Part 1
KAKENHI overview & evaluation system

Makoto Shida, URA, WPI-ASHBi
Grant application is about
Convincing your research plan!

2 Important factors of proposal

Idea

Storytelling

Today
Contents

1. KAKENHI Overview & Evaluation System
   How and by whom is your proposal evaluated?

2. KAKENHI Proposal Format
   What and where should you write in the format?

3. Preparing an effective KAKENHI Proposal
   What can you do to tell your story more effectively?
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1-1 KAKENHI is the **main funding source** in Japan, and **you work your way up** as you proceed.

### Government Competitive Funds

- **KAKENHI** 54.3%

### KAKENHI Categories

<table>
<thead>
<tr>
<th>Category</th>
<th>Duration</th>
<th>Grant Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kiban S</td>
<td>5Y</td>
<td>JPY 50 – 200M</td>
</tr>
<tr>
<td>Kiban A</td>
<td>3 – 5Y</td>
<td>JPY 20 – 50M</td>
</tr>
<tr>
<td>Kiban B</td>
<td>3 – 5Y</td>
<td>JPY 5 – 20M</td>
</tr>
<tr>
<td>Kiban C</td>
<td>3 – 5Y</td>
<td>( \leq ) JPY 5M</td>
</tr>
<tr>
<td>Early Career</td>
<td>2 – 5Y</td>
<td>( \leq ) JPY 5M</td>
</tr>
<tr>
<td>(Wakate)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

+ other special categories

FY2019 JPY 436B

White Paper on Science and Technology 2019, MEXT
1-2 **Wakate** is the **ideal starting fund** for the Early-Stage Researchers if you are eligible.

<table>
<thead>
<tr>
<th>Category</th>
<th><strong>Wakate</strong> (Early Career)</th>
<th><strong>Kiban C</strong> (Scientific Research C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eligibility</td>
<td>&lt; 8 years after PhD acquisition</td>
<td>None</td>
</tr>
<tr>
<td>Project duration</td>
<td>2 – 5 Y</td>
<td>3 – 5 Y</td>
</tr>
<tr>
<td>Grant size (total amount)</td>
<td>≤ JPY 5M</td>
<td>≤ JPY 5M</td>
</tr>
<tr>
<td>Success rate (FY2019)</td>
<td>FY 2019 40.0%</td>
<td>FY2019 28.2%</td>
</tr>
<tr>
<td></td>
<td>FY2018 30.7%</td>
<td>FY2018 27.9%</td>
</tr>
<tr>
<td>Allocation Rate (% of proposed amount)</td>
<td>64.9%</td>
<td>66.9%</td>
</tr>
</tbody>
</table>
For Wakate & Kiban C, **Four reviewers will evaluate your proposal in Two stages**

**1st Stage**
- **Top 10%**
- **Border 40%**
- **Low 50%**

**2nd Stage**
- **Selected** (no 2nd stage)
- **Re-evaluation based on Marks & Comments of other reviewers**

**Selected 30-40%**

**Not Selected 30-40%**

**Same 4 Reviewers of your Basic Review Section**

A B C D
1-4 2nd stage is **Elimination**. Even one reviewer’s bad score may be critical.

Reviewers will check the **reasons for the low mark by others**.

Make sure all necessary conditions are fulfilled in your proposal so that they won’t mark your low for small things.

<table>
<thead>
<tr>
<th>1st Stage Result</th>
<th>2nd Stage Re-evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top 10%</td>
<td>A</td>
</tr>
<tr>
<td>Border 40%</td>
<td>B</td>
</tr>
<tr>
<td>Low 50%</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>D</td>
</tr>
</tbody>
</table>

1st Stage Overall Score

- A: 3
- B: 4
- C: 3
- D: 1

Comments:

- This proposal is XXX but YYY.
- This proposal is XXY but YYY.
- This proposal is XZX but YZY.
- This proposal is XZZ but ZZZ!

