

FY2020 River Basin Research Center, Gifu University  
Call for Joint Research

## 1. Background

River Basin Research Center of Gifu University (hereafter RBRC) is promoting an interdisciplinary “River Basin Science” to facilitate sustainable use of natural resources involved in the landscape which is composed of natural and societal systems and their interactions by providing a mechanistic understanding of the current status, scientific knowledge for management policy and future predictions considering climate and societal changes. Our research activities have been progressing with the support of Japanese and overseas universities, research organizations and observation networks.

In RBRC, we are promoting incubation of integrated joint research related to the forests, rivers, sediments, farmland and cities in the river basin in changing environments, as well as systemization of River Basin Science, and are willing to promote collaborations between the scientific community and the local stakeholder community. Here we are calling for joint research, ranging from basic to applied researches, to foster a new practical environmental science as the “Basin Conservation and Management” which tackles various regional environmental issues.

By promoting the joint research with various research communities, we aim to develop “Environmental science that approaches regional environmental issues with a global perspective”, which will enable us to tackle the environmental issues faced by the river basin systems and society with the following strategies: (1) Provide scientific knowledge for regional adaptive strategies to climate change based on clarification and prediction of the effect of global warming and human impact on the carbon cycle and biodiversity of the regional forests and river ecosystems; (2) Develop and disseminate ecosystems that contribute to securing regional water resource and water quality management technology; (3) Develop technology and provide information that will contribute to disaster mitigation such as extreme weather events.

### (1) Research plan

We welcome research ideas which will be implemented by collaboratively by the proposer(s) and the faculty member of RBRC. These researches may use facilities of RBRC by consulting with the responsible faculty member of RBRC (see Supplementary Table 2).

### (2) Call for research applications: details

Thematic categories of applications to joint research are listed in Table 1. Any applications are requested to involve at least one faculty member of RBRC, who will become the point of contact (PoC, see Supplementary Table 2), so please ensure that adequate arrangements are made with the faculty member(s) who will be PoC for the applications. The submitted applications will be reviewed and evaluated by the committee, and the result will be announced accordingly.

- Joint research:

The General research will cover various research ideas and activities related to the River Basin Science. The applicable research topics in Table 1 will be conducted through

collaboration between faculty members in RBRC and researchers affiliated with departments and organizations other than RBRC. The research types that aim to use the facilities of RBRC will be also included into this category (see Supplementary Table 1).

Please note that RBRC will not provide research budgets. However, RBRC will support the research activities according to the consultations between the PoC of RBRC and applicants.

Table 1 Recruitment topics

Recruitment research topics
(a) Research on the relationship between human activity and the micrometeorology, water and material cycles
(b) Research related to ecosystem dynamics and functions
(c) Research related to the safety and risks of the river basin, and their environmental and societal scenario analysis
(d) Research related to the conservation and sustainable use of basin resources and energy
(e). Other research that contributes to the development of river basin science and river basin conservation

## 2. Persons eligible for application

### (1) PI of joint research representative

1. Fulltime university researchers, fulltime researchers or technicians at research organizations and private organizations
2. Part-time university researchers, part-time researchers or technicians at research organizations and private organizations

Persons applicable to type-2 are requested to submit written consent (Form 2) from their affiliated organization, as well as written approval from the affiliated organization (bureau or department) on the application form (Form 1). Also, when the joint research is implemented mainly by students at a doctorate or master's level, please ensure that the application is submitted by the supervising professor as the representative.

In case of any changes with the representative during the research period (including the transfer of his/her affiliation), please amend the details on the submitted Form 1 and resubmit the form accordingly.

### (2) Research organization

Any of the following persons are encouraged to apply.

1. Faculty and researchers of university, teachers of National Institute of Technology, researcher or technician at research organizations and private organizations
2. Technical staff, post-doctoral researchers, university students
3. Other persons permitted by the director of RBRC

In case of any changes in the research organization of the adopted project during the research period (addition or removal of members, transfer of affiliation, etc.), please complete the table for research organization changes on the joint research results report (Form 4).

