



SINGAPORE FOOD STORY (SFS) R&D PROGRAMME

Future Foods: 2nd Seed Grant Call 2022 Call for Proposals

Call Opens: 5 September 2022

Submit by: 14 October 2022 (1800H, SGT)

SFS R&D Joint Programme Office (A*STAR):
Agency for Science, Technology & Research
Email: a-star_SFSRND@hq.a-star.edu.sg

Description	Dates	Comments
Launch Date	5 September 2022	Date of call publication
Deadline for applicants to submit any clarifications to the SFS JPO	23 September 2022	Should you have any questions or queries regarding the call, you may address them to: a-star_SFSRND@hq.a-star.edu.sg
Deadline for SFS JPO to reply to clarification question	30 September 2022	Replies to applicants' queries will be returned.
Deadline for proposal submission	14 October 2022	Please submit your completed applications to a-star_SFSRND@hq.a-star.edu.sg by 1800H, SGT
Notification of Evaluation Results	March 2023	Projected Timeline The outcome of the call will be communicated to all applicants via the email address indicated in their proposal. Applicants are strongly encouraged to check their inbox or spam folder regularly for updates.
Letter of Award issuance	April 2023	Projected Timeline Lead Principal Investigators (PIs) and Co-Investigators (Co-Is) are required to provide their endorsement/signatures within 7 calendar days upon the receipt of the LOAs.
Project Start Date	May 2023	Projected Timeline Lead PIs are expected to commence their projects by the project start date indicated in the LOA.

If you have considered applying to this grant call but decided not to do so, your feedback and reasoning for such a decision would be greatly appreciated. Please feel free to email your concerns and considerations to a-star_SFSRND@hq.a-star.edu.sg. Your valuable feedback may provide insights for consideration in our subsequent grant calls.

1 BACKGROUND

- 1.1 Singapore imports more than 90% of its food today and is vulnerable to global trends that impact food supply and safety, such as climate change, urbanization, growing complexity of food systems, and new business models and food products.
- 1.2 To strengthen Singapore's food security, the Singapore Food Agency (SFA) adopts three broad strategies, called the 3 Food Baskets: Diversity import sources, Grow local, and Grow overseas. The "Grow local" basket helps to mitigate Singapore's reliance on imports and serves as a buffer during supply disruptions to import sources.
- 1.3 As part of the "Grow local" basket, SFA has set the "30 by 30" goal, to raise local production from less than 10% today towards meeting 30% of Singapore's nutritional needs locally by 2030. This multi-fold increase will have to be achieved despite Singapore's land and resource constraints. Harnessing highly productive, climate-resilient and resource-efficient technologies through innovation is key to this effort.
- 1.4 Through these efforts, we can reap economic benefits for Singapore as we develop the industry ecosystem and nurture the appropriate segments of the agrifood-tech and alternative proteins food value chain. There are also opportunities for additional value-capture from anchoring alternative protein research, formulation, and production activities locally.
- 1.5 To turn food challenges into advantages, SFA and the Agency for Science, Technology and Research (A*STAR) have jointly developed the Singapore Food Story R&D Programme, to build a strong base of R&D capabilities in local research institutions in partnership with industry and undertake cross-domain research in emerging areas of the agri-tech and food space. It focuses on three R&D themes:
 - a. Theme 1 - Sustainable Urban Food Production
 - b. Theme 2 - Future Foods: Alternative Proteins
 - c. Theme 3 - Food Safety Science and Innovation

2 OBJECTIVES AND SCOPE

- 2.1 This 2nd Theme 2: Future Foods – Alternative Proteins Seed Grant Call aims to foster knowledge creation and catalyse early-stage innovations to strengthen the functionality and nutrition of Alternative Proteins products and enable diversification of raw materials and inputs for Alternative Proteins production. The projects should be targeted at Technological Readiness Levels (TRLs) of 1-3, and aim to address productization, prototyping and sustainability of production.

Projects that demonstrate novelty and promising proof-of-concept, with high commercial potential will be encouraged to further develop their capabilities through subsequent grant schemes.

2.2 Applicants are strongly encouraged to consider working with key companies and industry players in the novel food and alternative protein space.

2.3 There are two categories in this grant call listed below, **focused on Alternative Protein products for human consumption.**

2.4 Category 1: Novel Functional Ingredients for Alternative Protein Product Formulation

- a. To develop technologies or approaches to improve the nutritional profile, functionality, and organoleptic properties of the final alternative protein product and/or to support the formulation of hybrid products.
- b. Examples could include but are not limited to:
 - i. Alternative sources of carbohydrates, lipids, and specialty Ingredients (e.g., from precision fermentation rather than traditional agriculture), which could provide complementary macro- and micro-nutrients; and
 - ii. In-process modifications.

2.5 Category 2: Novel Feedstock for Alternative Protein Production

- a. To catalyse the diversification of the current range of raw materials and other inputs available for the production of the various alternative protein modalities.
- b. Examples could include but are not limited to:
 - i. Alternative Raw Materials (e.g., modelling of cell growth conditions in response to novel media formulations, novel substrate for fermentation/processing); and
 - ii. Upcycling of food processing sidestreams (e.g., for valorisation)

2.6 Collaboration with foreign organizations and experts in the capacity of a Co-Investigator or a Collaborator is allowed, but no funding will be allocated to the foreign Co-Investigator/Collaborator who are operating out of Singapore. Successful applicants are not allowed to contract out whole or part of the funded

research to any Co-Investigator or Collaborator whether they are local or international.

