**中央研究院109年度「關鍵突破(種子)計畫」**

**計畫構想書徵求說明**

**壹、目標與計畫主題：**

本院關鍵突破研究計畫係為提昇本院貢獻及鼓勵同仁集思，發掘關鍵問題並尋求創新突破，以期在學術與社會諸多重大挑戰上，發揮本院研究潛能，孕育十年後的標竿亮點成就，並達成「以研究帶動學術與社會進步」之目標。

「種子」計畫的目的是發掘與培育上述計畫的先期研究，期待參與的研究團隊能展現研究熱忱、投注心力於計畫的執行，對應研究團隊的付出，本院也將積極協助、輔導參與團隊達成創新突破目標，並依據研究潛力與成果，隨時彈性調整研究範疇、補助時程與經費規模。期待腦力激盪的過程可以逐漸投射出更具影響力的研究課題與方向，目標是轉型成正式關鍵突破計畫。關鍵突破計畫的執行期限以3-5年為原則，種子計畫的執行期限以1-2年為原則。

**此次計畫徵求標的為：**

1. Gene and Cell Therapy
2. Data Science
3. Quantum Science and Technology
4. 自發性研提主題

**構想書審查重點：**

1. Does the idea transform the area if it works?
2. How does the PI test whether the idea works or not during the project period?

**貳、 計畫申請作業**

一、申請人資格

(一) 個別型計畫主持人、單一整合型及整合型計畫之總主持人為本院

專任助研究員（含）以上。

(二) 分支計畫主持人及共同主持人為助研究員或相當資格以上人員。

(三) 若因執行計畫需邀請協同參與人員，計畫主持人可於申請書詳細說

明協同參與人員之必要性，並檢附協同參與人員同意參與計畫並提

供協助或支持該計畫之說明信函(supporting letter)。

二、計畫申請與審查

(一) 本期申請截止日期為109年3月15日。

(二) 審查重點：將以是否著眼重大挑戰及提出突破性之方案為評估基準。

(三) 經核定通過之總主持人及分支計畫主持人須簽署「中央研究院關鍵突

破(種子)計畫執行同意書」。

(四) 核定通過之研究計畫，涉及生物材料及基因重組相關實驗、動物實驗

及以人為研究對象者，應檢附經相關委員會核准之同意函，方可開始

執行該計畫。

(五) 依據「中央研究院學術研究倫理教育課程實施要點」，執行以本院預算

支應之研究計畫者，參與計畫人員每3年應接受至少1小時之學術倫

理教育課程訓練，至遲應於開始參與研究計畫之日起6個月內完成；

研究計畫執行期限少於6個月者，應於計畫執行期限內完成。

(六) 計畫主持人如涉有違反學術倫理之情事者，依「中央研究院各級倫理

委員會設置及作業要點」處理。

三、申請資料

請備妥計畫構想書，在計畫申請期限內以電子郵件寄至

[grandchallenge@gate.sinica.edu.tw](mailto:grandchallenge@gate.sinica.edu.tw)，承辦人將回信確認。

檔名請列明申請組別-主持人姓名。

承辦人：學術及儀器事務處-學術審議科

陳羿君 EG Chen

電話：(02)2787-2612

**2020 Academia Sinica Grand Challenge Program**

**Call for Pre-proposals**

1. **Objective**

The Academia Sinica (AS) Grand Challenge Program (the Program) is established to promote cutting-edge research aiming for the scientific and/or societal advancement. Granted proposals will receive sufficient funding.

1. **Project Themes**

(1) Gene and Cell Therapy

(2) Data Science

(3) Quantum Science and Technology

(4) Self-Proposed Theme

1. **Review focus**

(1) Does the idea transform the area if it works?

(2) How does the PI test whether the idea works or not during the project period?

1. **Project Types**
2. Individual Research Project (IDRP):

An IDRP is proposed by one project PI to carry out one research project.

1. Collaborative Research Project (CRP):

A CRP is proposed by one project director and single or multiple Co-PIs to carry out one research project. The project director shall oversee funding allocations and project progress.

1. Integrated Research Project (ITRP):

An ITRP includes a main project and subprojects. The project director shall be responsible for the assembly of a research team, and oversee funding allocations and project progress.

1. **Application Process**
2. Eligibility
3. The project PI of an IDRP and the project director of a CRP or ITRP must be a full time AS assistant research fellow or above.
4. A subproject PI and a Co-PI must be an assistant research fellow or above or with an equivalent position.
5. If deeming it necessary to include a collaborator, a project PI or project director may indicate such need in the application, and should provide a supporting letter from the collaborator.
6. Application and Review
7. The application and review schedule can be found in the attached chart.
8. Main Review Criteria

The Project pays special attention to whether a grand challenge problem is addressed and whether an innovative approach leading to a breakthrough is proposed.

