).

(1) Priority research topic

Tokyo Polytechnic University (TPU) Wind Engineering Research Center (WERC) plans and suggests a priority research topic in each of the Wind-Resistant Construction field

and the Environmental Engineering field. This priority research, such as collaborations between research centers, is promoted systematically. The budget of each priority research topic will not exceed JPY 2,500,000 including travel expenses and costs for research meetings. If you are considering applying for one of these research topics, please consult a TPU/WERC member.

- Wind resistant design field
  - Expansion of the aerodynamic database and Construction of a practitioner network (TPU/WERC member: Akihito Yoshida)
- Environmental Engineering field
  - Advanced use of airflow visualization technology in the construction and urban environment field (TPU/WERC member: Ryuichiro Yoshie)

## (2) Specific research topic

Tokyo Polytechnic University (TPU) Wind Engineering Research Center (WERC) sets up specific research topics in wind engineering and seeks applicants to work together with TPU/WERC members. We will set up another New Coronavirus (COVID-19) infection control specific theme in 2023. We are taking applications for New Coronavirus (COVID-19) infection control such as effectiveness of air cleaners and air conditioning filters, relation between indoor/outdoor air flow and splash and aerosol, and New Coronavirus (COVID-19) infection control by natural ventilation.

If applicants want to use our facilities and data, they need to make arrangements with TPU/WERC members before applying.

Research workshops are required to present research results. In order to prevent new Coronavirus (COVID-19) infections, we recommend that you conduct teleconferencing (JURC Office can support you. Please contact your collaborative TPU/WERC member.). The budget of any specific research topic will not exceed JPY 600,000 including travel expenses and costs for research meetings. However, when researchers who have made remarkable achievements are invited, additional costs will be considered separately.

- Wind resistant design / Wind hazard mitigation field (TPU/WERC member: Masahiro Matsui\*, Akihito Yoshida, Yong Chul Kim)
  - Research on evaluations and mitigations of complex meteorological disasters caused by intensified severe typhoons, tornadoes and storms
  - Research on load evaluation of structures utilizing the aerodynamic database
  - Research on wind load and response evaluation of structures for development of wind load regulations and standards

- Indoor environment field  
(TPU/WERC member: Yoshihide Yamamoto\*, Yingli Xuan)
  - Research on indoor air flow and thermal comfort using thermal manikin
  - Research on building ventilation in urban areas
  - Realization of a carbon-free society/Research on Indoor environment field that contributes to control of climate change
  
- Outdoor environment field  
(TPU/WERC member: Ryuichiro Yoshie\*, Yingli Xuan)
  - Research on urban ventilation and pollutant/dangerous substances' dispersion
  - Research on wind environment and thermal environment in urban areas
  - Realization of a carbon-free society/Research on Outdoor environment field that contributes to control of climate change
  
- Transdisciplinary·Cross-disciplinary field  
(TPU/WERC member: All members)
 

This is transdisciplinary joint research undertaken by researchers from multiple fields related to wind engineering (transdisciplinary research theme), or cross-disciplinary joint research with some researchers not related to wind engineering. This research provides advantages for both research fields (cross-disciplinary research theme). For example, research themes that solve long term global environmental problems such as the problem of CO2 emissions and marine disposal of plastics. If you apply for a Transdisciplinary or Cross-disciplinary research theme, you need to describe the advantages for all areas for all participants.
  
- New Coronavirus (COVID-19) infection control specific theme  
(TPU/WERC member: Yoshihide Yamamoto\*, Ryuichiro Yoshie, Yingli Xuan)

\* : person in charge of each field

### (3) General research topic

Applicants set up their own research topics related to wind engineering and work together with TPU members. Please refer to specific research topics.

If you want to use facilities and data, you need to make arrangements with TPU members before applying.

Research workshops are required to present research results. In order to prevent the new Coronavirus (COVID-19) infection, we recommend that you conduct teleconferencing

(JURC Office can support you. Please contact with your collaborative TPU member.). The budget of the general research theme will not exceed JPY 400,000 including travel expenses and costs for research meetings. However, when researchers who have made remarkable achievements are invited, additional costs will be considered separately.

(4) Research workshop

Applicants set up workshop topics and undertake them together with TPU members. Research workshops need to be prepared with a precise aim. Please refer to specific research topics. The budget of the research workshop will not exceed JPY 150,000 including travel expenses. However, when researchers who have made remarkable achievements are invited, additional costs will be considered separately.

(5) Fund prepared research

Applicants together with TPU members should prepare their own funding for a research separately. Applicants can use facilities and data but no budgets are provided for this type of research. Applicants need to make arrangements with TPU members before they apply. Research meetings are not necessarily held for this type of research.

2. Application procedure

(1) Qualifications

Researchers from universities, research institutions, independent administrative agencies and companies can apply. However, researchers from private companies should have no commercial objectives and there should be no impediments to announcements of research results or ownership of intellectual property rights.

(2) How to fill in application form

Before applying, read this guide carefully and consult with TPU members in charge about the research topic and contents. For each research topic a specific TPU member will work with the applicant to determine an applied research. Basically, applicants will select a collaborative TPU member but if an applicant has no preference about who should be a collaborator he/she should contact a person in charge of each research field (see 1. (1) Specific research topic). If you don't have sufficient consultation with a collaborative TPU member, your theme may be rejected.

To apply, fill in the forms of "2023 Fiscal Year Tokyo Polytechnic University Wind Engineering Research Center Joint Usage/Research Center Application (New Form)", and submit as below;

In order to prevent the spread of the new Coronavirus (COVID-19) infection, your government will restrict domestic and international movement in next year. Please state how you will change your research plan if the new Coronavirus (COVID-19) infection spreads. Please talk with your collaborative TPU member in advance if you need his/her support.

