2023 Summer

# "Program of Developing Human Resource for Rhizome-based Research"

### **Program Introduction**

Project Manager: Takaaki Shigematsu Tetsuo Kawakita



#### To all readers of this document

Thank you for your interest in this program "Support for Pioneering Research Initiated by the Next Generation" (Program of Developing Human Resource for Rhizome-based Research).

This program is one of the support programs for doctoral students conducted by Osaka Metropolitan University.

Please review this material carefully and understand the program Philosophy and Objectives before you apply.



This program is Support for Pioneering Research Initiated by the Next Generation (SPRING) provided by Japan Science and Technology Agency (JST) and, as shown on this slide, is a program to support challenging and interdisciplinary research by doctoral students and to encourage the development of research skills and capabilities as researchers so that talented doctoral personnel will be able to work in a variety of careers.

The excellent doctoral students qualified by the project manager will be able to devote themselves to their own liberal, challenging, and interdisciplinary research with the portability of changing their affiliation, along with the support funds and career development contents (cultivation of internationality, cultivation of interdisciplinarity, career development, acquisition of transferable skills, internship, etc.).

#### **Background of the**

#### "Program of Developing Human Resource for Rhizome-based Research"

- "Developmental Transmission of Traditions"
   from Osaka City Univ. and Osaka Pref. Univ.
  - City facing a variety of challenges: OSAKA
    - · Contribute to global society through solutions to local and social issues
      - Development and utilization of technology innovations based on human behavior patterns
      - · Cultivate and rediscover the city's social and cultural resources
      - Enhance the city's new attractiveness (Branding)
    - The need for breakthrough power to invite Japanese society, with its strong sense of stagnation, to a new stage
- Osaka Metropolitan University (OMU)
  - Aiming to contribute to society in a way that only a public university rooted in the community can



Osaka Metropolitan University (OMU) has applied for this SPRING and been adopted.

Osaka City University and Osaka Prefecture University, the predecessors of Osaka Metropolitan University, have been contributing to global society through solutions to local and social issues for the city OSAKA which is facing a variety of challenges. OMU has been working on a great variety of activities such as development and utilization of technology innovations based on human behavior patterns, cultivate and rediscover the city's social and cultural resources and enhance the city's new attractiveness.

I am sure you feel the need for breakthrough power to lead Japanese society, with its strong sense of stagnation, to a new stage.

OMU is a developmental transmission of the traditions of these predecessor universities and aiming to contribute to society in a way that only a public university rooted in the community can.

#### Philosophy and Objectives of the

"Program of Developing Human Resource for Rhizome-based Research"

### Fundamental Philosophy: "To create a city is to nurture people"

The goal of the program is to create new knowledge and cultivate Convergence of Knowledge, and to address all research issues that will lead global society through the solutions of regional and social issues.

- Research contributing to the resolution of social issues
- Research creating a leading-edge complex research field
- Research contributing to the creation of a future society

Any research encompassed by these integrated issues is eligible.

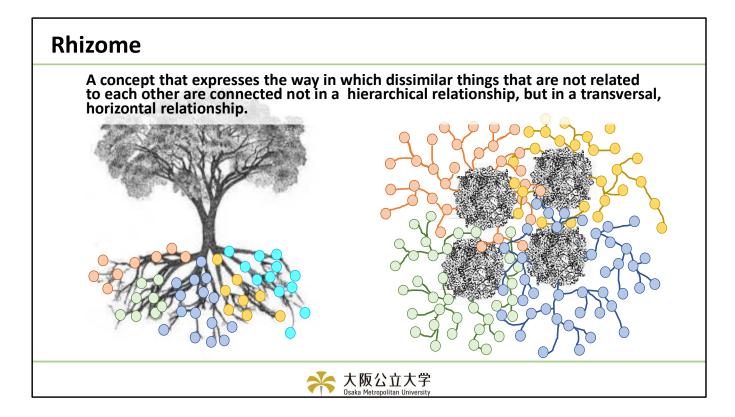
#### [Vision to aim for]

Nurturing students who have the strong will and research vision to contribute to the creation of leading research and a future society by utilizing their multidisciplinary expertise



The most important thing for the university to contribute to the local community is to "create a city and nurture people" based on the program's fundamental philosophy and we support doctoral students who create new knowledge and cultivate Convergence of Knowledge, and to address all research issues that will lead global society through the solutions of regional and social issues. We support those doctoral students whose researches are contributing to the resolution of social issues, creating a leading-edge complex research field, contributing to the creation of a future society as well as any research encompassed by these issues.

