**SACLA Proposal Application Template**

**(Priority Strategy Proposal : Non-proprietary)**

**This proposal application template can be used to draft your proposal application details and then copy and paste them into the online application.**

**[PAGE 1: Basic Information]**

1. Title of Experiment 〈required〉 (70 word limit)

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2. Research Area and Research Method

2-1. Research Area 〈required〉

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| --- | --- | --- |
| Main Area | Related Area |  |
| Select from the following〈required〉 | Multiple Choice Allowed |
| □ | □ | AMO (Atom, Molecular & Optical Science) |
| □ | □ | BIO (Biology) |
| □ | □ | CHM (Chemistry) |
| □ | □ | HEDS (High Energy Density Science) |
| □ | □ | IND (Industrial Applications) |
| □ | □ | MAT (Materials Science) |
| □ | □ | MI (Methods & Instrumentations) |
| □ | □ | XOP (X-ray Optics) |
| □ | □ | Others |

- Main Area ：Please choose a Main Research Area. 〈required〉

- Related Area：Please put a check, if there is the related areas in addition to a Main Research Area.

2-2-1. Main Research Method

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| Method |  |
| Select from the following〈required〉 |
| □ | XIM(X-ray Imaging)　□ Please put a check in case of CDI (Coherent Diffractive Imaging)  |
| □ | XSC (X-ray Scattering) |
| □ | XSP (X-ray Spectroscopy) - If you choose XSP, please put a check into one of the following. 　□ X-ray Detection　□ Charged Particle Detection |
| □ | XRD (X-ray Diffraction)　□ Please put a check in case of SFX (Serial Femtosecond Crystallography)　□ Please put a check in case of FPX(Fixed-target Protein Crystallography) |
| □ | Others |

- Please choose a main research method. 〈required〉

- If there is the Related Research Method, please proceed to the next step.

2-2-2. Related Research Method

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| --- | --- |
| Method |  |
| Multiple Choice Allowed |
| □ | XIM(X-ray Imaging)　□ Please put a check in case of CDI (Coherent Diffractive Imaging)  |
| □ | XSC (X-ray Scattering) |
| □ | XSP (X-ray Spectroscopy) - If you choose XSP, please put a check into one of the following. 　□ X-ray Detection　□ Charged Particle Detection |
| □ | XRD (X-ray Diffraction)　□ Please put a check in case of SFX (Serial Femtosecond Crystallography)　□ Please put a check in case of FPX(Fixed-target Protein Crystallography) |
| □ | Others |

- Please put a check, if there is the related methods in addition to a main Research method.

3. Beamline/hutch to be used 〈required〉

- 1-µm focused XFEL beam is available at BL3 EH4c or BL2 EH3&EH4b. The beamline to conduct the experiment will be determined after the Proposal Review in discussion with the beamline staff of SACLA.

- If you choose EH5 of BL3, please indicate whether or not you wish to use synchrotron radiation of SPring-8 BL32XU (RIKEN Targeted Proteins beamline) simultaneously, and if you wish to use SPring-8 synchrotron radiation simultaneously, please provide the required information in the box #16. Please note that the beamtime requested must be the same for SACLA and SPring-8 (e.g. 3 shifts at SACLA=4.5 shifts at SPring-8).

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| --- | --- |
| Beamline & Hutch | (Check one) |
| BL3 | EH2 | XFEL, unfocused | □ |
| BL3 | EH4c | XFEL, 1-µm focused | □ |
| BL2 | EH3 & EH4b |
| BL3 | EH5 |  XFEL-SPring-8 | □ |
| BL1 | SXFEL | □ |

4. Number of Shifts Requested at SACLA 〈required〉

- Explain how you estimated the number of requested shifts in the space provided for #16: How you calculated the overall beamtime requested.

　\_\_\_\_ shift(s) x \_\_\_\_ run(s) + \_\_\_\_ shift(s) x \_\_\_\_ run(s) + \_\_\_\_ shift(s) x \_\_\_\_ run(s)

5. Unacceptable Dates (50 word limit)

- Period covered : September 2016 〜 February 2017

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- Please note that we may not be able to fulfill your request. Also note that multiple unacceptable dates will make it difficult for you to receive beamtime.