(3) Submission and deadlines

Each application form for priority research, specific research, general research and research meeting must be filled out and sent as a Microsoft Word file via e-mail to the below address by the deadline. When an application is received a notification e-mail will be sent within 3 working days. If an applicant does not receive confirmation, he/she must contact the Wind Engineering Research Center Office.

Submit to

Tokyo Polytechnic University Wind Engineering Research Center Office

E-mail: jurc\_office@arch.t-kougei.ac.jp

Schedule

- Application deadline: Feb. 28, 2023\*1)
- Announcement of selection results and budget confirmation: May, 2023 (TBD)
- Submission due date of collaborative researchers list, Letter of Commitment, permission from the top of the relevant organization: within one month after announcement of selection
- Submission due date for result report: End of April 2024

\*1) No specific application deadline for Fund Prepared Co-researches

(4) Selection and announcement of successful candidates

Selection of successful applications will be based on an examination of the Wind Engineering Research Center Steering Committee constituted of TPU members and intellectuals from outside TPU. Notification of successful application will be sent to the representative researcher. Besides research contents, budget limit and availability of research facilities will also be considered for selection.

(5) Inquiry

Research facilities, research topic, research contents, research period, etc., will need to be discussed thoroughly with TPU members.

Members of Tokyo Polytechnic University Wind Engineering Research Center  
(Faculties of Graduate School Engineering/Department of Architecture and Wind Engineering)

- Field of strong wind disaster prevention, wind resistant Structure  
(TPU/WERC member: Masahiro Matsui\*, Akihito Yoshida, Yong Chul Kim)
- Field of indoor environment  
(TPU/WERC member: Yoshihide Yamamoto\*, Yingli Xuan)
- Field of outdoor environment  
(TPU/WERC member: Ryuichiro Yoshie\*, Yingli Xuan)

\*: person in charge of each field

### 3. Considerations

#### (1) Selection and announcement of selection

Application proposals will be fairly examined by the Wind Engineering Research Center Steering Committee and selection results will be sent to representative researchers.

#### (2) Required expenses

Expenses for researches including research equipment and travel expenses can be paid. However, as a result of examination, the required budget will not be provided in full. Budget execution will be carried by the Tokyo Polytechnic University Wind Engineering Research Center Office through TPU members.

#### (3) Publication of JURC research results

When you submit your paper related to WERC, please refer to the below examples and describe both the MEXT Grant Number and JURC grant number in your acknowledgement letter.

EX : This research was supported by the joint research project of the Wind Engineering Research Center, Tokyo Polytechnic University. (MEXT (Japan) Promotion of Distinctive Joint Research Center Program Grant Number : JPMXP0619217840, JURC grant number XXXXXXX).

#### (4) Research Results Report

The representative researcher needs to submit a summary of your research results on a specified form electronically (must be a Microsoft Word file) by the end of April 2024.

The report contents will be posted in the Wind Engineering Research Center publication and website.

(5) Accommodation

When research experiments are held in the Wind Engineering Research Center and researchers require accommodation, accommodation near Hon-Atsugi station will be recommended. Please discuss with TPU members beforehand.

(6) Other

- 1) If necessary, an applicant will receive permission from the top of the relevant organization before application.
- 2) After an application is accepted, collaborative researchers need to receive permission from the top of the relevant organization and this will be submitted to the Wind Engineering Research Center Manager.  
Participants are expected to follow the code of conduct of research activities at Tokyo Polytechnic University and are asked to submit a letter of commitment.  
Please access the below URL to see the code of conduct of research activities at TPU.  
<https://www.t-kougei.ac.jp/activity/fund/>
- 3) To use research facilities, discuss with TPU members and follow their instructions.
- 4) To apply, an application form must be submitted as an attached file via electronic medium. The application (Microsoft Word form only) form can be downloaded from <http://www.collaborate.wind.t-kougei.ac.jp/joint/>
- 5) TPU will not be responsible for any loss or accident during experimental tests. This is the responsibility of relevant organizations. When postgraduate students are participating researchers they must subscribe to an accident insurance policy “Education and Research Accident Insurance for Students” at their relevant institute and report to it concerning participation in outside co-research with TPU.  
For details, please contact the corresponding department.
- 6) Application forms and selection results can be found on the Wind Engineering Research Center Homepage.
- 7) Dealings and ownership of intellectual property rights resulting from co-research have to be decided by consultation unless already agreed in prior consultation. For details, please contact the Tokyo Polytechnic University Education and Research Support Office.
- 8) For any other inquiries contact TPU members or Tokyo Polytechnic University Wind Engineering Research Center Office.

## Contact

Tokyo Polytechnic University Wind Engineering Research Center Office

E-mail: jurc\_office@arch.t-kougei.ac.jp

Address: 5-45-1 Iiyamaminami, Atsugi, Kanagawa, 243-0297, Japan

Tel: +81 (0) 46 242 9658

## Application Q&A

Q1. Are researchers from private companies qualified to be representative of joint researches at TPU?

A1. Researchers from private companies are qualified to be representative researchers providing that they have no commercial objectives and there are no impediments to announcement of research results or ownership of intellectual property rights.

Q2. What about intellectual property rights of research projects' results?

A2. Dealings and ownership of intellectual property rights resulting from research projects have to be decided by consultation unless already agreed in prior consultation.

Q3. Is there any limitation on the number of applications that a candidate can make in the same year?

A3. There is no limitation. However, it is necessary to consider the effort made for each research project to avoid interference with other works.

Q4. Is it possible to apply across multiple fiscal years?

A4. From fiscal year 2017 we accept applications for a single year only.