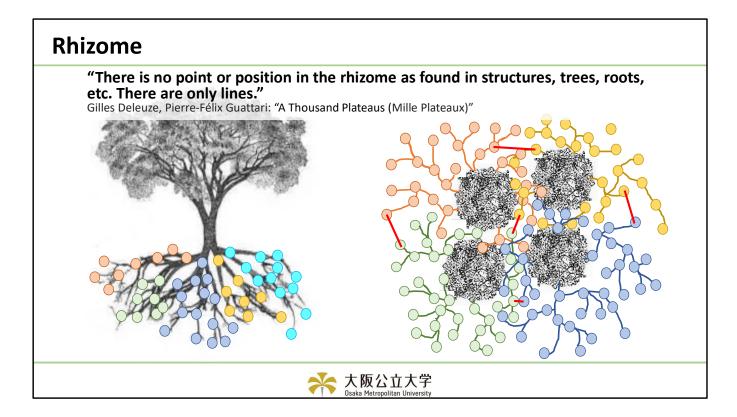
That is, this "Program of Developing Human Resource for Rhizome-based Research" nurtures students who have the strong will and research vision to contribute to the creation of leading research and a future society by utilizing their multidisciplinary expertise.



At this point, We would like to explain the term "RHIZOME" which represents the philosophy of this program.

Rhizome is a Latin word meaning underground stem or rootstock. The plants and trees we can see on ground have roots growing vertically and horizontally beneath them, and it is the firmness of these vertically and horizontally extending roots that allows the plants and trees to stand. The roots must be divided into several sections, sometimes horizontally, sometimes extending deep into the ground.

We believe that mastering specialized knowledge is equivalent to gaining a certain level of knowledge at the tip of this finely divided root. Sometimes it is a major finding in the discipline and from there, the roots differentiate again and the search for new knowledge begins, doesn't it?



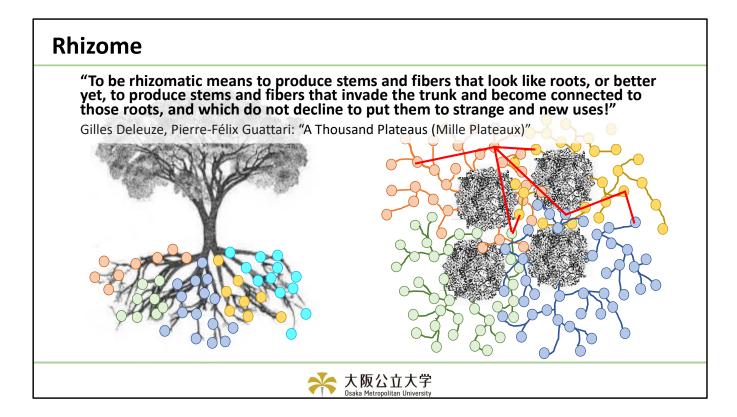
Osaka Metropolitan University is one of the best universities in Japan which consists of one undergraduate college, eleven undergraduate schools and fifteen graduate schools.

The situation, so to speak, looks like large trees crowded together. Underneath these college, schools and graduate schools, a variety of specialized knowledge is rooted in every direction.

This "Program of Developing Human Resource for Rhizome-based Research" is designed to help students broaden their perspectives beyond their research expertise to other areas of expertise that they have not been exposed to or have not paid much attention to.

We hope that the students will make use of this program for the development of their own research expertise and the social implementation of their own expertise. We also hope that they will make use of this knowledge in designing their own future careers.