1. Selected project PIs, project directors and subproject PIs should sign the “Project Execution Agreement, Academia Sinica Grand Challenge Program.”
2. Participants of the approved projects involving biological materials, genetically engineered materials, animal experimentation and human subjects may not execute the project until letters of consent from relevant AS committees have been obtained.
3. According to the “Implementation of Research Ethics Education at Academia Sinica,” all personnel who directly perform any AS-funded research activity should receive at least one hour of research-ethics training every three years. Such training must be completed within six months of the project inception. When the project is projected to last less than six months, the aforementioned training must be completed within the duration of the project.
4. Should a project PI or project director be involved in research ethics violations, his or her case will be processed according to the “Guidelines for the Establishment and Operation of Ethics Committees at All Levels, Academia Sinica.”
5. Application Material

The pre-proposal should be sent to [grandchallenge@gate.sinica.edu.tw](mailto:grandchallenge@gate.sinica.edu.tw) before the submission deadline (15th, March, 2020), and a confirmation email will be sent upon receipt of application. The file name should be in the “theme-PI name” format.

Contacts at the Department of Academic Affairs and Instrument Service: Ms. EG Chen (Tel: 2787-2612)

**本院109年度「關鍵突破(種子)計畫」構想書**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 申請組別 | | 🞎 數理組 🞏 生命組 🞏 人文社會組 | | | | | | |
| 計畫主題 | | 🞏Gene and Cell Therapy  🞏Data Science  🞏Quantum Science and Technology  🞏自發性研提主題 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | |
| 計畫類別 | | 🞏 個別型（由計畫主持人個人研提之計畫） | | | | | | |
| 🞏 單一整合型（包含主持人與共同主持人之單一計畫，由計畫主持人負責經費分配與計畫推動） | | | | | | |
| 🞏 整合型計畫 (包含總計畫及分支計畫，由總計畫主持人組成研究群，並負責經費分配與計畫推動) | | | | | | |
| 計畫名稱 | 中文 |  | | | | | | |
| 英文 |  | | | | | | |
| (總)計畫主持人 | |  | | | 職稱 | |  | |
| 申請單位  (所/中心) | |  | | | | | | |
| 全程執行期限 | | 🞏 一年期 🞏 二年期 | | | | | | |
| 計 畫 經 費  單位：新臺幣千元 | | 第1年經費 | | | | 第2年經費 | | |
|  | | | |  | | |
| 計畫參與人 | | (共同/分支)主持人 | | 職稱 | | | | 單位 |
|  | |  | | | |  |
|  | |  | | | |  |
|  | |  | | | |  |
|  | |  | | | |  |
| 計畫聯絡人 | |  | |  | | | |  |
| For the grand challenge problem proposed, define each of the following questions in 2 brief sentences. | | | | | | | | |
| What is the grand challenge problem? | | |  | | | | | |
| What is new in your approach? | | |  | | | | | |
| Does the idea transform the area if it works? | | |  | | | | | |
| How does the PI test whether the idea works or not during the project period? | | |  | | | | | |

**本院109年度「關鍵突破(種子)計畫」構想書**

(最多以2頁為限，中英文不拘)

計畫名稱（中文）：

計畫名稱（英文）：

計畫（總）主持人/申請單位：

本計畫應具備下列重點：

1. Identify a grand challenge problem, focusing on its importance. Describe the state-of-the-art and identify the bottleneck.

(亟待克服之挑戰，聚焦闡述此待克服挑戰的重要性；剖析該問題的關鍵與瓶頸)

1. Propose an innovative approach that may lead to a breakthrough. Justify why your approach will work.

(提出具新穎性的研究方案，並說明此方案的可行性)

附件

1. **個人簡歷**

* **聯絡資訊(Contact information)：所屬單位與職稱(affiliation and title )、連絡電話(Tel)、Email等。**
* **學歷(Education)**
* **研究領域(Research Interests)**
* **相關經歷(Experiences )**
* **獎項及榮譽(Awards and Honors)**
* **代表性著作目錄(10篇以內) (Selected Publication List / 10 or less)**
* **其他(Others)**