### (3) Permission from the applicant's affiliated organization

Application for joint research is requested to submit the written consent of the affiliated department head (Form 1, lower section on the first page).

In a case that the research group is organized by members from different affiliations of the PI, the member(s) is also requested to submit written approval from the respective person's affiliated organization (department) (Form 2).

### **3. Application forms**

When submitting an application, please make adequate arrangements with the PoC of RBRC. You are welcome to consult with us via email to find an appropriate faculty member as a PoC [see **7. Contact address**].

To apply for joint research, please use the Joint Research Application Form (Form 1) and send a scanned application with a signature and/or seal in the "affiliated organization (department) approval section" on the Form 1, and send the electronic data. Then please send the original copy by post to RBRC.

For joint research, you are welcome to submit your research proposal anytime. But please note that usage of research facilities of RBRC may be prioritized to the research group(s) that has been accepted earlier. Therefore, please consult in advance with the PoC (see Supplementary Table 1) or send an inquiry to our joint research office by emails for your considerations of research application. We will try our best to match the conditions.

### **4. Research period**

The period may be from the date of adoption notification until **31st March 2021**. Even if you are planning research for multiple years, please submit the application form (Form 1) every year.

### **5. Application submission deadline**

We welcome applications on an ad hoc basis. Please submit a scanned copy of the application form. For applications with seals applied, please send the original by post after confirmation of submission of the electronic copy.

### **6. Important notes for submission of application forms**

Please thoroughly check the following points when submitting an application. Applicants are requested to follow and consent to the below issues.

#### **(1) Intellectual property rights**

Attribution of intellectual property rights will be in accordance with the University Intellectual Property Rights Standards of Gifu University (see the following URL) for researchers from Gifu University and will be discussed separately for other researchers in the event that such matters arise. As the document is written only in Japanese, foreign applicants are kindly requested to be guided by the PoC of RBRC.

Gifu University Intellectual Property Policy:

[http://www.green.gifu-u.ac.jp/joint\\_research/#policy](http://www.green.gifu-u.ac.jp/joint_research/#policy) (In Japanese)

#### **(2) Restore of compensation of the damage on facilities etc.**

If the facilities, equipment, database etc. are damaged by any kinds of accidents, the user's affiliated

organization may be requested to restore or compensate those items to their original state.

### **(3) Accident insurance**

When students and/or persons without workers' compensation insurance use the facilities at RBRC, please be sure to take out "Student Educational Research Accident Insurance" or accident insurance that is equivalent or better one, before begin the research.

## **7. Application submission address and contact details for inquiries**

Joint Research office, River Basin Research Center, Gifu University

1-1 Yanagido, Gifu-city, Gifu, 501-1193 Japan

Email address: [research@green.gifu-u.ac.jp](mailto:research@green.gifu-u.ac.jp)

## **8. Schedule of applications**

Application period	From 6 <sup>th</sup> March to as needed
Notification of adoption decision	After review in RBRC, as needed
Submission deadline for joint research results report	March 2021 (details will be informed later)

## **9. Reports**

PI of joint research is requested to submit a "Joint Research Report" (Form 3) by following to the schedule which will be indicated by RBRC.

PI or its alternate of joint research is requested to submit Form 4, if any changes occurred in the research participants (addition or removal of members, changes in personnel, etc.).

Please note that part of the joint research report may be used for the activity reports and/or the web site of RBRC, and you may be kindly requested to support us.

## **10. Publication of results of the joint research**

When publishing the results of the joint research, you are kindly requested to acknowledge that part or the whole of your research was supported by RBRC.

For example, "The present study was conducted using Joint Usage / Research Grant of the River Basin Research Center (2020-XX), Gifu University"

N.B.) This English version is a translation of the original Japanese version. All descriptions shall follow the Japanese version. For details of application, please communicate with your Point of Contact in RBRC, Gifu University.