Final Score

A

2nd Stage Score

<table>
<thead>
<tr>
<th>Score</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Top priority</td>
</tr>
<tr>
<td>B</td>
<td>Recommend</td>
</tr>
<tr>
<td>C</td>
<td>Can be selected</td>
</tr>
<tr>
<td>D</td>
<td>None of above</td>
</tr>
</tbody>
</table>

Stakeholder

Institute for the Advanced Study of Human Biology (WPI-ASHBi)
1-6 Select your research field according to "Who will understand my research best?"

Example: “Comparison of **skeletal formation** of mammalian **embryos**”

<table>
<thead>
<tr>
<th>Basic Section</th>
<th>Examples of related research content</th>
</tr>
</thead>
<tbody>
<tr>
<td>44020 Developmental Biology-related</td>
<td>Cell differentiation, Stem cells, Regeneration, Germ layer formation, Morphogenesis, Organogenesis, Fertilization, Germ cells, Regulation of gene expression, Developmental genetics, Evolution and development, etc.</td>
</tr>
<tr>
<td>56020 Orthopedics-related</td>
<td>Orthopedics, Rehabilitation medicine, Sports medicine, etc.</td>
</tr>
</tbody>
</table>

Ask your Japanese colleague to help you check the past reviewer list of the section you are aiming for. [https://www.jsps.go.jp/j-grantsinaid/14_kouho/meibo.html](https://www.jsps.go.jp/j-grantsinaid/14_kouho/meibo.html)

Your reviewer may consist of an expert of “similar” but “not exactly” the same field as you…

So, write in “easy-to-understand” language
1-6 Reviewers **don’t have much time** in evaluation, make your documents **easy-to-understand format**

50+ proposals $\times$ 7p$=$ **over 350p!!**

Which document is easier to understand in a glance?

A

```
Point 1: Feasibility

1. **Feasibility:**
   - Define the problem and state the objectives of the research.
   - Provide a clear outline of the research plan and its feasibility.
   - Justify the need for the research and its potential impact.
   - Identify potential challenges and propose solutions.
   - Clearly state the expected outcomes and their significance.

2. **Methodology:**
   - Describe the methods and techniques to be used in the research.
   - Justify the choice of methods and their appropriateness.
   - Include any necessary equipment and resources.
   - Provide a timeline for the research activities.

3. **Timeframe:**
   - Outline the expected timeline for the research activities.
   - Include milestones and deliverables.
   - Justify the proposed timeline and its feasibility.

4. **Financial Requirements:**
   - Estimate the financial requirements for the research.
   - Justify the proposed budget and its appropriateness.
   - Include any additional funding sources or potential partners.

Point 2: Compatibility

1. **Compatibility:**
   - Describe how the research will complement existing knowledge.
   - Identify potential synergies with other research projects.
   - Justify the compatibility of the research with existing research goals.

2. **Research Team:**
   - Identify the expertise and experience of the research team.
   - Justify the selection of the research team and its appropriateness.
   - Include any necessary training or support.

3. **Research Environment:**
   - Describe the research environment and its suitability for the research.
   - Identify any potential challenges and propose solutions.
   - Justify the suitability of the research environment for the research.
```

