科技部 108 年度奈米科技創新應用計畫
計畫徵求公告

奈米科技創新應用計畫係為提升國內奈米科技的研發能量，鼓勵學者從科學的發現進入創新應用研究，由概念發展推向原型驗證，以產生原創性的奈米材料、元件與技術，滿足國內社會在奈米產業的需求及增進產業的競爭力。為達成此計畫目標，奈米科技創新應用計畫將公開徵求研究計畫書。申請作業要點及研究計畫書注意事項，說明如下。

壹、申請資格

一、依「科技部補助專題研究計畫作業要點」相關辦法辦理。

二、主持人計畫件數之計算

(一)依據本部補助單一計畫主持人計畫件數核給基準，申請人請務必先自行確認其計畫件數符合規範原則之上限。除情形特殊者外，計畫核定通過後不得於執行期間變更計畫總主持人或中止計畫之執行。

(二)計畫核定通過後以「研究案」計算件數。

貳、徵求內容與重點

本次計畫徵求的研究範疇包含「奈米生技醫療」、「奈米能源與環境」、「奈米電子光電」、「奈米製程檢測與機械」，及與該四項領域相關的跨領域研究，並以能提升上述各領域之核心競爭力，因應未來社會環境的演變及產業發展的轉型等種種挑戰的關鍵材料、元件與技術為主要徵求內容。本次計畫徵求重點包含：

- 針對在產品端或技術階段發現問題，須回頭解決基礎問題之研究。
- 對於奈米科技發展中，能解決科學或產業問題，發展具關鍵性之儀器設備或技術方法。
- 對目前國內業界在奈米科技發展階段，所面臨的迫切待解決問題。

參、作業流程及注意事項

一、計畫類型：「**單一整合型計畫**」。包含總計畫及子計畫，由總計畫主持人負責整合型計畫之整體規劃、協調、研究進度及成果之掌握，實際參與計畫之研究與執行。

二、計畫歸屬：自然司。

三、研究學門：M30 奈米科技，次領域代碼 M3001 奈米生技醫療、M3002 奈米能源與環境、M3003 奈米電子光電、M3004 奈米製程檢測與機械。

四、申請方式：

1.撰寫「**完整計畫書**」上傳本部學術研發服務網。

2.申請人請登入本部學術研發服務網(https://www.most.gov.tw/)，至「學術獎補助申辦及查詢＞專題研究計畫＞線上申請作業＞新增申請案＞專題

類－**隨到隨審計畫『一般專題研究計畫』**」線上申請方式作業。

五、計畫申請書格式：

1.**研究計畫內容(表 CM03)**：請依附件格式撰寫，上傳至系統表 CM03 位置。(請以英文撰寫)

2.其餘表格：循本部專題研究計畫書線上申請作業撰寫。(請以中文撰寫)

六、計畫執行期程：原則上自 108 年 8 月 1 日開始執行，以實際核定通過時間為主，一期以補助三年為上限。

七、**申請期限與送達方式**：由申請機構造具申請名冊於申請期限 108 年 2 月 26 日(星期二)前備函送達本部，文件不全或不符合規定者，不予受理。

八、申請人可提交計畫申請書後，另以 email 建議審查者之迴避名單。

九、審查方式：初審及複審。

十、核定方式：採「全程執行期間各年核給計畫編號」補助。

其他注意事項：

1.每一申請人以申請 1 件為限。

2.研究內容應涉及奈米尺度的量測和運用奈米材料與技術，研究主題必須具有創新，解決社會和產業發展的重要問題，提升臺灣奈米科技競爭力。計畫內設定明確時程規劃與查核點。

3.計畫書中應包含專利分析、專利佈局、與現有技術的差異分析、市場需求與分析，及潛在競爭對手的分析與比較等。

4.本案計畫為分年核定多年期計畫，全程執行期間各年核給計畫編號。

5.計畫核定通過後，若因特殊因素需申請變更申請人(/主持人)，應敘明變更原因，由本案委員會審查通過後，始可更換。

6.本案為專案計畫無申覆機制。

肆、成果報告繳交、審查及評鑑

一、 計畫主持人除依本部規範繳交研究成果等報告外，應於年度及全程期末配合本部辦理成果審查等計畫評鑑作業。必要時，本部得以書面、電話、實地查訪等方式請計畫主持人進行成果簡報或展示。依評鑑結果，核定該計畫次年經費。

二、 本公開徵求計畫實屬專案計畫，本部依據審查結果及當年度預算，保有增減年度計畫經費或提前終止計畫之權利。

附件：研究計畫內容格式(表 CM03)

聯絡資訊

科技部自然司：王心頎小姐，Tel：02-2737-7522，Email: soa145@most.gov.tw。

徐文章研究員，Tel：02-2737-7522， Email: wenchsu@most.gov.tw。

附件

Innovation and Application of Nanoscience Thematic Program

奈 米 科 技 創 新 應 用 計 畫

Full-Proposal

I. GENERAL INFORMATION

Title of Project			
Applicant's Affiliation		**Department**	
Principal Investigator		**Title**	
Project Period	From _____ to _____ （mm/dd/yyyy）		
Project Classification	☐ Nanomedicine and Biotechnology ☐ Nanomaterials for Energy and Environment ☐ Nanoelectronics and Optoelectronics ☐ Fabrication, Characterization and Mechanics of Nanostructures		
Position of TRL	Start of Project: TRL_____ End of Project: TRL_____		
Amount requested for the first year	**NT$**		
Amount requested for the entire budget period	**NT$**		

Does this research project involve the following? (Check as applicable and attach relevant consent forms.)