Supplementary Table 1. Facilities and materials available for use in joint research

Facilities and Material Title	Overview	Point of contact (See Supplementary Table 2)
Takayama Field Station	Able to conduct field research on mountainous forests and river ecosystems. A chemical laboratory, biological laboratory and plant specimen room are located in the field station. There are canopy access towers in a deciduous broad-leaved forest site (TKY) and in an evergreen coniferous forest site (TKC). Use of either site requires adequate consultation with the PoC regarding the facilities and equipment.	Hiroyuki Muraoka (TKY) Taku M. Saitoh (TKC) Satoshi Tsuda (Vegetation specimens)
Microbial Analysis Laboratory	This laboratory is equipped with analysis system able to detect and quantify plant pathogens in samples obtained in the field, conduct diversity assessment of microbes, and identify microbes.	Koji Kageyama
Water Quality Analysis Laboratory	This laboratory is equipped with conventional and advanced instruments needed for analysing various indexes (including microbiological ones) associated with the water quality of rivers or lakes, water environment conservation and water treatment.	Fusheng Li Kayako Hirooka
Takayama Evergreen Coniferous Forest Site Database	The Takayama Evergreen Coniferous Forest Site (TKC) has data of meteorological and flux measurements since 2005. Part of this data is published on the AsiaFlux database ( <a href="http://www.asiaflux.net/">http://www.asiaflux.net/</a> ) (the data is to be used in accordance with the AsiaFluxDB terms of service). Use of any other data requires consultation with the PoC.	Taku M. Saitoh
Oomycete strains	Oomycete strains will be provided after an adequate consultation with the PoC.	Koji Kageyama
Various flow meters	ADCP for local surveys (RDI Workhorse ADCP Sentinel), doppler instrumentation for water velocity measurements for flume experiments (Sontek MicroADV16kHz, down-looking type and side looking type) are available for use. Adequate consultation with the PoC is required for all the equipment.	Morihiro Harada

\*When conducting preliminary consultation, please contact the PoC directly, or send an email to [research@green.gifu-u.ac.jp](mailto:research@green.gifu-u.ac.jp)

Supplementary Table 2. Faculty members of River Basin Research Center, Gifu University.

Following scientists can be the point of contact for the applications of joint research.

Point of contact	Specialist field	Occupation	Research topics (See Table 1 on page 3)				
			1	2	3	4	5
Toshiyuki Ohtsuka	Ecosystem ecology, carbon cycle, forest ecology	Professor		◎			○
Yasuyuki Maruya	Hydrology	Research associate	◎	○	○	○	○
Koji Kageyama	Fungal ecology, plant protection, mycology	Professor			○	◎	○
Satoshi Tsuda	Plant ecology, forest fire ecology	Associate professor		◎			○
Hiroyuki Muraoka	Vegetation physiological ecology, satellite ecology	Professor	○	◎			○
Taku M. Saitoh	Environmental biophysics, ecosystem ecology	Assistant professor	○	◎			○
Ichiro Tamagawa	Meteorology, boundary layer, land- atmosphere interactions	Professor	◎	○	○	○	○
Morihiro Harada	River engineering, sediment hydraulics, river environmental engineering	Associate professor	◎	○	○		○
Fusheng Li	Water treatment, environmental engineering	Professor	○	○	◎	○	○
Kayako Hirooka	Sanitary engineering, electrochemistry	Associate professor	○		○	◎	○
Yoshio Awaya	Forest remote sensing, satellite ecology	Professor	○	○		◎	○
Toshiharu Kojima	Hydrology, geographical information system	Associate professor	◎	○	○	○	○
Maki Koyama	Earthquake engineering, regional disaster prevention studies	Associate professor	○		◎		○
Nobuoto Nojima	Earthquake engineering, urban disaster prevention	Professor					○
Masumitsu Kuse	Earthquake engineering, geographic information system	Associate professor			◎		○
Yongfen Wei	Environmental monitoring	Associate professor	◎	○		○	○
Yasushi Ishiguro	Phytopathology, horticulture	Specially-appointed assistant professor		○	◎		○

\*When conducting preliminary consultation, please contact the responsible faculty member(s) directly, or send an email to [research@green.gifu-u.ac.jp](mailto:research@green.gifu-u.ac.jp)