B

```
Point 1: Feasibility

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   - Define the problem and state the objectives of the research.
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"Guidelines for Writing KAKENHI Proposals, 3rd edition", KURA
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<table>
<thead>
<tr>
<th>Part 1</th>
<th>Part 2</th>
<th>Part 3</th>
<th>Part 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive Summary, Objectives, Method, etc.</td>
<td>Research history, research field trends, etc.</td>
<td>Past achievements/honors, research environment, team, etc.</td>
<td>Human Right Protection, Legal Compliance etc.</td>
</tr>
</tbody>
</table>

- **Part 1**: 3 pages
- **Part 2**: 1 page
- **Part 3**: 2 pages
- **Part 4**: 1 page

**Total 7 pages**
2-5 Proposal structure can be broken down to **Main Body** and **Supporting Evidences**.

**Part 1**
- Research Proposal: 3 pages

**Part 2**
- Background: 1 page

**Part 3**
- Feasibility: 2 pages

**Part 4**
- Compliance: 1 page

**Main body**

**Supporting Evidences**
1. KAKENHI Overview & Evaluation System
   Why KAKENHI? How and by whom is your proposal evaluated?

2. KAKENHI Proposal Format
   What and where should you write in the format?

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   What can you do to tell your story more effectively to the evaluators?
Grant Writing is to convince your future plan not to explain your past findings

### Academic Writing versus Grant Writing: Contrasting Perspectives

<table>
<thead>
<tr>
<th>Academic Writing</th>
<th>Grant Writing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scholarly pursuit:</td>
<td>Sponsor goals:</td>
</tr>
<tr>
<td><em>Individual passion</em></td>
<td><em>Service attitude</em></td>
</tr>
<tr>
<td>Past oriented:</td>
<td>Future oriented:</td>
</tr>
<tr>
<td><em>Work that has been done</em></td>
<td><em>Work that should be done</em></td>
</tr>
<tr>
<td>Theme-centered:</td>
<td>Project-centered:</td>
</tr>
<tr>
<td><em>Theory and thesis</em></td>
<td><em>Objectives and activities</em></td>
</tr>
<tr>
<td>Expository rhetoric:</td>
<td>Persuasive rhetoric:</td>
</tr>
<tr>
<td><em>Explaining to reader</em></td>
<td><em>“Selling” the reader</em></td>
</tr>
<tr>
<td>Impersonal tone:</td>
<td>Personal tone:</td>
</tr>
<tr>
<td><em>Objective, dispassionate</em></td>
<td><em>Conveys excitement</em></td>
</tr>
<tr>
<td>Individualistic:</td>
<td>Team-focused:</td>
</tr>
<tr>
<td><em>Primarily a solo activity</em></td>
<td><em>Feedback needed</em></td>
</tr>
<tr>
<td>Few length constraints:</td>
<td>Strict length constraints:</td>
</tr>
<tr>
<td><em>Verbosity rewarded</em></td>
<td><em>Brevity rewarded</em></td>
</tr>
<tr>
<td>Specialized terminology:</td>
<td>Accessible language:</td>
</tr>
<tr>
<td><em>“Insider jargon”</em></td>
<td><em>Easily understood</em></td>
</tr>
</tbody>
</table>

3-2 Strategically plan your storyline using a "Large-Specified-Large" (hourglass like) scope.

- **Large unsolved issue** (Empathic theme)
- **Critical Problem** (Specific unmet needs)
- **Your Solution** (Unique & solid)
- **Large potential impact** (Short & Long term outcome)

**Other's interest**

**Your focus**

**Large scale**

**Specified**

**Large scale**
3-3 Create a "Key Scientific Question" in which your proposal provides the exclusive solution

You must distinguish yourself from others by showing that the other ways will not reach the solution you have proposed.
3-4 **Identify your story components** by making an **outline** before you start writing

Outline Framework which you can use in creating your storyline

<table>
<thead>
<tr>
<th>Past</th>
<th>Present</th>
<th>Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction/Issue</td>
<td>Your Solution</td>
<td>Predicted results</td>
</tr>
<tr>
<td>Common knowledge,</td>
<td>Theme of your proposal</td>
<td>What can be achieved</td>
</tr>
<tr>
<td>scientific background, etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Critical Problem</td>
<td>Your strength</td>
<td>Potential Impact</td>
</tr>
<tr>
<td>Unmet needs of</td>
<td>Key findings, research environment</td>
<td>to Science &amp; Society</td>
</tr>
<tr>
<td>other research</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(domestic/global)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Modified from Ono E, “科研費研究計画調書のグラフィックデザイン”
ASHBi KAKENHI Seminar, 2019
3-5 Visualize the **logic & flow of your story** by making a **flow diagram** of your plan.

Visualize your storyline to check the flow:

1. **Large unsolved Issue**
2. **Critical Problem in solving the issue**
3. **Theme: Elucidate XXX**
   - **Strength/Appealing point of your solution**
   - **Subtheme 1**: Goal & Approach