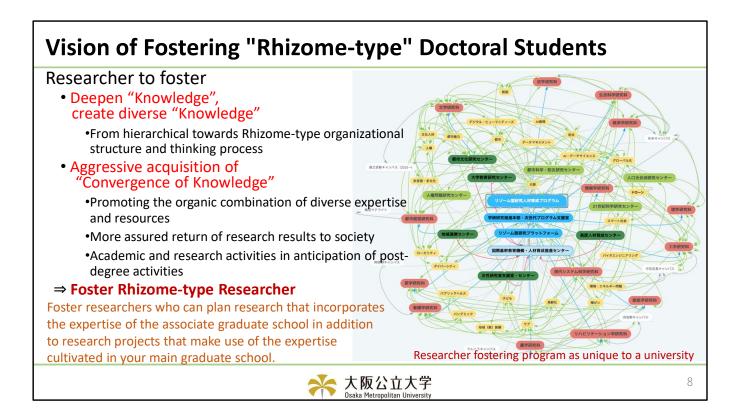
It may be a small collaboration at first.



However, it may someday lead to a major collaboration.

You may also end up sharing expertise with different disciplines that you could not have anticipated at the outset. The multidisciplinary knowledge thus generated may play a leading role in creating new academic fields and new ways of thinking and technology.

We would like to support those students who are willing to do so in order to increase that possibility as much as they can.



Let us summarize at this point.

I am sure that all of you will work energetically to deepen your expertise in your respective fields in the doctoral course.

In this program, of course, we provide support for the deepening of such expertise or specialized knowledge. But we also hope that you will be actively interested in diverse expertise in order to make use of your expertise for the benefit of society and to enrich your own careers after obtaining your degree, and that you will be motivated to acquire Convergence of Knowledge by being exposed to such knowledge while you are in doctoral course.

We hope you will take full advantage of the diverse human resources at Osaka Metropolitan University.

### Sophistication we expect to students

### Sophistication we expect to students

- · To understand the position of one's own research in society
- Strong intellectual curiosity and desire and diverse perspectives
- · Willingness to cultivate an international perspective
- Future contribution to society

#### Wide range of issue settings

- · Research that contributes to solving social issues
- · Research that creates cutting-edge research areas
- Research that contributes to the creation of future society

The program covers all research areas including above and will support those who are actively engaged in deepening and organic combination of expertise without being bound by the framework of the existing graduate school.



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Sophistication we expect to the program students is:

- 1. To understand the position of one's own research in society,
- 2. Strong intellectual curiosity and desire and diverse perspectives,
- 3. Willingness to cultivate an international perspective,
- 4. Future contribution to society.

We also expect students a wide range of issue settings such as:

- 1. Research that contributes to solving social issues,
- 2. Research that creates cutting-edge research areas,
- 3. Research that contributes to the creation of future society.

The program covers all research areas including above and will support those students who are actively engaged in deepening and organic combination of expertise without being bound by the framework of the existing graduate school.

### **Application Requirements**

Persons who plan to apply for 3-year doctoral course at the Graduate School of OMU for admission in October
 2023 (Medical and veterinary doctoral course students are not eligible to apply)

However, the following students (as of support starting date) are excluded:

- Students who have been selected as a Research Fellowship for Young Scientists (DC) of the Japan Society for the Promotion of Science (JSPS)
- Foreign students supported by the Japanese Government (Japanese Ministry of Education, Culture, Sports, Science, and Technology [MEXT]) Scholarship Program
- International students who receive scholarships and/or other support from their home country
- Working students who have been eligible to receive a stable and enough amount of money as living expenses (2.4 million yen / year as a reference) from the company to which they belong.
- Students who have applied for the University Fellowship Founding Project for Innovation Creation in Science and Technology (Fellowship Program) and have been accepted as prospective students for FY 2023. See Application Guidelines for details.

or the promotion of this program.

The understanding of your academic supervisor is essential for the promotion of this program.

Before submitting your application, please obtain the consent of your prospective supervisor.

In addition, please make sure that you fully understand the objectives of this program by reviewing this Program Description materials beforehand before applying.



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Application Requirements are shown on this slide.

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Before submitting your application, please obtain the consent of your prospective supervisor.

Please make sure that you fully understand the objectives of this program by reviewing this material carefully.

### **Projected Number of Students to be Accepted**

• Students enrolling in October 2023 (3-year doctoral course): About 1 student

(Medical and veterinary doctoral course students are not eligible to apply)

- (1) The maximum period of support is 3 years since your admission to doctoral course. If you are enrolled in doctoral course for more than 3 years including years before this support starts, you will not be eligible to receive supports after the end of standard years of study.
- If you take a leave of absence during the support period, supports may be terminated depending on the reasons.
- (2) Support starts in October 2023.
- (3) Support starts for those students who have passed this selection process and will be enrolled in the graduate school listed in "3. Application Requirements" and not in leave of absence as of the support starting date.





