

# 2022 Academia Sinica Funding Opportunity Announcement

## Grand Challenge Program

The Academia Sinica **Grand Challenge Program** (GCP) is established to encourage its researchers to pursue **innovative** solutions for **critical problems** in science and the humanities that have broad and lasting **impact**. Funding incentives up to 20M (NTD) per year for 4+1 years are provided to promote original and visionary thinking that will accelerate academic breakthroughs.

Interested Investigators are requested to submit a proposal that would clearly describe i) the **specific problem to be solved**, ii) the **innovative ideas and approaches to be taken**, iii) the **impact of the work** if the goals are realized, and iv) the overall **plans to test the ideas**, its feasibility, scientific or technical challenges, potential risks and key deliverables, along with any alternative plans to de-risk. The applications will be critically reviewed based on these criteria, and the applicants are advised to prepare the proposal accordingly.

Principal Investigators are encouraged, but not required, to assemble an integrated collaborative research team to achieve the proposed goals in the most productive ways. This can also be initiated and driven by an Institute or Research Center to solve a scientific or societal problem that matches its mid and long-term development goal. Cross disciplinary collaborative efforts between two or more Institutes/Centers are allowed. Applicants should justify the logistics of their own collaborative arrangements and institutional matching support.

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### 1. Grant Categories

1. **Individual** GCP Project, by a single individual Principal Investigator (PI).
2. **Integrated Team** GCP Project, coordinated by a Program Director, who also serves as the PI and can invite any number of Co-PIs and/or collaborators.
3. **Institutional Problem Solving** GCP Project, coordinated by a Program Director, who also serves as one of the required minimum three PIs from the sponsoring AS Institute or Research Center. Joint proposals with one or more Institutes or Research Centers are allowed.

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### 2. Application Process

#### 2.1 Eligibility and Matching Fund

1. The Program Director and PI for all three categories of GCP Projects must be an Academia Sinica Research Fellow of any rank.
2. The Director of the Institute/Research Center applying for an Institutional GCP grant is not required to be one of the minimum three PIs, but they must endorse and support the proposal with matching funds from an appropriate source.
3. Matching funds are not mandatory for Individual and Integrated Team GCP projects. PIs and Program Directors are, however, encouraged to demonstrate commitment and determination by applying their own intramural support as matching funds.
4. PIs can invite non-Academia Sinica scientist(s) to participate in the project and serve as co-PI(s), if necessary.
5. Collaborators enlisted should be justified in the proposal and each is required to provide a Letter of Support delineating their expertise and specific roles in the GCP projects.

## 2.2 Deadlines and Important Reminders

1. Application deadline is 17:00, **May 3, 2021**; Proposals from Division of Life Sciences and Division of Mathematics and Physical Sciences should be written in English, adhering to the guidelines and format specified within the document template provided ([Appendix 1](#)), with a Research Plan describing the following four major aspects: 1) **the problem to be solved**, 2) the **innovative ideas proposed**, 3) **the potential impact of the work**, and 4) **plans to test the ideas**.
2. In preparing the proposals, applicants should keep in mind the following review criteria: i) **the significance of the problem to be addressed**, ii) **the degree of innovation**, iii) **the extent of anticipated impact**, and iv) **the feasibility of the research plan**. Although this Program will emphasize the first three criteria and take more risks on unproven methodologies and hypotheses, a major strategic flaw will not convince the reviewers. The project should also be deemed internationally competitive by the reviewers.

Furthermore, successful applicants should have relevant expertise, demonstrate that the project is part of their major career goal, and will devote sufficient effort to the project. Applicants are advised to read the Review Criteria ([Appendix 2](#), also available online) before starting to write their proposals.

3. Use the form provided ([Appendix 3](#)) to submit a **Letter of Intent** by April 1, 2021, which includes a brief synopsis ( $\leq 250$  words in English or  $\leq 500$  words in Chinese) of the intended research and scientific/societal problem to be addressed, and names of suggested potential reviewers. The Letter of Intent will not be used for screening nor will it be subject to review. It serves only to facilitate the administrative aspects of the grant review process.

