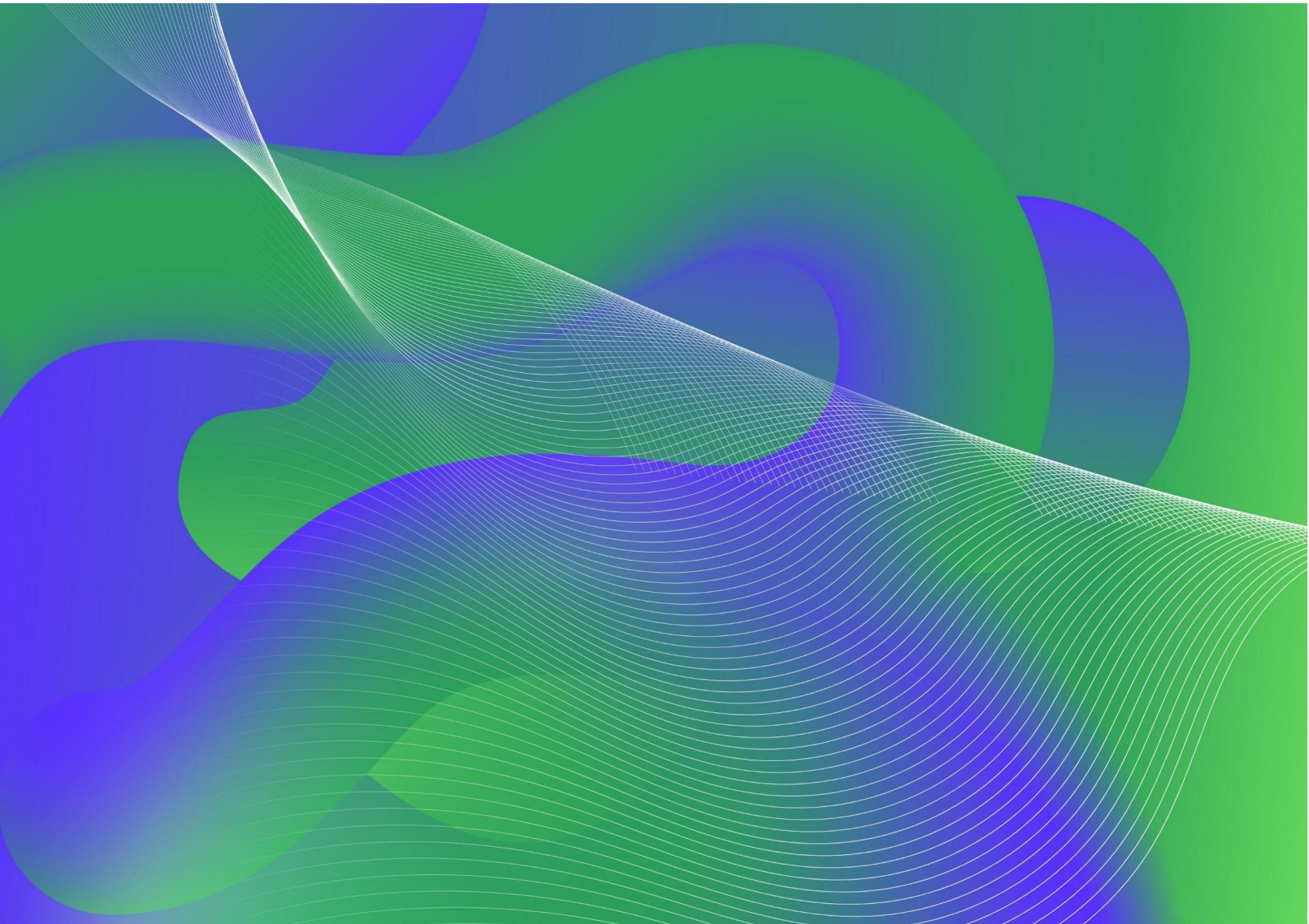




GFIC Research Grant 2021 Request for Proposals (RFP)

Application Due: December 31, 2021

Please download the editable proposal template from GFIC website for application.