1. 計畫調查表

**※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，並請詳實填列下列資訊，資訊不足者將影響審查。**

主持人姓名： \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

請勾選**本次申請計畫**之身分類別(可複選)：

|  |  |  |
| --- | --- | --- |
| □ A.計畫主持人 | □ B.計畫總主持人 | □ C.分支計畫主持人 |

請列舉近3年所執行、申請中或即將提出申請之院內、外研究計畫

|  |  |
| --- | --- |
| 項次 |  |
| 1 | (1)計畫名稱： ● 計畫狀態  □ A.執行中 □ B.申請中 □ C.即將提出申請  ● 計畫擔任角色  □ A.計畫主持人 □ B.計畫總主持人 □ C.分支計畫主持人  (2)補助單位及計畫類型：  (3)執行期間： \_\_\_\_年\_\_\_月 至 \_\_\_\_年\_\_\_\_月止。  (4)總研究經費/個人研究經費     |  |  |  | | --- | --- | --- | | 年度 | 總研究經費(仟元) | 個人研究經費(仟元) | |  |  |  | |  |  |  | |  |  |  |   (5)此計畫是否與本次申請計畫有相關？若有，請以附件敘明其關聯性。  □ 否 □ 是 |
| 2 | (1)計畫名稱： ● 計畫狀態  □ A.執行中 □ B.申請中 □ C.即將提出申請  ● 計畫擔任角色  □ A.計畫主持人 □ B.計畫總主持人 □ C.分支計畫主持人  (2)補助單位及計畫類型：  (3)執行期間： \_\_\_\_年\_\_\_月 至 \_\_\_\_年\_\_\_\_月止。  (4)總研究經費/個人研究經費     |  |  |  | | --- | --- | --- | | 年度 | 總研究經費(仟元) | 個人研究經費(仟元) | |  |  |  | |  |  |  | |  |  |  |   (5)此計畫是否與本次申請計畫有相關？若有，請以附件敘明其關聯性。  □ 否 □ 是 |

**2020 Academia Sinica Grand Challenge Program**

**Pre-proposal**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Division | | 🞏 Mathematics and Physical Sciences (MPS)  🞏 Life Sciences (LS)  🞏 Humanities and Social Sciences (HSS) | | | | | |
| Project Theme | | 🞏Gene and Cell Therapy  🞏Data Science  🞏Quantum Science and Technology  🞏 Self-Proposed Theme | | | | | |
| Project Type | | 🞏 Individual Research Project (IDRP)  🞏 Collaborative Research Project (CRP)  🞏 Integrated Research Project (ITRP) | | | | | |
| Project  Title | Chinese |  | | | | | |
| English |  | | | | | |
| Project PI or  Project Director | |  | | Position | | |  |
| Affiliation | |  | | | | | |
| Project Period | | 🞏 One Year 🞏 Two Years | | | | | |
| Project Budget  Unit: thousands in NTD | | 1st Year Budget | | | 2nd Year Budget | | |
|  | | |  | | |
| Project Participants | | Co-PI/Subproject PI | Position | | | Affiliation | |
|  |  | | |  | |
|  |  | | |  | |
|  |  | | |  | |
|  |  | | |  | |
|  | |  |  | | |  | |
| Project  Contact Person | |  |  | | |  | |
| For the grand challenge proposed, define each of the following questions in a short statement with 100 words or less. | | | | | | | |
| What is the grand challenge problem? | |  | | | | | |
| What is new in your approach? | |  | | | | | |
| Does the idea transform the area if it works? | |  | | | | | |
| How does the PI test whether the idea works or not during the project period? | |  | | | | | |

**2020 Academia Sinica Grand Challenge Program**

**Pre-proposal**

(Limited to two pages; accepted in Chinese or English)

Project Title (Chinese):

Project Title (English):

Project PI or Project Director:

Affiliation:

The pre-proposal should address the following aspects:

1. Identify a grand challenge problem, focusing on its importance. Describe the state-of-the-art and identify the bottleneck.

2. Propose innovative approaches that may lead to a breakthrough. Justify why your approach will work.

Attachment

1. Short CV

* **Last Name, First Name**
* Contact information
* Research Interest
* Education
* Experiences
* Awards and Honors
* Selected Publication List (10 or less)

1. Research Grants

※Applicants should not submit the same proposal to Academia Sinica for more than one funding source and/or to other funding agencies at the same time.

Pl: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |
| --- | --- | --- |
| □ A. Project PI | □ B. Project Director | □ C. Sub-Project PI |

2.1. Please list all approved and pending projects funded by both AS and other agencies since 2015.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| No. | Period of Execution  (yyyy/mm-yyyy/mm) | Funding Agency/ Type of grant | Title of the Project | Served as (A/B/C) | Budget in NTD thousands  (List by Year) | Mark “ˇ” if this is a pending project |
| 1 |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |

2.2. Are there any correlations between this proposed project and the projects listed above?

□ No

□ Yes

No.：\_\_\_\_\_\_\_  
 (Please specify by No. order.)