   - **Subtheme 2**: Goal & Approach
   - **Subtheme 3**: Goal & Approach
4. **Predicted Results of your solution**
5. **Impact on Science & Society**

- Is it logically connected?
- Does it really solve the problem?
- Do the subthemes utilize the strength which you have proposed?
- Do the goals lead to the solution?
3-6 Try to obtain **Feedbacks** from others early so that major revision can be made if necessary

People from different backgrounds may not share the same understanding as you do

“A bird that doesn’t fly”
3-7 Visualize your **story structure** by utilizing the headlines & figures as a guide to reviewers

Example of a document structure to aid the readers’ understanding at a first glance

Source: Ogawa T, “My experience as a reviewer”
KURA KAKENHI Preparation in Advance!, 2018
Appendices
App 1. KAKENHI Research Categories can be divided into 4 main groups

- Specially Promoted Research
- Scientific Research on Innovative Areas
- Challenging Research (Pioneering/Explanatory)
- Scientific Research (S/A/B/C)

Source: KAKENHI Grants-in Aid for Scientific Research Pamphlet, JSPS
https://www.jsps.go.jp/english/e-grants/data/kakenhi_pamph_e.pdf
App 2. Useful links on KAKENHI

• KAKENHI proposal documents

• KAKENHI Review Section Table
  https://www.jsps.go.jp/english/e-grants/data/r03/review_section_table.pdf

• KAKENHI past reviewer list (in Japanese)
  https://www.jsps.go.jp/j-grantsinaid/14_kouho/meibo.html

• KAKENHI Peer Review Process
  https://www.jsps.go.jp/english/e-grants/grants03.html

• KAKENHI Review Process & Assessment Criteria
1. Research Objectives, Research Method, etc.

This research proposal will be reviewed in the Basic Section of the applicant’s choice. In filling this application form, refer to the Application Procedures for Grants-in-Aid for Scientific Research -KAKENHI-. In this column, research objectives, research method, etc. should be described within 3 pages. A succinct summary of the research proposal should be given at the beginning. The main text should give descriptions, in concrete and clear terms, of (1) scientific background for the proposed research, and the “key scientific question” comprising the core of the research plan, (2) the purpose, scientific significance, and originality of the research project, and (3) what will be elucidated, and to what extent and how will it be pursued during the research period.

If the proposed research project involves Co-Investigator(s) (Co-I(s)), a concrete description of the role-sharing between the Principal Investigator (PI) and the Co-I(s) should be given.

Research Proposal
2. Research Development Leading to Conception of the Present Research Proposal, etc.

In this column, descriptions should be given within 1 page of (1) applicant’s research history leading to the conception of this research proposal and its preparation status, and (2) domestic and overseas trends related to the proposed research and the positioning of this research in the relevant field.

3. Applicant’s Ability to Conduct the Research and the Research Environment

In this column, descriptions of (1) applicant’s hitherto research activities, and (2) research environments including research facilities and equipment, research materials, etc relevant to the conduct of the proposed research should be given within 2 pages to show the feasibility of the research plan by the applicant (PI) (and Co-I(s) if any).

If the applicant has taken leave of absence from research activity for some period (e.g. due to maternity and/or child-care), he/she may choose to write about it in “(1) applicant’s hitherto research activities”.

Institute for the Advanced Study of Human Biology (WPI-ASHBi)
4. Issues Relevant to Human Right Protection and Legal Compliance
(cf. Application Procedures for Grants-in-Aid for Scientific Research)

In case the proposed research involves such issues that require obtaining consent and/or cooperation of the third party, consideration in handling of personal information, or actions related to bioethics and/or biosafety (including the laws and regulations and the guidelines in the country/region(s) where the joint international research is to be conducted), the planned measures and actions for these issues should be stated within 1 page.

This applies to research activities that would require approval by an internal or external ethical jury, such as research involving questionnaire surveys, interviews and/or behavior surveys (including personal histories and images) including personal information, handling of donated specimens, human genome analysis, recombinant DNA, and experimentation with animals.

If the proposed research does not fall under such categories, enter “N/A (not applicable)”.

Compliance