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Projected number of Students to be Accepted is shown on this slide.

The maximum period of support is standard term of study at doctoral course, which is 3 years in case of 3 year-doctoral since your enrollment.

Support will begin as shown on this slide.

#### **Selection Method and Schedule**

- Judged by the content of the essay (100 points) and an interview based on the essay (100 points)
- Schedule
  - Please see the Application guidelines
- Evaluation Perspectives
  - Degree of understanding of the relationship between one's research and the solution of current social problems, the creation of leading research fields, and the creation of a future society
  - Degree of awareness of the complex (multidisciplinary) knowledge considered necessary for one's own research and willingness to acquire it.
  - Degree of ability to explain one's research to non-specialists
  - Degree of understanding of the importance of transferable skills and willingness to acquire them.
  - Degree of deliberation regarding post-completion utilization and contribution to society with an awareness of career paths.



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Selection is judged by your essay and an interview based on it.

Please see the application guidelines for detailed schedule. Interview will be conducted at specific date and time within certain time period. Please make sure that you are available during this period.

The five evaluation perspectives are as follows:

- 1. Degree of understanding of the relationship between one's research and the solution of current social problems, the creation of leading research fields, and the creation of a future society,
- 2. Degree of awareness of the complex (multidisciplinary) knowledge considered necessary for one's own research and willingness to acquire it,
- 3. Degree of ability to explain one's research to non-specialists,
- 4. Degree of understanding of the importance of transferable skills and willingness to acquire them,
- 5. Degree of deliberation regarding post-completion utilization and contribution to society with an awareness of career paths.

#### **Evaluation method** Out of evaluation or Below standard Above standard Greatly above standard (1) Degree of understanding of the relationship between one's research and the solution of current social problems, the creation of leading research fields, and the creation of the property of the control of the cont To be able to logically explain how one's own research is related to the resolution of current social issues, the creation of leading research fields, and the creation of a future society, and to be able to explain specific solutions and their effects. nderstands the importance of To be able to logically explain how one's own research is related to the solution of current social issues, the creation of leading research fields, an the creation of a future society. To be able to explain how one's owr research is related to the resolution of current social issues, the creation of leading research fields, and the creation of a future society. one's own research and be aware of its relationship to solving current social issues, creating lead research fields, and creating importance of one's own research. future society To be able to explain the relationship To be able to explain the necessity Be able to logically explain the necessity of complex knowledge for (2) Degree of awareness of the complex knowledge considered necessary for one's own research and willingness to acquire it. of complex knowledge for solving Inderstands the necessity of obtained and the necessity of complex or complex knowledge for solving current social issues, creating complex research fields, and creating a future society in one's own research. Be prepared to understand the need for complex knowledge. complex knowledge and be aware of their respective roles in one's own research. Doesn't understand the need botamer and the necessity of complex knowledge for solving the problems of the current society, creating complex research fields, and creating the future society in one's own research. olving current social issues, creating Be knowledgeable in one's own Be able to comprehensively explain the one's own area of expertise and be able to explain the outline of one's Although has knowledge in of expertise and be able to explain the area of expertise and be aware of background of one's own research, the (1) Degree of ability to explain one's Inadequate knowledge of one's own area of expertise. one's own area of expertise, originality, results, and usefulness of one's own efforts in a way that can be one's contribution to society in a way that people outside the field, but does not provide explanations that can own research so that non-specialists can gain a certain level of research to non-specialists be unable to give explanation with non-specialists in mind. be fully understood. understood by non-specialists. can be understood by non-specialists.



and recognize their importance.

kills, but can't explain them.

career path, but has not come up with anything concrete yet.

importance of transferable skills and willingness to acquire them.

post-completion utilization and contribution to society with an awareness of career paths. transferable skills and a willingness to learn for specific skills is evident.

transferable skills and coming up with a concrete plan to learn specific skills.

Be aware of one's career path after completing the program, and be able completing the program, and be able to explain in detail how to play an active role and contribute or society. It is considered to the contribute or society.

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activities to learn specific skills with a sense of purpose.

mage in society.

