中央研究院 111 年度「永續科學研究計畫」計畫申請書

2022 Academia Sinica Sustainability Science Research Program (SSRP) Proposal

申請主題 Theme and Field(s)	☐ 全球氣候變遷下社會與經濟轉型研究 （Societal and Economic Transformations under Global Climate Change） ☐ 環境劣化下的社區健康議題探討 （Community Health Impact under Environmental Deterioration） ☐ 因應全球暖化之減碳策略與科技 （Decarbonization Strategies and Technologies in Response to Global Warming） ☐ 水資源與生態系變遷和保育研究 （Change and Conservation of Water Resources and Ecosystems） ☐ 其他 （Others）
計畫類別 SSRP Category	☐ 1.整合型 Integrated Research Projects (ITRP) ☐ 2.單一整合型 Collaborative Research Projects (CRP)
申請計畫名稱 Proposal Title	中文： English：

計畫(總)主持人 Project Director	姓名		職稱 Position	中： En：
	Name		申請單位 Affiliation	中： En：
	☐ Research Faculty of Academia Sinica ☐ Adjunct Research Fellow of Academia Sinica (A co-director of AS faculty is needed)			

計畫總經費 單位：新臺幣千元 Total Budget Unit: thousand NTD	第一年 Year 1:	第二年 Year 2:	第三年 Year 3:

計畫聯絡人 Project Contact Person		Email： Tel /Mobile：

跨領域實踐研究 Project Fulfilling Characteristics of Transdisciplinary Research	☐ Integration of both natural science and social science ☐ Including the concept of co-design, co-production, and co-delivery in the research process ☐ Including stakeholders in the research process (e.g., analysis, participation, communication) ☐ Anticipated application of research outcomes (i.e., policies, practices, action, prototype)

計畫關鍵詞 Key Words	中文： English：

計畫研究人員一覽表(請以中文填寫)

計畫研究人員	姓名	職稱 / 單位
總計畫名稱:		
總主持人		
共同主持人		
計畫名稱（分支計畫_1_）:		
分支主持人		
共同主持人		
計畫名稱（分支計畫_2_）:		
分支主持人		
共同主持人		

備註: 請依需求自行擴充表格，「整合型計畫」：分支計畫數 2~5 件；「單一整合型計畫」：主持人與共同主持人合作進行單一計畫。

List of Key Professional Personnel

Role of PIs	Name	Position / Affiliation
Project Title:		
(Main) Project Director		
(Main) Project Co-Director		
Sub_1_Title:		
Sub_1_Director		
Sub_1_Co-Director		
Sub_2_Title:		
Sub_2_Director		
Sub_2_Co-Director		

Note: Extend this form as necessary. "Integrated Research Projects (ITRP)" [整合型計畫]: the number of subprojects ranging from two to five; "Collaborative Research Projects (CRP)" [單一整合型計畫]: The Project Director and Co-Directors collaboratively perform one single project.

計畫整體研究人力需求
Proposed Research Personnel for the Whole Project

整體研究人力需求-以計畫區分(Categories by Project)

	博士後研究 Postdoctoral Fellows	研究助理 Research Assistants	碩、博士生 Graduate Students	總/分支計畫人力小計 No. of Personnel
總計畫 Main Project				
分支計畫 1 Sub 1				
分支計畫 2 Sub 2				
各項研究人力需求數小計 Subtotal of Each Category				**研究總人力數目** Total Personnel: —

整體研究人力需求-以年度區分(Categories by Year)

	博士後研究 Postdoctoral Fellows	研究助理 Research Assistants	碩、博士生 Graduate Students	總/分支計畫人力小計 No. of Personnel
第一年 Year 1				
第二年 Year 2				
第三年 Year 3				

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□總計畫 Main Project　□分支計畫 Subproject＿

計畫名稱 (中文)：

Project Title (English):

分支計畫數 The number of subprojects:

(總)計畫主持人 Main Project Director/Subproject Director:

計畫共同主持人 Project Co-Director/Subproject Co-Director:

申請單位 Affiliation:

計畫類別 Project Category: □整合型 ITRP　□單一整合型 CRP

- *Text should be single spaced in font of Times New Roman, 11 point. Smaller font size 9 or 10 is allowed only for Figure legend and Bibliography*
- *For an Integrated Research Projects(ITRP) [整合型計畫], all subprojects must complete Sections 1~ 6, which shall subsequently be included in the proposal.*
- *In addition, all subprojects must fill in the "Budget Balance Spreadsheet" (an Excel file), which shall be totaled to provide the "Budget Plan and Justification" in Section 3 of the proposal.*

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1. **Abstract (English and Chinese)　□Main Project　□Subproject＿**

   Please address each of the following questions briefly and precisely:

a.	What is the Sustainability Science Research problem to be addressed? Which part of the problem will be solved?
b.	What is your major idea? How innovative it is? How are you going to solve the problem you identified?
c.	How much impact to sustainable development you will make after the 3-year funding period, if the project is successful.

