SPARK Fellowship 2024

by

Good Food Institute IN

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SPARK Fellowship

BRIDGING TALENT GAPS IN SMART PROTEIN

Smart proteins, globally known as **alternative proteins,** are food ingredients and products produced from plants or animal cells or through fermentation. These innovative foods are designed to taste the same as or better than conventional animal products while costing the same or less.

With their inherent adaptability and eagerness to learn, students are crucial in filling talent gaps in the smart protein sector. Carrying out research through fellowship programs at the university level is a pivotal way in which students can upskill themselves, learn more about smart protein, contribute to smart protein R&D, and proceed to become key players in this burgeoning industry.

FELLOWSHIP OVERVIEW

The Good Food Institute (GFI) India's **S**mart **P**rotein **A**dvanced **R**esearch & **K**nowledge (SPARK) Fellowship program aims at encouraging postgraduate students from diverse scientific disciplines like food technology, biotechnology & bioengineering, microbiology, and chemical engineering to work on industry-relevant applied research topics contributing to innovative discoveries in the smart protein sector.

Under the SPARK fellowship, students will have the opportunity to conduct fully-funded, lab-based research for a six-month timeframe at premier Indian R&D institutions under the guidance of expert faculty mentors. This program will also facilitate translational research collaborations and commercialization of outcomes by onboarding relevant industry partners from GFI India's network.

SMART PROTEIN RESEARCH AREAS

Plant-based

The term **plant-based** refers to products made from plants that are alternatives to animal-based products. This includes plant-based meat, egg, dairy, and seafood. Understanding the functionality of plant proteins from indigenous crops of India, optimizing sustainable protein extraction techniques, and developing novel texturization technologies and clean-label ingredients are the white space opportunities.

Fermentation-derived

Divided into **traditional, biomass, and precision fermentation**, this modality leverages the versatility of microorganisms (bacteria, fungi, yeast) to derive unique functional ingredients for smart protein products or produce large amounts of a protein-rich food product. Target identification, strain development, feedstock optimization, process design and manufacturing, formulation, and product development are key areas for innovation.

Cultivated meat & seafood

Produced directly from cells, **cultivated meat** uses the basic elements needed to build muscle and fat and enables the same biological process that happens inside an animal. Cultivated meat is identical to conventional meat at the cellular level. Addressing challenges in cell line development, cell culture media, scaffolding, and bioprocess design is the need of the hour for cultivated meat R&D.

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RESEARCH GRANT & STIPEND

The **consolidated research grant of INR 1,00,000** and a **monthly student stipend of INR 10,000** will cover consumables required for project implementation and relocation or accommodation costs, respectively. Progress will be regularly monitored by GFI India's Scientists for the duration of the research project. Following the successful completion of the research project, GFI India will award the students with a Certificate of Completion to recognize their participation and contribution to smart protein research under the SPARK fellowship program.

ELIGIBILITY

Students currently pursuing a postgraduate degree (M.Sc, M.Tech, final year of dual degree programs, or similar) in **one of these key scientific disciplines** are encouraged to apply. Individuals who have recently completed their post-graduation in any relevant disciplines and are looking for early-career research opportunities are also welcome to apply.

HOW TO APPLY

Candidates can submit their application online by filling out **this** Google Form.

SELECTION PROCESS

Applications will be screened based on the fulfillment of eligibility criteria, academic credentials, demonstrated research experience and skillset, and mission alignment. Selected candidates will undergo an interview process from which **3 meritorious candidates (1 student per research area mentioned above)** will be selected for the research fellowship.

IMPORTANT DATES

The SPARK Fellowship was launched on February 20, 2024.
Applications close on March 15, 2024, 11:59 PM IST.

ABOUT US

The Good Food Institute India (GFI India) is the central expert organization, thought leader, and convening body in the Indian alternative protein or smart protein sector. As part of an international network of organizations with partners in the U.S., Brazil, Europe, Israel, and Asia Pacific, GFI India is on a mission to build a secure, sustainable, and just global food future. With unique insight across science, business, and policy, we are using the power of food innovation and markets to accelerate the transition of our food system toward alternative proteins. In building the sector from the ground up in India, we aim to establish a model for its growth all across the developing world.

ACADEMIC PARTNERS

Equipped with state-of-the-art infrastructure and eminent faculty, our academic partners excel in scientific research across various disciplines.

CSIR - Institute of Himalayan Bioresource Technology (IHBT)

CSIR-IHBT in **Palampur** conducts translational research in agro-technology, biotechnology, and environmental technology to explore the sustainable utilization of native Himalayan bioresources. With state-of-the-art labs and infrastructure in food processing and biotechnology, scientists at IHBT scope the value addition of numerous underutilized indigenous resources, including plants and microorganisms (bacteria, fungi, and algae). Bioprospecting novel microalgal strains for **fermentation** and developing efficient downstream processing methods for identifying and extracting bioactive compounds (such as pigments or flavor molecules) is one area of active R&D with direct applications in alternative protein end-product development.

ACADEMIC PARTNERS

Wadhwani Research Centre For Bioengineering (WRCB), IIT Bombay

WRCB is a translational research centre at the Indian Institute of Technology **Bombay.** It supports faculty across various departments in undertaking breakthrough interdisciplinary translational research in bioengineering and synthetic biology. Specifically, in alternative protein technologies, tissue engineering experts are researching the best biomaterials for **cultivated meat** production that will be abundant, affordable, and food-safe. Novel scaffolding materials and cell culture medium formulations are being investigated to optimally support the growth and differentiation of relevant cell types from species used for cultivated meat and seafood production.

INDUSTRY PARTNERS

Offering a unique sector-specific business perspective, our industry partners co-fund the SPARK Fellowship and provide expert guidance for the commercialization of project outcomes.

HiMedia Laboratories Pvt. Ltd.

One of the top biosciences companies in India and internationally, HiMedia develops, manufactures, and supplies laboratory essentials for research in animal cell culture, plant tissue culture, molecular biology, agro-industry, etc. Additionally, HiMedia partners with academic and research institutions, enabling and supporting translational scientific research.

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