Submit your completed proposal to scitech@gficonsultancy.com

Introduction

GFI Consultancy (GFIC) is a China-based impact-driven company focused on accelerating alternative protein food innovation development in China by serving as a platform of service, resources, and knowledge for the relevant industries. GFIC identifies and leverages effective alternative protein solutions (plant-based, fermentation-derived, and cellular agriculture food innovation) in increasing food safety and security, reducing environmental impact and reaching climate goals.

GFIC brings together international and local experts across disciplines and fields to support progress in R&D as well as commercialization and regulatory pathways. As an independent strategic partner of the Good Food Institute, GFIC combines local knowledge with a global perspective to create unique insights for players along the whole value chain.

GFIC is happy to announce the establishment of GFIC grant that is supported by generous philanthropic donors. The goal of the GFIC research grant is to support researches in Chinese communities by providing fundings for researches that aim at addressing the unmet needs and solving the bottlenecks in the alternative protein industry.

If you would like to learn more about the alternative protein industry and GFIC, you are welcome to visit our website <https://www.gficonsultancy.com/> to get more related materials.

If you have any inquiries and feedbacks on the GFIC Research Grant, please contact us through scitech@gficonsultancy.com.

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Background

Currently, animal husbandry takes 77% of the agricultural lands for grazing and grass/feed growing, but it can only produce 17% of the food needed. It is estimated that global meat consumption will increase 50% by 2050. Thus, the mismatch between the growing need for meat and the production capability reveals a potential food crisis in the near future. Apart from this, the virus that appeared in meat products could create price fluctuation and affect the health of human beings, living convenience, and economic growth. Technology-enabled alternative proteins serve as a more sustainable protein resource than traditional meats to address such concerns. Alternative proteins provide new options in diets and can be classified into plant-based, cell-based, and fermentation-derived proteins; hybrids of these three pillars also appear. Meanwhile, with the improvement of life quality and the advocate of leading a healthy life, people consider more about the health profile of foods. Therefore, it would be important for alternative protein products to share similar nutrition profiles to conventional meat-based products. Moreover, technological advancements could potentially aid in designing and enabling the variety and amount of functional ingredients in alternative proteins.

GFIC's previous research on the "Academia and grant landscape of alternative protein research in China" found that researchers are not fully aware of the bottlenecks in the industry and where to apply their technologies to meet industrial needs. Furthermore, they have insufficient support dedicated to alternative proteins in China, early-stage scientific researches in particular. Thus, a local grant dedicated to supporting Chinese researchers considering local circumstances is needed to boost research interest in this field.

Funding Opportunity Priority Areas

The 2021 GFIC Research Grant will have a main focus on fermentation-derived proteins, one of the three main pillars in alternative protein identified by the Good Food Institute. Researches on fermentation-derived proteins are of significant relevance and importance to China for the following reasons:

- Fermentation technologies have been widely used in multidiscipline, including clean energy, biopharma, food, etc. Nevertheless, their potential applications in alternative proteins have not been well investigated by Chinese researchers.
- Fermentation-derived proteins are still at a very early stage in China and have much less attention from researchers, companies, or investors, compared to plant-based proteins, which have gained huge interest and investment in 2020. Funding for fermentation research that could accelerate ecosystem building is insufficient.
- Fermented food has a long history in the Chinese diet. For instance, fungi such as *Aspergillus oryzae* and *Actinomucor elegance* have been widely used in the production of fermented foods of soybeans and alcohol. In addition, food manufactured

through fermentation is perceived by consumers as "healthier" because of the natural texturization processes and bioactive agents enabled by the microbes used for fermentation. The current fermentation experiences and technologies have a high potential to be leveraged to strengthen the long-recognized perception of "healthiness" and sustainability through applying for alternative proteins.

- A fermentation-focused research grant competition can attract more researchers and scientists to pay attention to this alternative protein industry and incentivize them to apply their synthetic biology knowledge to food technology advancement.

In addition, health has been recognized as one of the important factors considering the local dietary needs. Under the local circumstance, health considerations are at the very center when Chinese people choose what to eat and whether to adopt a new type of food. Hence, enhancing the health aspects of alternative proteins using fermentation technologies is also of great importance.

