Date of release of this announcement: 15 April, 2024

Ignite Fast Grant Awards in Agriculture Science

Second Open Call (2024) for proposals

Submissions due by <u>31st May 2024</u>

Ignite is a Science Philanthropy that funds life science research in India in non-profit academic and research institutions. You can learn more about us at ignitelsf.in

This call is funded through generous support from

Mr. Nadir Godrej - Godrej Industries

& Mahyco Private Ltd.

Background to this call

There are two challenges that we wish to address through the research proposals funded in this round.

1. *Molecular approaches* to mitigating or **neutralizing antinutritional factors** in commodity crops
2. *Molecular and modelling approaches* to **biotic stresses** altered by climate change

Neutralizing antinutritional factors

Effects of climate change on agricultural productivity will compel us to diversify the sources of nutrition. Climate resilient crops like millets are rich in nutrition. However the nutritive value of these crops is limited by the presence of antinutritional factors (e.g. phytates, ODAP) that limit the absorption of micro and macronutrients or make consumption unsafe for human health. We are interested in proposals that approach this problem using molecular means to reduce the presence of antinutritional factors in crops.

Duraiswamy, Aishwarya, et al. "Genetic manipulation of anti-nutritional factors in major crops for a sustainable diet in future." *Frontiers in plant science* 13 (2023): 1070398.

Campion, Bruno, et al. "Genetic reduction of antinutrients in common bean (Phaseolus vulgaris L.) seed, increases nutrients and in vitro iron bioavailability without depressing main agronomic traits." *Field Crops Research* 141 (2013): 27-37.

Fighting biotic stress

Climate change is increasing biotic stress both quantitatively (increase in pest prevalence) and qualitatively (atypical pests appearing in new geographic regions). We are interested in proposals that can provide insightful models on the climate-change -mediated quantitative or qualitative alterations in pest populations or envisage molecular pathways/mechanisms for engineering crops to resist or tolerate these biotic stresses, as a way to maintain/enhance agricultural productivity.

Sulaiman Ahmed, Muhammad Saad Shoaib Khan, Songlei Xue, Faisal Islam, Aziz Ul Ikram, Muhammad Abdullah, Shan Liu, Piengtawan Tappiban, Jian Chen, A comprehensive overview of omics-based approaches to enhance biotic and abiotic stress tolerance in sweet potato, *Horticulture Research*, Volume 11, Issue 3, March 2024, uhae014, https://doi.org/10.1093/hr/uhae014

Adss, Ibrahim A., et al. "Physio-molecular responses of tomato cultivars to biotic stress: Exploring the interplay between Alternaria alternata OP881811 infection and plant defence mechanisms." *Plant Physiology and Biochemistry* (2024): 108421.

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Call for Proposals

Research proposals addressing the Challenges listed above are invited from **not-for-profit research institutions (public or private)**. Preference will be given to collaborative proposals between groups that have divergent expertise.

The Challenges listed above are to be interpreted in their broadest sense. We prefer to receive proposals that seek to address a central hypothesis/question relating to the Challenge. The hypothesis should be testable using a clearly defined experimental approach within the tenure of the Grant. Proposals will be evaluated for originality and potential for future applications in Agriculture.

The tenure of the funding request should be **24 months or less**.

The last date for submitting the proposal to andrea@ignitelsf.in is **31 May 2024**. The awards will be announced around **30 June, 2024**.

Information on Ignite Life Science Foundation can be obtained at our website: ignitelsf.in

Successful proposals will be announced through our website and via our social media handle: @ignitelsf

The subject line of the email to which the proposal is attached should say: AgriSci Proposal 2024 (**Round 2**), Your Name and Institution

The proposal (maximum 10 pages; the name of the proposal file should be PIname_InstitutionName_AgriSciProposal2_2024) should contain the following sections (**The applicant should hold a full time position at a Government research institution or Government University**):

1. A high level SUMMARY of the proposal (150 words or less)
2. Background science in support of this proposal (ideally ONE page)
3. The central hypothesis or idea (ideally half a page)
4. The experimental design to test your hypothesis/idea; experiments that are definitive in their outcomes and constitute a go/no-go decision point for further work are preferred (ideally ONE page)
5. Possible outcomes and next steps (ONE page)
6. List of References in support of (1) above (ONE page)
7. Six monthly Milestones, and Funding (with breakup; overheads should not exceed 10%) required to be disbursed in six monthly tranches (ONE page). If your project timeline is only 6 months or less, then you can ask for the entire fund release to be disbursed at the start of the project. Please also attach the project budget as a separate excel file with the name: PIname_InstitutionName_AgriSciProposal2_2024_Budget
8. Name of PI, co-PIs, list of relevant papers published by the PI and Co-PI, address, email ID and mobile phone numbers
9. If funding announcements are made in the first week of June 2024, on what date can you commence work on your proposal

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10. Self-certification that this Proposal does not overlap with any other ongoing funded proposals OR proposals submitted to other agencies for funding. Please do list ALL proposals of a similar nature that are funded in your laboratory as well as proposals of a similar nature submitted by you for funding to other agencies