**[PAGE 2: Project Team Members]**

6. Project Team Members: User Card Number, Name, and Affiliation

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- Project team members as well as project leaders are required to complete user registration in advance. If your team members have chosen "Do not allow" for their account settings in the User Registration page, their user card numbers are not displayed in search results and you cannot find them; therefore, all users are strongly encouraged to choose "Allow." If necessary, please ask your team members to change their account settings (Log in to My Page > “Edit My Details” link in the top right hand corner). The account settings can be changed even after proposals are approved for beamtime.

- If you are affiliated with an institution outside Japan, please have at least one local contact person affiliated with a Japanese institution participate in your experiment. If you cannot find one, please contact the Users Office (sacla.jasri@spring8.or.jp).

**[PAGE 3: Known Safety Hazards & Measures to Be Taken]**

7. Does your proposed research involve any of the following? 〈required〉

- If it does, you are required to follow certain pre-use/pre-experiment procedures.

|  |  |
| --- | --- |
| Check Item | (Check all that apply.) |
| N/A | □ |
| High pressure gas cylinder | □ |
| Radioisotope | □ |
| Radiation generator: installation, modification, change of purpose or specifications | □ |
| Internationally controlled materials (nuclear source/fuel materials) | □ |
| Installation of devices/equipment regulated by law:- High-pressure gas manufacturing plant- Local ventilation/gas supply and exhaust system- Crane | □ |
| Chemicals regulated by law:- Specific substances regulated by the "Act on the Prohibition of Chemical Weapons and Control of Specific Chemicals"- Specified poisonous substances regulated by the "Poisonous and Deleterious Substances Control Law"- Substances for which manufacturing is prohibited, asbestos, etc. under the "Industrial Safety and Health Law"- Narcotics, stimulant drugs, hemp (gum), opium, and their raw materials, psychotropic drugs, and no dangerous substances of 1/5 or more in quantity specified by the "Fire Service Act" | □ |
| Invasive alien species | □ |
| Specified risk materials (SRM) from cattle | □ |
| Prohibited imports regulated by the "Plant Protection Act" | □ |
| Recombinant DNA | □ |
| Human materials | □ |
| High-energy laser system (Class 4, Class 3B and Class 3R lasers specified by IEC 60825-1 standard) | □ |
| Live animals (mammals, birds, or reptiles) | □ |
| Specific biological samples/biohazards (agents of biological origin that have the capacity to cause ill-effects in other organisms)- pathogenic microbes (incl. infectious nucleic acids, plasmids, prions), parasites, and the toxic substances, carcinogens, and allergens produced by them that can cause harm to humans, livestock, and farm/marine products. | □ |

8. Facility Equipment

8-1. What facility equipment, pooled/shared device do you wish to use? 〈required〉(90 word limit)

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8-2. Do you plan to use the synchronized laser system?

(If you use the OPA, be sure to provide the wavelength.)

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| --- | --- | --- |
| Laser System | Check where appropriate. | Wavelength |
| Chirped Pulse Amp. (CPA) | □ |  |
| Optical Parametric Amp. (OPA) | □ |  |

9. Details of samples (Including substances prepared by SPring-8/SACLA as well as carry-in samples)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Name of Substance\*1 | State/Figure\*2 | Qty & Unit (SI)\*3 | Hazards\*4 | Purpose of Use\*5 | Containment measure and disposal method | Prevention of Hazards | Risk Level\*6 | Remarks |
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\*1 Avoid abbreviations.

\*2 Capillary (powder), Cylinder (gas), Plate (crystal), metal foil, tablet, bulk, etc.

\*3 SI Unit.

\*4 Categorize the hazard of your sample as Poisonous Substances, Deleterious Substances, Specified Chemical Substances, Organic Solvents, Flammable/Explosive Substances, etc. These categories are based on Japanese legal regulations. You can refer the category and properties of your sample via links described in Section “Procedures to be followed in advance by principal investigators” in the following page.

(http://www.spring8.or.jp/en/users/safety/form\_procedure/chemistry#a-2)

\*5 Measurement sample, Cleanser, Coolant, Tranquillizer, etc.

\*6 Risk assessment result. For details, see the following page (http://sacla.xfel.jp/?p=10317&lang=en). Choose “N/A” for chemical substances which are exempt from the regulation.

<Note>

From 2016B, a new required field for Risk Assessment has been added to web application forms. When filling out a form, you should estimate Risk Assessment Level for every chemical substance including samples to be used at SPring-8/SACLA experiments. For details, see the following page (http://sacla.xfel.jp/?p=10317&lang=en). If you have questions, contact JASRI Safety Office (email: safety@spring8.or.jp).