Research Focus Topics

This funding seeks research proposals with strong translation applications in meat alternative products. The overall goal of the project has to improve the development of alternative proteins by addressing a research gap or technical barriers. We encourage applicants to consider fermentation technologies as the core method. Areas of focus include but are not limited to strain selection, bioprocessing optimization, and biosynthetic technologies for biomass or precision fermentation.

Solutions enabling less food processing and improving the health profile of the products developed from the research projects would be a plus. For example, reducing the nutrition loss, avoiding unnecessary additional ingredients during the manufacturing process, selecting nutrition-abundant new strains.

Table 1 lists three research topics as examples referenced from the global research priorities identified in GFI's [ASAP database](#) and combined with local research needs. Proposals with research topics beyond the range of the topics listed are welcomed if such research would create an innovative outbreak in meat alternatives products.

Table 1. Research Focus Topics

Topic	Service	Final Product	Approach	Project Example
Strain having suitable properties for producing meat alternatives	Strain development and target selection,	Product - Meat alternatives Ingredients - Protein	Biomass fermentation	-Suppressing hyper branching -Strain that is high in protein

either through strain selection or improving existing strain	Bioprocess design			with a complete profile of amino acids, low allergen, good flavor, etc.
Producing animal-like fats for optimizing meat alternatives	Strain development and target selection, Bioprocess design	Ingredients - Fat/Oil, Fatty acids, etc.	Precision fermentation	-Producing healthy oil/fat/fatty acids like omega-3 and omega-6 fatty acids from microbial (algae, yeast, etc.)
Key functional ingredients for optimizing meat alternatives	Strain development and target selection, Bioprocess design	Ingredients -Flavor, Coloring, etc.	Precision fermentation	-Producing hemoglobin/myoglobin that replicates the blood color of meat.

Eligibility

Applicants from academia and industry with an original, innovative, and feasible proposed project fulfilling the requirements stated in the *Funding Opportunity Priority Areas* are eligible. Priorities will be given to institutes present in Greater China.

Applicants should have a Ph.D. degree and should be the principal investigator to take charge of the project. He/she has to be capable of conducting a research project independently or has sufficient research experience. If the applicant is a postdoctoral researcher or a researcher in a company, please provide a supporting document signed by a faculty member at your institution. The letter should state the faculty member's commitment to serve as a project collaborator and advisor and allow the proposed research to be carried out in their laboratory.

Applicants should be full-time employees and have at least a 1-year employment contract from the grant awarded date in an institute where the project should be conducted.

Applicants from the industry should prove that the company is an independent legal entity.

Applicants should specify the reason for applying for this grant if a project with the same research objectives is being funded by other research grants in the meantime.

Since the main purpose of this grant is to support and encourage researchers to apply fermentation technologies in alternative proteins, grantees are encouraged to make any data (to

the extent not hindering IP protection) and results arising out of the work performed in connection with the project available to the public via a public webpage, presentation, or publication in a peer-reviewed journal.

Award Information

Proposals should include research goals that would be achievable within twelve months from the funding start date. The maximum total budget of each project (including indirect costs) would be \$100,000 USD. Indirect costs can be no more than 10% of the requested direct costs for the project.

Applicants who want to extend the timeframe should communicate with GFIC scientists in the quarterly call and submit an application to scitech@gficonsultancy. GFIC will then decide whether or not to allow the extension based on the research progress and proposed plan and will inform the applicant in writing of the decision.

How to Apply

Please follow the following steps to submit your proposal:

1. Download the proposal template from GFIC website. Complete your research proposal in English and save it in a PDF with the following naming convention:

PIFamilyName-Date(mm/yyyy)-GFIC Grant Application.pdf
For example: *Li-102021-GFIC Grant Application*

2. Send your completed proposal to scitech@gficonsultancy. Please use the same proposal file name for the email subject. You will receive a confirmation email within 3 working days.
3. [OPTIONAL] You may choose to submit an optional Letter of Support as supporting materials to your proposal. The letter can be from either industry or academia to highlight your strengths on the specific topics in your proposal. Please note that a maximum of 2 letters will be allowed and save the letters in one single PDF using the following naming convention: *PIFamilyName-Date(mm/yyyy)-LoS.pdf*

Submission and Award Notification Time

Submissions are open for all eligible applicants from the *Request for Proposal* release date until December 31, 2021 (11:59 pm).