Both the essay and the interview will be evaluated in accordance with this Rubric Evaluation Table shown here.

Make sure you understand these evaluation perspectives well before you apply and be prepared for the interview test.

### **Application Process**

- Where to apply
  - Please fill out and submit the application form provided in the application guidelines.
- Photo
  - Face Photo (above shoulders) (jpg, bmp, png format).
  - Please name the file "Student ID Number\_name.jpg" (or bmp, png).
- Essay
  - Information about yourself and Research Outline
    - Your name/ Affiliation (Graduate School, Major)/ Academic Supervisor (Make sure to consult with your academic supervisor before you apply)
    - Subject of Research/ Research Keywords
    - Name of associate supervisor and/or associate graduate school (major)
      - If you have not decided these at the application stage, be sure to enter the name of the expected candidate associate supervisor or the name of the expected associate graduate school, etc.
  - Essay using Form 1
    - Please name the file "Student ID Number Name.pdf" (in .pdf format only).



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Please check this slide for application process.

Name of associate supervisor and/or associate graduate school (major) are required to fill in. If you have not decided these at the application stage, be sure to enter the name of the expected candidate associate supervisor or the name of the expected associate graduate school, etc.

Please consult with your expected academic supervisor before you apply.

### **Application Process**

- Essay
  - Please use Form 1
  - Instructions
    - Describe your research in a concise and easy-to-understand manner, including the <u>purpose of your research</u>, <u>research</u> methods, <u>research content</u>, and the <u>characteristics and originality of your research</u> (comparison with previous research, expected impact upon completion of the research, future prospects, etc.). Then, please describe in detail <u>what and to what extent you intend to clarify by the time you receive your degree</u>. Those who have applied for JSPS Research Fellowship for Young Scientists (DC1) for FY2023 may attach the application form as supplemental materials.
    - Describe how you think the research results obtained through this program will result in one or more of the following:

       (1) solutions to social issues, (2) creating leading research areas, and/or (3) creating a future vision of society concretely.
    - Describe what kind of "complex (multidisciplinary) knowledge" you think is necessary in accordance with the purpose of this Rhizome Program and how you plan to acquire it.
    - Describe the transferable skills\* you plan to acquire through this program and explain the reasons why you want to
      obtain these skills and how to acquire them.
      - \*Transferable skills in this program include skills that can be widely transferred and applied, such as originality, flexible mindset, rising to challenges, ability to identify research needs, research management skills, data analysis skills, presentation ability, leadership skills to attract people, and other skills that are required in developing innovative human resources.)
    - Describe your ideas about your career path after completing your doctoral course, and how you would like to be active
      and contribute to society.



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The essay should be prepared using the Form 1 file.

Explain the purpose, methods, content, features, characteristics and originality of your own research so that it is easy for people outside your area of expertise to understand. Then, describe in detail what and to what extent you intend to clarify by the time you receive your degree. Set up your degree to be completed within the standard term of study.

Describe in detail how you think the research results obtained through this program will result in one or more of the following:

- 1. solutions to social issues,
- 2. creating leading research areas, and/or
- 3. creating a future vision of society concretely.

Describe what kind of "complex knowledge" or multidisciplinary knowledge you think is necessary in accordance with the purpose of this Rhizome Program and how you plan to acquire it.

Describe the transferable skills you plan to acquire through this program and explain the reasons why you want to obtain these skills and how to acquire them.

Describe your ideas about your career path after completing your doctoral course, and how you would like to be active and contribute to society.

### **Student Obligations**

· Determine associate supervisor and promote the research activities of Complex Knowledge (multidiscipline)

指導教員

専門知2の深化・発展

指導教員

リゾーム型研究者

主たる専門知の深化・発展

- Attend research progress report meetings (every 6 months) and make progress report
  - · Also performed as qualification screening meeting
  - Evaluated by Rhizome promotion supervisors (Main and associate academic supervisors)
- Obtaining a certain number of credits from common education courses at graduate school
  - Career development
- Study abroad or in Japan for approx. 3 to 6 months: Mandatory
  - Career and network development
- Long-term internship (approx. 3 months): Recommended
  - Career and network development
- Submission of research papers, Participation in International Conferences
  - · Research promotion, career and network development
- Attend JST research integrity course and OMU compliance training courses
- Apply for JSPS Research Fellowship for Young Scientists (DC): Every year
- · Respond to monitoring and follow-up surveys conducted by both JST and this Program



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指導教員

専門知3の深化・発展

Students who are selected will have the obligations outlined here.