   *In addition to an **Abstract** answering to the above points in a total of ≤ **500 English words**, provide also a **Chinese Abstract** based on the above statements in less than **300 words**.*

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2. Research Plan   ☐Main Project   ☐Subproject__

Please address each of the following questions briefly and precisely:

> **a.** **The problem to be solved.** Identify Sustainability Science Research problem(s), focusing on its importance. Describe the state-of-the-art and identify the current bottleneck.
>
> **b.** **The innovative ideas proposed.** Define the specific aims of the project. Specifically highlight the innovative approach(es) you propose, including its rationale, originality, and scientific merit.
>
> **c.** **The potential impact of the work.** Describe how it may lead to a breakthrough and transform the field if the project is successful. Focus on its scientific and/or societal impact. For the SSRP, we will consider the possible impact to sustainable development, in particular to Taiwan society. Also, the list of the stakeholders on whom this project targets is required.
>
> **d.** **Plans to test the ideas.** Describe the research approaches in each specific aim. Identify the milestones and the timeline of accomplishing them. Focus on the logic and scientific or technical challenges.
>
> Also describe international competitiveness of your project and the expertise of assembled team. For team projects, provide a succinct description of how your research team is organized; how the expertise of your co-PIs and collaborators is essential to this project and complements one another.

- *For an Collaborative Research Projects (CRP) [單一整合型計畫], the total page limit for this section including references is **10** pages.*
- *For an Integrated Research Projects (ITRP)[整合型計畫], the page limit for the main project is **10**, each additional subproject may add up to **5** pages, (e.g., for a proposal with four subprojects, the page limit is 30.)*

3.1. Total Budget Plan

(For an Integrated Research Projects(ITRP), this 3.1 section must be filled by the main project director.整合型計畫[總主持人] 需完成此總預算表填列)

以計畫區分(by Project)　　　　　　　　　*單位：新臺幣千元 *Unit: thousand NTD

計畫 Main / Subprojects	Year 1	Year 2	Year 3
(總計畫)共同費用: Main Project Shared Expenses			
分支計畫1 (Sub 1)			
分支計畫2 (Sub 2)			
年度合計總費用 Yearly Total			

以補助項目區分(by Categories)

年度 Year			1	2	3
業務費 Operating Expenses (A)	臨時人員酬金 Personnel Salary	博士後 Postdoc			
		助理 R.A.			
		其他 Others (專業人士/臨時工)			
	教育訓練費 Training	International			
		Domestic			
		Mainland China			
	旅費 Travel	International			
		Domestic			
		Mainland China			
	研究相關耗材費用 Consumables				
	業務費總額 Total (A)				
機械(儀器) 設備費 Equipment (B)	非資訊相關 Non-Computer Item				
	資訊相關 Computer-related Item				
	設備費總額 Total (B)				
獎補助費 Graduate Student Stipend (C)					
總金額 Total (T) = (A)+(B)+(C)					

*單位：新臺幣千元 *Unit: thousand NTD; 3rd year funding is subject to satisfactory performance

3.2. Proposed Research Personnel, Budget Plan and Justification
☐**Main Project**　☐**Subproject__**

Proposed Research Personnel for the Project

	博士後研究 Postdoctoral Fellows	研究助理 Research Assistants	碩、博士生 Graduate Students	計畫人力小計 No. of Personnel
計畫人力 Project				

年度 Year			1	2	3
業務費 Operating Expenses (A)	臨時人員酬金 Personnel Salary	博士後 Postdoc			
		助理 R.A.			
		其他 Others (專業人士/臨時工)			
	教育訓練費 Training	International			
		Domestic			
		Mainland China			
	旅費 Travel	International			
		Domestic			
		Mainland China			
	研究相關耗材費用 Consumables				
	業務費總額 Total (A)				
機械(儀器)設備費 Equipment (B)	非資訊相關 Non-Computer Item				
	資訊相關 Computer-related Item				
	設備費總額 Total (B)				
獎補助費 Graduate Student Stipend (C)					
總金額 Total (T) = (A)+(B)+(C)					

*單位: 新臺幣千元　*Unit: thousand NTD; 3rd year funding is subject to satisfactory performance

- *Briefly justify the total budget requested and how it will be distributed among the subprojects or co-PIs for this integrated (team) research project.*
- *For the main project, this itemized budget plan is only for shared expenses.*
- *All subprojects must fill in the "Budget Balance Spreadsheet" (an Excel file), which shall be totaled to provide the "Budget Plan and Justification."*
- *Budget for the equipment costs exceeding 100 thousand NTD, the descriptive justification must be provided.*
- *The Budget Plan (using Table above) and the descriptive justifications to be provided should not exceed **1** page.*

4. Summary of Previous Research Accomplishments ☐**Main Project** ☐**Subproject＿**

Summarize and highlight the previous research accomplishments of your research group in the **last <u>five</u> years**, paying particular attention to describing the respective outcome from each of the previous grant supports (include the funding sources and grant number) for all accomplishments described here. Do not include manuscripts in preparation or submitted.