3 PROPOSAL REQUIREMENTS AND FUNDING

- 3.1 Proposed projects should be up to 18 months (1.5 years) in duration. Each successful project may be granted up to SGD \$500,000 (inclusive of 20% indirect costs), subject to the proposals corresponding budget request and project scope.
- 3.2 IHLs, public sector agencies and research laboratories in Singapore can qualify for up to 100% funding support of approved qualifying direct and indirect costs of a project. Support for indirect costs is allowed only to IHLs, public agencies and research institutes of up to 20% of the total qualifying direct costs. Otherwise, support for indirect costs is not allowable unless specifically justified and approved by the SFS Joint Programme Office based on the scope and projected outcomes of the research.
- 3.3 The Lead Investigator must have a minimum of 0.75 FTE with an eligible R&D organization; possess a good track record of leadership and technical ability in conducting research programmes, providing mentorship for researchers, and having productive research, commercial outcomes and/or publications.
- 3.4 Proposed research should not be already funded by other local or international grants or funding schemes.
- 3.5 The funds from this grant call will be disbursed on a **reimbursement basis**. There will be **no advancement of funds** for the awarded projects.
- 3.6 PIs are strongly encouraged to collaborate with companies and garner cash/in-kind Industry Research Spending. Choice proposals should include Letters of Support / Letters of Intent with collaborating companies that indicate how the research technology will be translated in the areas of collaboration and to include the companies' cash and/or in-kind estimations/projections.
- 3.7 In additional, proposals are strongly encouraged to clock the following KPIs:
 - a. No. of projects (collaborations) with local IHLs and organisations;
 - b. No. of international projects (collaborations); and
 - c. No. of industry projects.
- 3.8 Companies and company-affiliated research entities do not qualify for funding but are encouraged to participate as collaborators with a local lead Principal Investigator.

- 3.9 Final funding support and amount will be at sole and exclusive discretion of the JPO based on the scope and projected outcomes of the research.
- 3.10 Applicants shall comply with national regulations, A*STAR's Grant Terms and Conditions and the National Research Fund Guide.
- 3.11 All R&D work must be conducted in Singapore, and all assets acquitted with the funding must be located in Singapore and maintained within the control of the Institutions.
- 3.12 Intellectual Property (IP) management: All researchers and research organizations shall follow and apply the National IP Protocol principles and framework.

4 APPLICATION

- 4.1 Applications shall be submitted via email to a-star_SFSRND@hq.a-star.edu.sg.
- 4.2 The Research Administrative Office from IHLs or the equivalent outfit in companies are responsible for ensuring that information submitted by their respective researchers are compiled according to the requirements set out in this grant call.
- 4.3 All proposals must be submitted by **14 October 2022 1800Hrs (SGT)**. All completed applications must be endorsed by the Director of Research or equivalent at the Host Institution for the Lead Principal Investigator. A complete application will consist of the project proposal and supporting documents submitted to the email above.
- 4.4 Late submissions, incomplete submissions, submissions via other avenues (e.g., walk-in), and submissions without proper endorsement will not be accepted.
- 4.5 Applicants may direct queries by email to a-star_SFSRND@hq.a-star.edu.sg if questions are not addressed in the FAQ section of the grant call.

5 SELECTION AND AWARD PROCESS

- 5.1 Submitted proposals will be subject to review by international and local scientific experts, as well as an evaluation panel. Privileged or confidential information shall be clearly marked as such in any of the submission documents.
- 5.2 Applicants shall agree that:

- a. The SFS JPO is under no obligation to award research grant in whole or in part to any proposal;
- b. All applicants shall abide by the decisions of the SFS JPO. The decision of the SFS JPO shall be final; and
- c. All applicants shall not take legal action against the SFS JPO and its affiliate organisations, any reviewers, or any member of the evaluation panel in relation to their role in deliberating project proposals.

5.3 Proposal shall be evaluated which **includes** the following criteria:

- a. Potential Contribution to Grant Objectives;
- b. Potential for Commercialisation, Deployment in Singapore and Export;
- c. Scientific Excellence and Innovation Potential; and
- d. Execution Strength and Technical Competency of Research Team.

5.4 All projected output and achievements of the proposed research are expected to be commensurate with the level of funding requested. The SFS JPO may require proposals to be revised or combined as it sees fit to enhance research outcomes, ensure competitiveness, facilitate integration of research concepts and technologies, and optimize resources.

5.5 The SFS JPO bears the sole and exclusive discretion for the selection of reviewers and evaluators, and shall not be liable for the release of information concerning proposals to third parties by individuals involved in the review process. Should circumstances arise, the SFS JPO reserves the right to modify the review process.

5.6 A Letter of Award will be sent to the Host Institutions of successful applicants, as named in the proposal, and copied to the Lead Principal Investigator(s) and Co-Investigator(s), if any.

6 AWARD, PROJECT REVIEW AND MONITORING

6.1 The SFS JPO will oversee the progress of funded projects and provide guidance over research directions, progress and intended deliverables.

6.2 Projects will be reviewed annually. Research teams will be required to submit summary reports on their progress toward promised deliverables and information on funding drawdown, at a frequency specified by the SFS JPO.