☐ Human Studies/ Human Specimen ☐ Human Embryo/ Human Embryonic Stem Cell

☐ Gene Recombination / GMO Field Trial ☐ Animal Studies

Declaration:

1. 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.

2. I am hereby aware that this proposal is submitted for consideration of MOST program. I will faithfully observe and conduct research in accordance with Statement on Academic Ethics by the Ministry of Science and Technology.

Signature of Applicant：_____ Date：_____

II. TABLE OF CONTENTS

Overall Program Project (to be completed by the Principal Investigator)

A1. Executive Summary **(Do not exceed three pages)**

(Please use the font type of Times New Roman, 12 points, single-space)

Keywords:

A2. Project Description (Limit: 15 pages, including tables, figures and references.)

1. Background, Objectives and Innovations

   Please point out the innovative technology to be developed, focused killer application, and potential market value. Please do not present many possible applications but only focus on one with highest potential impact and it is also most likely to succeed in a reasonable amount of time.

2. Research Methods, Procedures, Milestones and Timelines

   a. Please describe the research methods and justifications with emphasis on providing solutions to overcome the possible difficulties.

   b. Please describe the plan of working relations between all subprojects.

   c. Expected work items to be completed and milestone. (Please set up a specific timeline for TRL process and illustrate in Gantt Chart the work items to be completed.)

TRL Level	Year & Month / Work Item*	2019		2020				2021				2022	
		8-10	11-1	2-4	5-7	8-10	11-1	2-4	5-7	8-10	11-1	2-4	5-7
	Item A												
	Sub-item A-1 (e.g., Growth of X-material transparent conductor: transparent conductor with >80 % transparency in the spectral, range of 300-400 nm and resistivity <10^{-3} Ω-cm)												
	Sub-item A-2												
	Item B												
	Sub-item B-1												
	Sub-item B-2												
	Item C												
	Sub-item C-1												
	Item D												
	Sub-item D-1												
	Sub-item D-2												

** Description of item or sub-item should include specific specifications, if any.*

3. Technology Analysis and Competitive Advantage

   Please describe the international competitive edge by providing information on patent analysis, patent deployment, technology gap analysis, market analysis, and other potential competitors. It is highly desirable to have a comparison of the proposed technology and/or device with the present or existing ones that aimed at the same market/application.

4. Additional Notes

   a. To have participants from computational field in research team is encouraged, similarly for clinicians in biomedicine team. If there is no enterprise investment in early stage, collaboration with medical center could be advantageous.

   b. If there is any overseas (including Mainland China) joint research, please justify the necessity and describe the expected outcomes. Please also clarify the possible IP issue caused by the collaboration.

A3. Requested Budget for Entire Term of Project Period

Currency unit: NT Dollars

Project Year / Budget Categories		First year from ___/___to___/___ (mm/yyyy)	Second year from ___/___to___/___ (mm/yyyy)	Third year from ___/___to___/___ (mm/yyyy)
General Expenses				
Equipment				
Travel Expenses for International Destinations				
Overhead				
Total for Each Year				
Postdoctoral Research Fellows	Domestic or Foreign	____ persons	____ persons	____ persons
	Mainland China	____ persons	____ persons	____ persons

Indicate support from the participating institutions or other organizations (including industrial support). Leave space blank if not applicable.

Supporting Institution	Items Funded (Personnel, Equipment, etc.)	Amount of Funding	Funding Period	Evidence of Support

A4. Detailed Budget (Equipment Needed for the Project and Justification)

Currency unit: NT Dollars

Year	Name	Description of Equipment	Amount
Year 1			
Total			
Year 2			
Total			
Year 3			
Total			

A5. List of Participants

Indicate “staff type” in the following order: principal investigator (PI), collaborating principal investigator (co-PI).

Staff Type	Name	Institution/ Department	Position	Role in Project	Percent of Effort*

∗ *Percent of effort is defined as the percentage of the hours devoted to this project to the total working hours per week. For instance, 50% means this individual will devote a half of his/her working hours to this research project each week.*

A6. Additional Information

(Please use the font type of Times New Roman, 12 points, single-space)

Biographical Information: Include a biographical sketch for each faculty-level (or equivalent) participant, listing up to 5 publications most pertinent to this proposal. Please also include in this sketch important patents and licensing agreements received, technologies transferred, and examples of successful commercialization. Limit: 2 pages for each investigator.

附件、執行中或申請中之研究計畫（為詳細了解貴申請團隊可能投入本奈米計畫的工作時數比率，請填寫擔任本計畫主持人及共同主持人正在執行中或申請中研究計畫之相關資訊，申請中之計畫請填寫申請經費，不限科技部補助計畫。）

本計畫內擔任之工作 (請以計畫書內表CM06所填之人員為主)	補助或委託機構	計畫名稱（科技部計畫請註明編號）	左欄計畫內擔任之職稱（主持人/共同主持人）	起迄年月	經費總額 （新台幣千元）	*每週平均投入工作時數比率(%)
主持人：OOO						
主持人：						
共同主持人(甲)：						
共同主持人(甲)：						
共同主持人(乙)：						
共同主持人(乙)：						
請自行增列						

*每週平均投入工作時數比率係填寫每人每週平均投入本計畫工作時數佔其每週全部工作時間之比率，以百分比表示（例如：50%即表示該研究人員每週投入本計畫研究工作之時數佔其每週全部工時之百分五十）。