Attend research progress report meetings held every 6 months and make progress report. This is also performed as qualification screening meeting and if your research or rhizome activities are not satisfactory, the support may be terminated at that time. Please plan well and work on both your research and the Rhizome activities.

Some graduate schools or departments may have some difficulties to implement these. If it is the case, please consult with the Program Support Office.

If you have any questions or need assistance in carrying out these obligations, please contact the Program Support Office as well.

### **Details of Support**

- Rhizome Research Incentive Payments: JPY 2.2 million yen per year
   This includes JPY 2,000,000 for incentive payments (equivalent to living expenses) and JPY 200,000 for research expenses.
- Rhizome Activity Support Fund: application basis (with review)
  - Financial support for studying abroad or in Japan (approximately 3-6 months, up to JPY 1.5 million during support period)
  - Financial support for long-term internship (approximately 3 months)
  - Financial support for travel and participation expenses for international conferences and summer school overseas
  - Financial support for submitting research papers (includes translation costs)
  - Financial support for organizing and managing independent projects
  - Support for career and network development



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Please see this slide for what would be supported by this project.

• Rhizome Research Incentive Payments: JPY 2.2 million per year. This includes JPY 2,000,000 for incentive payments (equivalent to living expenses) and JPY 200,000 for research expenses.

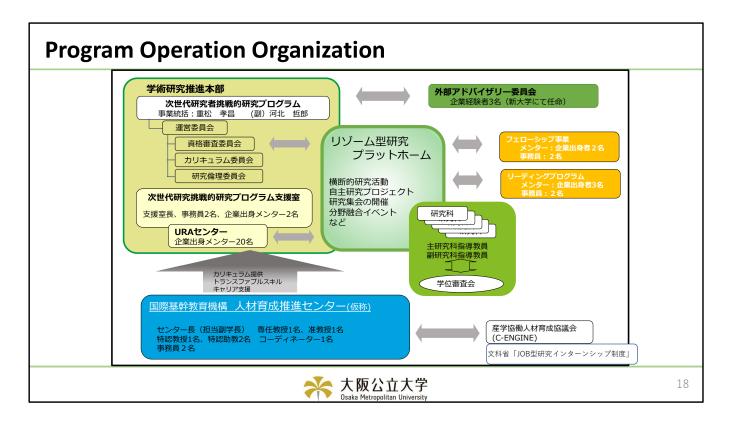
Followings are also supported.

- 1. Financial support for studying abroad or in Japan: up to 1.5 million yen during your support period.
- 2. Financial support for long-term internship (approximately 3 months)
- 3. Financial support for travel and participation expenses for international conferences and summer school overseas
- 4. Financial support for submitting research papers (includes translation costs)
- 5. Financial support for organizing and managing independent projects
- 6. Support for career and network development

These supports except for Rhizome Research Incentive Payments are subject to approval upon your application.

Please remind that these supports are funded by taxpayer's precious money and the budget of the fund is limited, thus your every application for these supports may not always be approved.

Please be advised of this in advance.



This program has been managed by these organizations. Your activities in this project will be supported by them.

If you need assistance, please contact the Program Support Office.



We look forward to your application.

### **Q & A Convergence of Knowledge**

#### What exactly is Convergence of Knowledge?

- Diverse "knowledge" gathers to generate "knowledge vitality" that creates new value
   "Convergence of Knowledge" is to produce "knowledge vitality"
- "Knowledge" that fuses all "knowledge" including humanities/social sciences and natural sciences

Source: 『「総合知」の基本的考え方及び戦略的に推進する方策 中間とりまとめ』 "Basic concept of "Convergence of Knowledge" and measures to be strategically promoted, Interim Report" Cabinet Office Secretariat of Science, Technology and Innovation Policy, March 17, 2022

- It should be distinguished from "knowledge" that just crosses multiple fields and "knowledge" that simply combines specialized knowledge from multiple fields.
- New "knowledge" created to solve problems and develop new fields based on "knowledge" cultivated in multiple fields



## Q & A Complex (multidisciplinary) Knowledge

- What exactly is complex (multidisciplinary) knowledge?
  - "Knowledge" created by utilizing "knowledge" cultivated in one's own specialized area and "knowledge" cultivated in other areas
  - By incorporating the "knowledge" of a field that has not been found to be related to one's own field of expertise, it will be useful in developing a new field of expertise and returning research results to society.