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## 3. Funding Period and other Requirements

- 3.1 A **five-year proposal** written with a five-year vision and goals should be submitted. Selected proposals will be funded based on 4+1 or 1+4 years mechanism, as described below:

1. 4+1 years – Applications that convincingly demonstrate sufficient novelty, scientific merit, and significant impact will be funded in full for four years. The one-year extension after that is awarded based on progress. The PI can request for extension at any time soon after the conclusion of the first three years by submitting a progress report highlighting key findings and a publication list produced from this project. Projects that have adequately met the target milestones and already have tangible outcomes in the form of manuscripts or publications will be granted an extra one year (fifth year) of funding support.
2. 1+4 years – If the research idea is considered by the review to be original and of strong scientific merit but is too risky for long-term investment, the project may be provisionally funded for one or two years to obtain key results for de-risking. Application for extension into a full five-year GCP project can be made anytime within the first 18 months by submitting a progress report or a revised proposal for competitive review. PIs for projects that fail to gain an extension can resubmit the proposal as a new application in due course when more progress is made. To avoid discontinuation of grant support, requests for extension should be made well in advance within the provisional one to two years funding period.
3. Actual funding may be adjusted on a yearly basis based on budget availability and progress.

- 3.2. Grant **Acceptance** and **Requirements** prior to Project Execution

1. Program Directors/PIs and co-PIs of a successful application grant must sign and abide by

the terms as stipulated in the Project Execution Agreement, and complete the Conflict of Interest declaration process, prior to commencing the project.

2. Approval from the authorized AS committees must be obtained before commencing any GCP project involving biological and/or genetically engineered materials, animal experiments or human subjects.
3. In accordance with the AS Research Ethics regulations, 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 joining the research project, or within the duration of the project for a project lasting less than six months.
4. Program Director/PI and co-PIs found to have violated research ethics will be subject to actions recommended by the AS Ethics Committee.

### 3.3 Reports and Evaluation

1. A brief written progress summary of the previous year must be submitted yearly in February for review, which, in year 4, can be further elaborated by highlighting key findings to request the 4+1 funding extension as described in section 3.1.
2. Seminars and oral presentations by PI to discuss mid-term progress and problems can be arranged as needed.
3. A final written report to the AS Department of Academic Affairs and Instrument Services is due upon completion of each project.

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## 4. Application Materials to be submitted

1. Use the form provided ([Appendix 3](#)) to submit a **Letter of Intent** by email to the GCP Grant Office by **April 1, 2021**.
2. Use the document template provided ([Appendix 1](#)) to prepare the **Full Proposal**, adhering to the format and rules specified within. All required information including research plan, budget request and justification, supporting letters, biographical sketch, recent research accomplishments, and a list of current and pending grant support, should be organized into one PDF file and submitted as email attachment or through cloud-based service to the Grant Office, before the submission deadline: **17:00, May 3, 2021**. Name the submitted files as "GCPn-PI Name", where n = category 1, 2 or 3, *e.g.* GCP1-ChenXX refers to Proposal submitted by PI ChenXX for an Individual GCP grant (category 1).
3. A confirmation acknowledgement email will be sent upon receipt and content verification of the submitted proposal. It can be used as proof of submission. Incomplete applications will not be considered.

4. GCP Grant Office contact information:

Email: [grandchallenge@gate.sinica.edu.tw](mailto:grandchallenge@gate.sinica.edu.tw)

c/o Ms. EG Chen (Tel: 2787-2612),

Department of Academic Affairs and Instrument Service

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## 壹、計畫類型：

關鍵突破研究計畫型別分為下列三類：

- 一、個人型研究計畫
  - 二、單一整合型研究計畫
  - 三、所、中心問題導向型團隊研究計畫
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## 貳、計畫申請作業

### 一、申請人資格與配合款

- (一) 研究計畫之(總)主持人需為本院專任助研究員(含)以上。
- (二) 所、中心問題導向型團隊研究計畫由所、中心三個(含)以上專任與合聘研究人員提出，也可以跨所聯合提出。總主持人需為本院專任助研究員(含)以上。所長或中心主任可以不需要是該計畫(總)主持人，但需應允給予一定比例之配合經費並負督導之責。
- (三) 個人型與單一整合型計畫可以不需要配合款，但仍鼓勵研究人員以所、中心原提供之內部研究經費挹注為配合款，以示決心專注致力於此計畫，尋求關鍵突破。
- (四) 計畫主持人可邀請非本院專家學者參與研究團隊，擔任該計畫共同主持人。
- (五) 若因執行計畫需邀請合作專家學者或協同參與人員，計畫主持人可於申請書詳細說明其必要性，並檢附被邀請者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、計畫申請時程與其他注意事項：

- (一)申請時程為即日起至 110 年 5 月 3 日 17 時止，數理組及生命組之計畫書應以英文撰寫，格式請見 [附件 1](#)；人文組以該專業領域之國際學者熟悉的文字為主要考量。
  - (二) 撰寫計畫書時，應著眼於欲解決的關鍵議題之重要性、所提出的思維與方法之創新突破性，及研究成果對該領域的影響力。敬請參酌本徵求的英文版說明，及適用於數理組及生命組之計畫審查基準英文說明 ([附件 2](#))。
  - (三) 有意願申請者應於 110 年 4 月 1 日前先遞送計畫申請意願書，含中英文摘要及建議審查委員名單等資料，以利安排審查作業，格式請見[附件 3](#)。
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## 參、計畫補助年限與執行前需求

一、計畫應以 5 年研究目標撰寫，獲補助的計畫執行期設有 1+4 年期及 4+1 年期機制：

- (一) 4+1 年期機制 - 經審查評估其研究計畫已有相對成熟的具體概念與規模，且在解決所提

的關鍵問題上有重大突破之潛能，將一次核給 4 年經費支持，第 5 年之經費補助將視是否已達成原預設的目標及產出的成果而定。計畫主持人可於計畫執行第三年完畢後任何時間點以扼要成果報告及此研究所產生的著作目錄提出申請展延。

- (二) 1+4 年期機制 - 經審查評估其申請計畫之研究概念雖具有原創性、學術價值及發展潛力，但整體執行上屬高風險而尚不宜長期投資者，可暫先核給 1 至 2 年計畫補助經費。計畫主持人可於執行 18 個月內，以初期成果或已修正的計畫書提出申請延續執行該計畫至原定的 5 年期程。不符預期績效無法延續其計畫者，可視實際進度重整後以新計畫重新申請。
- (三) 每年實際核定經費將視當年之預算金額及前一年之執行進度而定。

## 二、核定後執行前須知

- (一) 經核定通過之總主持人及共同計畫主持人須簽署相關計畫執行同意書，並於計畫執行前完成利益衝突揭露程序；
- (二) 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；
- (三) 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；
- (四) 計畫主持人及共同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、執行進度與成果報告

- (一) 計畫執行期間，每年 2 月須提交前一年之精簡進度摘要報告，可於第 4 年再綜合說明主要成果作為申請前述 4+1 年期之第 5 年補助的依據。
- (二) 視需求安排口頭報告討論進度及待解決之問題。
- (三) 計畫執行期滿，須向學儀處提交完整執行成果報告。

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## 肆、申請資料

- 一、**申請意願書**，請依格式 (附件 3) 填妥簡要資料後，於 110 年 4 月 1 日前以電子郵件寄至「關鍵突破計畫」辦公室。
- 二、**申請計畫書**，請依規定計畫書格式 (附件 1) 備妥所需資料，含研究規劃、經費需求與說明、計畫支持說明信函、主持人與共同主持人個人履歷、近期研究成果，目前正執行與申請中之計畫件數及經費補助情形等，合併成一完整 PDF 電子檔，於 110 年 5 月 3 日 17:00 前，以電子郵件或雲端分享方式傳達計畫辦公室。檔名請命名為“GCPn-PI 英文姓名”，n = 計畫

類型 1、2 或 3；例如 GCP1-ChenXX 為陳姓主持人申請之個人型關鍵突破計畫(類型 1)。

三、承辦人於收到完整無誤的計畫書後，將回信確認，此回覆信函可當收件之存證。

四、學術及儀器事務處「關鍵突破計畫」辦公室電子郵件聯絡方式：

[grandchallenge@gate.sinica.edu.tw](mailto:grandchallenge@gate.sinica.edu.tw)

承辦人：陳羿君女士(電話：2787-2612)

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