10. Equipment that you will bring to SACLA

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| --- | --- | --- |
| Equipment | Specifications\*7 | Safety measures |
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|  |  |  |
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\*7 Voltage, ampere, pressure, temperature, etc.

**[PAGE 4: Abstract]**

11. Abstract〈required〉(1200 word limit)

- Describe the significance, purpose, features and expected results of the proposed research, and the consistency with these review criteria, which will be used to review the scientific validity of the proposed research. Please also be sure to provide the necessity of the SACLA as a research tool.)

- If you wish to carry out a proposal under the X-ray Free Electron Laser Priority Strategy Program commissioned by the MEXT (Ministry of Education, Sports, Culture, Science and Technology – Japan), please provide the overall research plan as well.

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12. Provide the preparation status related to this application proposal. In cases where there are other proposals submitted in this term, describe the relationship with this application proposal. Provide similar experiments carried out at other facilities. 〈required〉(990 word limit)

Notice: If you have proposals performed at SACLA being relevant to this application proposal, please submit a Progress Report by Website entry.

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13. Provide the expected future developments and direction of the proposed research. 〈required〉

　 (270 word limit)

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**[PAGE 5: Experimental Details]**

14. Experimental details (sketch of setup, measurement method, detector, concentration of samples, etc.)

〈required〉 (1350 word limit)

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15. Energy/wavelength or Operating conditions required. 〈required〉 (50 word limit)

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16. How you calculated the overall beamtime requested (For a "Continuation" proposal, provide an explanation of how you calculated the beamtime requested for this round). 〈required〉 (900 word limit)

- If you choose EH5 of BL3 in the box No.3, please indicate whether or not you wish to use SPring-8
synchrotron radiation simultaneously.

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| Note: If you choose EH5 of BL3, please indicate following.Using of both XFEL and SPring-8 BL32XU simultaneously Yes/No (please erase either one) |

**[PAGE 6: Priority Strategy Proposal]**

17. Research Themes 〈required〉

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| --- | --- |
| Specific Research Themes | (Check one.) |
| Priority Strategy Proposal | Hierarchical Structure Dynamics of Biomolecules | Structural Analysis of Drugtargeted Membrane Protein Nanocrystals | □ |
| Imaging of Whole Cell and Its Components in the Living State | □ |
| Single Molecule Structural Analysis of Supramolecular Complex | □ |
| Dynamics Research Combining Single Molecule X-ray Diffraction Experiments and Supercomputer Analysis | □ |
| Dynamic Structural Analysis Using Pump-Probe Techniques | □ |
| Pico/Femto Second Dynamic Imaging | Gas-Phase/Liquid-Phase/Solid-Phase Reaction Dynamics | □ |
| Ultrafast Interface Reaction Processes | □ |
| Charge Generation/Charge Transfer Dynamics | □ |
| Ultrafast Processes under Extreme Conditions | □ |
| Dynamic X-ray Spectroscopy | □ |

18. Reason for submitting a priority strategy proposal 〈required〉(230 word limit)

(Why does it have to be a priority strategy proposal?)

(Enter "Project commissioned by the MEXT" if your proposal falls under the category of #19 below.)

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19. If your proposed research has been approved under the X-ray Free Electron Laser Priority Strategy Program commissioned by the MEXT, provide the following information (Required if your proposal falls under this category.) 〈only required applicant〉

|  |  |
| --- | --- |
| Name of Project |  |
| Representing Institute/Organization |  |
| Name of Project Leader |  |
| Project Period | 　　　　MM/YYYY　　〜 　　MM/YYYY |

**[PAGE 7: Progress Report]**

20. Please describe the following items about all proposals performed at SACLA being relevant to this application proposal (13500 word limit).

■Proposal titles　■Proposal No.　■Date of experiment and shift number

■Description of the experiment, Summary of the results

■Publication Status of results obtained by using SACLA [Papers (published/in press), Major invited talks, Press releases, Received awards, Patents, etc.]

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Acceptable file formats are JPEG (.jpg/.jpeg), GIF(.gif), PNG (.png) only.

Do not upload files without file extensions. Each image should be no larger than 1MB in file size.

Fig. 1:

Fig. 2:

**[PAGE8: Attachments]**

21. File Upload (up to 3 files). Acceptable file formats are JPEG (.jpg/.jpeg), GIF(.gif), PNG (.png) only.

　 Do not upload files without file extensions. Each image should be no larger than 1MB in file size.

Fig. 1:

Fig. 2:

Fig. 3: