

# 中央研究院

## 主題研究計畫申請資料清單

### (數理組)

計畫名稱：

申請單位：

計畫總主持人：

申請日期：

附件：(請按照下列順序排列一式五份)

(一)研究計畫書

(二)總主持人及分支計畫主持人個人履歷表

(三)總主持人及分支計畫主持人五年內之著作目錄

(四)總主持人及分支計畫主持人五年內已發表而與計畫內容相關之學術性著作(不超過三篇)

(五)前期研究成果報告書(如為延續性計畫)

# 中央研究院數理組主題研究計畫申請書

## PROGRAM PROJECT APPLICATION IN THE MATHEMATICS AND PHYSICAL SCIENCES

### ACADEMIA SINICA

Title of Application 總計畫名稱	(in Chinese) 中文
	(in English) 英文
Institute 所處(單位)	(in Chinese) 中文
	(in English) 英文
Program Director 計畫總主持人	(in Chinese) 中文
	(in English) 英文

# TABLE OF CONTENTS

## **Part A. Overall Program Project (to be completed by the Program Director)**

- A1. Face Page
- A2. Abstracts
  - A2a. Abstract in Chinese
  - A2b. Abstract in English
- A3. Summary of Total Budget Requested for the Program Project
- A4. Summary of Total Budget Requested for the Individual Component Projects
- A5. Overall Description of Program Project
- A6. Anticipated Research Outcomes
- A7. Literature Cited

## **Part B. Component Projects (to be completed by individual Principal Investigator)**

- B1. Face Page
- B2. Abstracts
  - B2a. Abstract in Chinese
  - B2b. Abstract in English
- B3. Detailed Budget
  - B3a. Summary of Total Budget Requested for Entire Proposed Period of Support
  - B3b. Detailed budget requested for each budget year
  - B3c. Minor and Major Equipment Needed for the Project and Justification
- B4. Research Plan
  - B4a. Specific Aims
  - B4b. Background and Significance
  - B4c. Preliminary Studies
  - B4d. Research Design and Methods
- B5. Anticipated Research Results
- B6. Projected Timeline
- B7. Personnel
- B8. Biographical Sketches
- B9. Literature Cited
- B10. Appendix

# PROGRAM PROJECT:

## A1. -Face Page

Code			
Title of Application	(in Chinese)		
	(in English)		
Applicant Organization	(in Chinese)	系 / 所 / 科	
	(in English)	Department	
Program Director	姓名		職稱
	Name		Title
Mailing Address (in Chinese)			
Telephone No.		FAX	
E-MAIL	@		
Entire Budget Period	_____ years of financial support requested		
Amount requested for initial year		NT\$	
Amount requested for entire budget period		NT\$	
<p>Program Director Assurance:</p> <p>The research proposed in this grant application has not been financially supported by any funding agency. I am aware that any withholding, misrepresentation or falsification of information could result in administrative actions, including the dismissal of an application, the suspension and/or termination of an award, as well as other possible punitive actions.</p> <p>Signature of Program Director: _____ Date: _____</p>			
<p>Official Signing for Applicant Organization: _____</p> <p style="text-align: center;">(Signature)</p> <p>Name: _____ Title: _____ Date: _____</p>			

**PROGRAM PROJECT:**

**A2a. –Abstract in Chinese (Do not exceed one page)**

**PROGRAM PROJECT:**

**A2b. –Abstract in English (Do not exceed one page)**

**PROGRAM PROJECT:**

**A3. -Summary of Total Budget Requested for the Program Project (in NTdollars)**

<b>Title of Program Project:</b>				
<b>Component Project</b>	<b>Director/PIs</b>	<b>1<sup>st</sup> year</b>	<b>2<sup>nd</sup> year</b>	<b>3<sup>rd</sup> year</b>
Project # 0				
Project # 1				
Project # 2				
Project # 4				
Project # 4				
Project # 5				
Project # 6				
Project # 7				
Project # 8				
Project # 9				
Project # 10				
<b>Totals for each year</b>				
<b>Total for Entire Program Project: NT\$</b>				

**PROGRAM PROJECT:**

**A4. -Summary of Total Budget Requested for the Individual Component Projects  
(in NTdollars)**

<b>Title of Project __:</b>			
<b>Budget Categories</b>	<b>1<sup>st</sup> year</b>	<b>2<sup>nd</sup> year</b>	<b>3<sup>rd</sup> year</b>
Recurring expenses (including personnel, travel, supplies, other consumables,publication, maintenance, miscellaneous)			
Equipment			
<b>Totals for each year</b>			
<b>Total for Entire Project Period: NT\$</b>			

<b>Title of Project __:</b>			
<b>Budget Categories</b>	<b>1<sup>st</sup> year</b>	<b>2<sup>nd</sup> year</b>	<b>3<sup>rd</sup> year</b>
Recurring expenses (including personnel, travel, supplies, other consumables,publication, maintenance, miscellaneous)			
Equipment			
<b>Totals for each year</b>			
<b>Total for Entire Project Period: NT\$</b>			

**PROGRAM PROJECT:**

**A4. -Summary of Total Budget Requested for the individual component projects  
(in NTdollars) [continuation page]**

<b>Title of Project ___:</b>			
<b>Budget Categories</b>	<b>1<sup>st</sup> year</b>	<b>2<sup>nd</sup> year</b>	<b>3<sup>rd</sup> year</b>
Recurring expenses (including personnel, travel, supplies, other consumables,publication, maintenance, miscellaneous)			
Equipment			
<b>Totals for each year</b>			
<b>Total for Entire Project Period: NT\$</b>			

<b>Title of Project ___:</b>			
<b>Budget Categories</b>	<b>1<sup>st</sup> year</b>	<b>2<sup>nd</sup> year</b>	<b>3<sup>rd</sup> year</b>
Recurring expenses (including personnel, travel, supplies, other consumables,publication, maintenance, miscellaneous)			
Equipment			
<b>Totals for each year</b>			
<b>Total for Entire Project Period: NT\$</b>			

## **PROGRAM PROJECT:**

### **A5. -Overall Description of the Program Project**

**Briefly outline the overall goals of the Program Project; the specific aims of the project components; relationship of the component projects to the overall Program Project; the research approaches that will be used in the work; and the scientific significance and the social/economic impact of the proposed studies. Limit the prose to 3 pages.**

## **PROGRAM PROJECT:**

### **A6. -Anticipated Research Outcomes**

**Briefly mention the significant results that might be anticipated or are likely to emerge from the research outlined in this Program Project. Limit the discussion to potential discovery of new knowledge; advances in basic understanding, including paradigm shifts; opportunities for scientific breakthroughs; and possible inventions and new technologies. Do not exceed one page.**

**PROGRAM PROJECT:**

**A7. -Literature Cited**

A large empty rectangular box intended for listing literature cited.

**PROGRAM PROJECT:**

**Component Project** \_\_\_\_\_

**B1. -Face Page**

Code			
Title of Application	(in Chinese)		
	(in English)		
Applicant Organization	(in Chinese)	系 / 所 / 科	
	(in English)	Department	
Principal Investigator	姓名	職稱	
	Name	Title	
Mailing Address (in Chinese)			
Telephone No.		FAX	
E-MAIL	@		
Entire Budget Period	_____ years of financial support requested		
Amount requested for initial year	NT\$		
Amount requested for entire budget period	NT\$		
<p>Principal Investigator Assurance:</p> <p>The research proposed in this grant application has not been financially supported by any funding agency. I am aware that any withholding, misrepresentation or falsification of information could result in administrative actions, including the dismissal of an application, the suspension and/or termination of an award, as well as other possible punitive actions.</p> <p>Signature of Principal Investigator: _____ Date: _____</p>			
<p>Official Signing for Applicant Organization: _____</p> <p style="text-align: center;">(Signature)</p> <p>Name: _____ Title: _____ Date: _____</p>			

**PROGRAM PROJECT:**

**Component Project \_\_\_\_\_**

**B2a. -Abstract in Chinese (Do not exceed one page)**

A large empty rectangular box with a black border, intended for the student to write their abstract in Chinese. The box occupies most of the page below the instructions.

**PROGRAM PROJECT:**

**Component Project \_\_\_\_\_**

**B2b. Abstract in English (Do not exceed one page)**

A large empty rectangular box with a black border, intended for writing the abstract.

**PROGRAM PROJECT:**  
**Component Project \_\_\_\_\_**

**B3. Detailed Budget**

**B3a. -Summary of Total Budget Requested for Entire Proposed Period of Support  
(in NTdollars)**

<b>Title of Project _____ :</b>			
<b>Budget Categories</b>	<b>1<sup>st</sup> year</b>	<b>2<sup>nd</sup> year</b>	<b>3<sup>rd</sup> year</b>
Recurring expenses (including personnel, travel, supplies, other consumables, publication, maintenance, miscellaneous)			
Equipment			
<b>Totals for each year</b>			
<b>Total for Entire Project Period: NT\$</b>			

**PROGRAM PROJECT:**

**Component Project \_\_\_\_\_**

**B3b. -Detailed Budget Requested for Each Budget Year (including salaries, supplies, other consumables, travel, publication, other recurring expenditures, equipment, and use of core facilities)**

Year	Budget Categories	Items	Amount (in NT\$)	Justification
01	<b>Personnel</b>	Postdoctoral Fellows		
		Research Assistants/ Technicians		
		Ph.D. Students		
		M.S. students		
	<b>Supplies</b>			
	<b>Other consumables</b>			
	<b>Travel</b>			
	<b>Publication costs</b>			
	<b>Maintenance</b>			
	<b>Consulting Costs</b>			
	<b>Equipment</b>			
<b>Miscellaneous</b>				
<b>Total</b>				
01				

**PROGRAM PROJECT:**

**Component Project \_\_\_\_\_**

**B3b. -Detailed Budget Requested for Each Budget Year (for continuation years)**

Year	Budget Categories	Items	Amount (in NT\$)	Justification
02	<b>Personnel</b>	Postdoctoral Fellows		
		Research Assistants/ Technicians		
		Ph.D. Students		
		M.S. students		
		<b>Supplies</b>		
		<b>Other consumables</b>		
		<b>Travel</b>		
		<b>Publication costs</b>		
		<b>Maintenance</b>		
		<b>Consulting Costs</b>		
	<b>Equipment</b>			
	<b>Miscellaneous</b>			
	<b>Total</b>			

**PROGRAM PROJECT:**

**Component Project** \_\_\_\_\_

**B3b. -Detailed Budget Requested for Each Budget Year (for continuation years)**

Year	Budget Categories	Items	Amount (in NT\$)	Justification
<b>03</b>	<b>Personnel</b>	Postdoctoral Fellows		
		Research Assistants/ Technicians		
		Ph.D. Students		
		M.S. students		
	<b>Supplies</b>			
	<b>Other consumables</b>			
	<b>Travel</b>			
	<b>Publication costs</b>			
	<b>Maintenance</b>			
	<b>Consulting Costs</b>			
<b>Equipment</b>				
<b>Miscellaneous</b>				
<b>03</b>	<b>Total</b>			

**PROGRAM PROJECT:**

**Component Project \_\_\_\_\_**

**B3c. Detailed Budget. Minor and Major Equipment Needed for the Project and Justification.**

List all equipment (unit cost exceeding NT\$ 35,000) required to carry out the project. Identify all items exceeding NT\$ 500,000 as major equipment and provide a justification of the need for each of these items, as well as an estimate of the percentage of usage of the equipment item as part of the project. If the latter estimate is significantly less than 25%, consider sharing the use of the equipment item with other component projects.