All applicants will receive a notification email about the outcome of their submission no later than February 28, 2022.

Review Process and Evaluation Criteria

A review committee consisting of GFIC scientists and invited scientists globally will be formed for proposal evaluation. All submitted proposals will be reviewed and scored by at least 3 committee members based on the evaluation criteria listed below. The average score of the proposal will determine the final results.

- **Scientific alignment**
Anticipated likelihood of addressing a knowledge gap or technical barrier facing the production of meat alternatives. Using fermentation techniques with a consideration of health improvement would be a plus.
- **Expected impact**
Anticipated likelihood of positive impact on the sensory characteristics, price points, production capacity, and health profile of meat alternatives.
- **Project planning**
Feasibility of project goals (including realistic timeline and budget as well as clarity, soundness, and logic of research plan) and suitability of project team to successfully carry out project goals
- **Contribution to the scientific community**
Plan for sharing project protocols, data, results, and/or research tools and materials with the larger scientific community and alternative protein industry.
- **Commercial relevance**
Ability to outline a path for research outcomes to meaningfully advance the alternative protein industry. It could be the potential commercial applications and relevance to the industry.

Award Administration

Prior to disbursement of any funding, the principal investigator, faculty advisor (if the principal investigator is a postdoc or researcher in a company) must sign an award agreement with GFIC to ensure that both parties agree regarding the use of the grant award. The award agreement will detail the award specifics and the *Requirements for Award Recipients*. The agreement must be signed within 4 weeks of receipt, or GFIC reserves the right to withdraw the award offer. GFIC's standard grant agreement can be found upon a request to GFIC.

The first half of the budget will be disbursed in 2-3 weeks from receipt of the signed award agreement. The second half will be disbursed after the grantees submit a midterm one-pager of satisfactory progress.

GFIC has the right to announce the following information of the granted projects to the public: the project title, project summary, project team members' names, titles, and affiliations; and other information deemed relevant by GFIC, such as a description of the proposed project scope, purpose, and grant amount. Confidential information within a proposal must be clearly marked as confidential, privileged, or proprietary within the proposal in submission. GFIC will hold this information in confidence to the extent permitted by Chinese law but reserves the right

to require the removal of such confidentiality requirements as part of accepting the proposal and awarding funds if the proposal is otherwise accepted.

For proposals that do not receive funding, GFIC will not release the details of the applicants and proposal contents. However, we may release anonymized aggregated statistics regarding the number of proposals received, the types of institutions they came from (i.e. university or company), but no identifying information will be included in these statistics.

Applicants have the right to withdraw applications at any time by sending a request indicating their desire to do so to scitech@gficonsultancy.com.

Requirements for Award Recipients

The basic requirements include but are not limited to:

- Consent to be featured on GFIC's website, blog, and social media with a short description of your project goal(s) and progress.
- Consent to be invited as a guest speaker in at least 1 GFIC webinar or event.
- Consent to make an oral or poster presentation on the funded project in a GFIC event or GFIC-invited event.
- The funding should be utilized only for the awarded project expenses specifically, including materials, facilities usages, assays, publications, travel, etc.
- Timely response to a phone call or email from a GFIC scientist quarterly after the project started to provide brief information regarding project progress, results, and any technical challenges that have arisen.
- A one-page project progress report needs to be submitted within 2 weeks after 6 months from the project start date.
- A written report needs to be submitted within 30 days after the end of the project. The report should include the materials and methods used for the project, results, discussion on limitations and future directions, details of expense distribution. The report should also include instructions for accessing data or obtaining research materials generated from the project.
- Awardees are highly encouraged to submit paper(s) in a peer-reviewed scientific journal (at least in the 2nd ranking group of JCR or Chinese Academy of Science SCI) or file an IP based on the funded research.
- The IP generated through GFIC-funded projects will be jointly owned by GFIC and the grantee's institute. Acknowledgments need to be included where applicable.