### Q & A Associate Graduate School, etc.

#### What criteria should I use to find an associate graduate school and its supervisor?

- Please search based on the following criteria: (1) to make use of research knowledge outside of your own area of expertise in your own research, (2) to seek knowledge that may be necessary to return research results to society, and (3) to make use of it in your own career path.
- If necessary, we will introduce you to a mentor, so please consult with us.

#### When should I make a decision?

- The sooner the better, but please decide by the Research Progress Report Meeting which will be held at the end of first semester after the support starts.
- If an associate academic advisor is not appointed within one year of the start of support, support will be terminated thereafter.
- Is it possible to designate a graduate school or laboratory of another university as an associate graduate school, etc.?
  - As long as it complies with the purpose of this program, it is acceptable upon agreement with your main supervisor.



### Q & A Associate Graduate School, etc.

- Can I ask an Associate supervisor who belongs to my same department of the graduate school and whose main theme or field of study is different from that of my main research theme?
  - As long as it is in accordance with the purpose of this program, it is fine.
- How much guidance is required from my supervisor at the associate graduate school, etc.?
  - It is not possible to give a general answer to this question, because the situation may differ from person to person. In some cases, it may develop into joint research, and in other cases, it may be limited to learning the specialized knowledge of the associate graduate school. Please think first of all that it is useful for your own research and career path.
  - Please note that this program does not intend to be a double degree program.



### Q & A Study Abroad & Internships

- Destination, duration, and timing of study abroad: Please take into account your research content, research plan, and career path.
  - Consult with your main academic supervisor.
  - · Referral to a mentor if further advice is needed
  - Up to 1.5 million yen will be provided. A plan (period, or multiple plans) must be drawn up within this range.
  - · You may study abroad in any country.
  - Note that there are budget constraints from year to year.
  - If the study abroad program in Japan or abroad has not been completed by the first semester of the final year of the standard term of study, or if a detailed plan for implementation has not been established, support will be terminated thereafter.
- Please let me know about internship activities.
  - Consult with your main academic supervisor.
  - · Have a strong sense of career path.
  - Consider a wide range of internship opportunities, including companies, government agencies, and universities.
  - · Introduce you to a mentor if you need an advice



#### **Q & A Research Incentive Payments and Rhizome Activity Support Funds**

- · Tax and social insurance treatment
  - The incentive payment (equivalent to living expenses) included in the Rhizome Research Incentive
    Payments will be treated as personal miscellaneous income under the tax law. Please follow the
    necessary procedures, such as filing a tax return, by yourself.
  - If you are a dependent of your supporter (e.g., your parent) and covered by the supporter's health insurance and other benefits, please inform the supporter that the incentive payment is treated as miscellaneous income. Please have the supporter consult with a person in charge at the supporter's workplace regarding your status as a dependent in terms of health insurance, support allowance, etc.
  - Please inquire at the local tax office as well regarding the status as a dependent in terms of income tax purposes.
- Are there any restrictions on the use of the Rhizome Research Incentive Payments?
  - Please keep in mind that this project is funded by taxpayers' money and use it effectively.
  - There are no restrictions on the use of incentive payment (equivalent to living expenses).
  - All research expenses are allowed to be used only after the purpose of use is clarified.
- Are there any restrictions on the use of the Rhizome Activity Support Funds or the number of times they can be used (e.g., for submitting papers, editing English, etc.)?
  - The budget is limited, but we will support as much as possible.
  - Extremely large expenditures may be taken into account.



### **Q & A Research Incentive Payments and Rhizome Activity Support Funds**

- Please let me know how I can take a leave of absence.
  - If it becomes difficult to continue your research activities due to childbirth, childcare, injury or illness, etc., we will determine whether to suspend or extend the period of support according to individual circumstances. Please contact us if you find yourself in such a situation. Please understand that the purpose of this program is to prevent stagnation of research activities due to financial reasons.