Year	Description of Equipment	Cost	Check if Major Equipment	Check if Shared Use
01				
01	Total			

**PROGRAM PROJECT:**

**Component Project \_\_\_\_\_**

**B3c. Detailed Budget. Minor and Major Equipment Needed for the Project and Justification. (for continuation years)**

Year	Description of Equipment	Cost	Check if Major Equipment	Check if Shared Use
02				
02	Total			

**PROGRAM PROJECT:**

**Component Project** \_\_\_\_\_

**B3c. Detailed Budget. Minor and Major Equipment Needed for the Project and Justification. (for continuation years)**

Year	Description of Equipment	Cost	Check if Major Equipment	Check if Shared Use
03				
03	Total			

**PROGRAM PROJECT:**

**Component Project** \_\_\_\_\_

**B4. Research Plan (Please limit the prose to 15 pages)**

**B4a. Specific Aims.** List the broad, long-term objectives and what the specific research proposed in the application is intended to accomplish. State the hypothesis to be tested. Do not exceed two pages. One page is recommended.

**PROGRAM PROJECT:**

**Component Project \_\_\_\_\_**

**B4. Research Plan (continuation)**

**B4b. Background and Significance.** Briefly sketch the background leading to the present project, critically evaluate existing knowledge, and specifically identify the gaps that the project is intended to fill. State concisely the importance and biological/medical/health relevance of the research described in this application by relating the specific aims to the broad, long-term objectives, as well as the overall goals of the Program Project. Two or three pages are recommended.

**PROGRAM PROJECT:**

**Component Project \_\_\_\_\_**

**B4. Research Plan (continuation)**

**B4c. Preliminary Studies.** Use this section to provide an account of the principal investigator's preliminary studies pertinent to the project and/or any other information that will help to establish the experience and competence of the principal investigator to pursue the proposed project. You may wish to document your preliminary findings by providing a list of references to appropriate publications and manuscripts submitted or accepted for publication. Key reprints or preprints of this background material may also be submitted in the appendix. This section should not exceed five pages, including text, figures, and tables.

**PROGRAM PROJECT:**

**Component Project \_\_\_\_\_**

**B4. Research Plan (continuation)**

**B4d. Research Design and Methods.** Describe the research design and the procedures to be used to accomplish the specific aims of the project. Include how the data will be collected, analyzed, and interpreted. Describe any new methodology and its advantage over existing methodologies. Discuss the potential difficulties and limitations of the proposed procedures and alternative approaches to achieve the aims. Point out any procedures, situations, or materials that may be hazardous to personnel and the precautions to be exercised. If human subjects and vertebrate animals are involved, please identify the sources of these research materials and how these specimens will be safeguarded. This section should be written in such a way that original ideas, concepts, and hypotheses, innovative scientific strategies, the deployment of novel technologies, and any unusual aspects of your laboratory or work environment could be readily delineated.

**PROGRAM PROJECT:**

**Component Project \_\_\_\_\_**

**B5. -Anticipated Research Results**

**Briefly mention the significant results that might be anticipated or are likely to emerge from the research outlined in this Project. Limit the discussion to potential discovery of new knowledge; advances in basic understanding, including paradigm shifts; opportunities for scientific breakthroughs; and possible inventions and new technologies. Do not exceed one page.**

**PROGRAM PROJECT:**

**Component Project \_\_\_\_\_**

**B6. –Projected Timeline**

**Provide a reasonable timetable for the execution of the work outlined in the project. Highlight appropriate milestones that you might use to target the studies. Indicate technical hurdles that might slow down the execution of the work and discuss any contingencies that you have or might have built in the research plan in anticipation of these difficulties. Do not exceed one page.**

**PROGRAM PROJECT:**

**Component Project** \_\_\_\_\_

**B7. Personnel**

Name		Position title	Education degree	% of effort	Role on project
In Chinese	In English				

**PROGRAM PROJECT:**

**Component Project \_\_\_\_\_**

**B8. Biographical Sketches**

姓 名 (in Chinese)	Date of Birth	
Name (in Print) (in English)	Sex	Male Female
Signature		
Education (Degree, Year, Field of Study)		
Institution and Location		
Research, Professional Experiences and Publication list		

**PROGRAM PROJECT:**

**Component Project \_\_\_\_\_**

**B9. Literature Cited**

A large, empty rectangular box with a thin black border, occupying most of the page below the section header. It is intended for the student to list the literature cited in their project.

**PROGRAM PROJECT:**

**Component Project \_\_\_\_\_**

**B10. Appendix (No \_\_\_\_\_ )**