簡述研究團隊過去 5 年的具體學術表現與研究成果，請註明各項成果由哪些計畫(含院內外)的經費補助產出，並列出其計畫編號。

*The page limit for this section is **1** page for **each project / subproject**.*

_____

5. Personal Information

Each Director and co-Director should provide a CV or a resume. There is no particular format, except the section of basic information, but the CV should include education, experience, research interests, major research achievements, professional distinctions (e.g. service, honors, speaking invitations), a list of representative publications within the past five years, etc.

個人簡歷 應含聯絡資訊、所屬單位與職稱、學經歷、研究領域、獎項及榮譽、代表性著作目錄。

☐**Main Project** ☐**Subproject＿**

☐Main Project Director ☐Co-Director ☐Subproject Director ☐Subproject Co-Director

[Multiple Selection Acceptable]

中文姓名: **NAME:**

AFFILIATION(INSTITUTE/RESEARCH CENTER /DIVISION/DEPARTMENT**)**

Current POSITION

Email: **Address(中文):**

Expertise:

*This section including list of publications should not exceed **4** pages for **each** Director and co-Directors.*

6. List of Current and Pending Grant Support

Please list any current and pending projects/proposals funded by Academia Sinica and external agencies in the last three years (from 2019-2021). Any incomplete information may adversely affect the consideration of this proposal. Please be reminded that applicants should not submit the same proposal to multiple funding sources at Academia Sinica and/or to external funding agencies at the same time.

請列舉近 3 年所執行或申請中之院內、外研究計畫及其相關資料，資訊不足者將影響審查。請勿以同一計畫書同時向本院不同計畫及院外補助機關提出申請補助。

□**Main Project**   □**Subproject__**   [Multiple Selection Acceptable]

□Project Director □Co-Director □Subproject Director □Subproject Co-Director

NAME/中文姓名: _____

<table>
<tr>
<td rowspan="3">1</td>
<td colspan="3">(1) Funding Agency and Project Type 補助單位及計畫類型: 中研院/科技部 個人型/整合型
(2) Grant Title and number 計畫名稱與編號 :
  ● Status 計畫狀態:　　□ Current 執行中　　　　□ Pending 申請中
  ● Research Role 計畫擔任角色: □ (Main) Project Director　計畫(總)主持人
   □ Co-Director 計畫共同主持人 □ Subproject Director/co-Director 分支計畫(共同)主持人
(3) Project Period 執行期間: _____(YYYY/MM) to _____(YYYY/MM)
(4) Funding Amount in thousands of NTD 補助總額 (仟元)</td>
</tr>
<tr>
<td>Year 年度</td>
<td>Total Project Amount 總研究經費</td>
<td>Individual Project Amount 個人研究經費</td>
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<td></td>
<td colspan="3">(5) Is there any relationship between this project/proposal and the Sustainability Science Research Program for which you are applying? 此計畫是否與本次永續計畫申請案有相關？
□ No　　　　□ Yes. (Please specify details 請敘明其關聯性)</td>
</tr>
</table>

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<tr>
<td rowspan="3">2</td>
<td colspan="3">(1) Funding Agency and Project Type 補助單位及計畫類型: 中研院/科技部 個人型/整合型
(2) Grant Title and number 計畫名稱與編號 :
  ● Status 計畫狀態:　　□ Current 執行中　　　　□ Pending 申請中
  ● Research Role 計畫擔任角色: □ (Main) Project Director　計畫(總)主持人
   □ Co-Director 計畫共同主持人 □ Subproject Director/co-Director 分支計畫(共同)主持人
(3) Project Period 執行期間: _____(YYYY/MM) to _____(YYYY/MM)
(4) Funding Amount in thousands of NTD 補助總額 (仟元)</td>
</tr>
<tr>
<td>Year 年度</td>
<td>Total Project Amount 總研究經費</td>
<td>Individual Project Amount 個人研究經費</td>
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□ No　　　　□ Yes. (Please specify details 請敘明其關聯性)</td>
</tr>
</table>

Extend this form as necessary to include all funding sources.