

9th July, 2024

Ignite Life Science Foundation with support from IndianOil Corporation and Teekays Foundation, funds the acquisition of sophisticated scientific instrumentation to enable high throughput research at IISER Pune

Ignite Life Science Foundation, a Bengaluru-based science philanthropy that leverages scientific discoveries for social good, received a generous grant from IndianOil Corporation & Teekays Foundation.

IndianOil, Marketing Division Head Office CSR recently undertook a unique CSR project in which a Multi-mode Plate Reader, a crucial instrument for advanced scientific research, was provided to IISER Pune. The project was done in collaboration with Ignite Life Science Foundation as the implementing agency. Multi-mode plate readers are used in various fields such as biochemistry, molecular biology, and pharmaceutical sciences. They enable researchers to conduct assays for enzyme activity, nucleic acid quantification, protein detection, and cell viability, among other applications for up to 1500 molecules at a time which accelerates the research being conducted by the scientists.

Mr. Umar Bava Teekay of Teekays Foundation, provided the follow-on funding for the project for this acquisition in the laboratory of Dr. Siddesh Kamat and Prof. Harinath Chakrapani. This advanced scientific instrument will be used to perform measurements involving fluorescence, chemiluminescence, fluorescence polarization, FRET and UV-visible spectrometry to study various biological systems ranging from purified proteins to lysates and live cells. Besides the use of this equipment for their labs, this multimode plate reader will be made accessible to all researchers at IISER Pune and from labs outside IISER Pune wishing to use them.

Prof. Harinath Chakrapani and Dr. Siddhesh Kamat's research at IISER Pune involves applying chemical biology approaches to understand deregulated mechanisms associated with human diseases.

Prof. Chakrapani's lab is specifically interested in tools and therapeutics aimed at the maintenance of redox homeostasis, which is essential for cellular survival and growth. Using fundamental and mechanistic organic chemistry as the basis, their lab designs small molecules that can fragment to produce therapeutically relevant redox-active species such as hydrogen sulfide. Some applications of the technologies (including prodrugs) developed in their lab are in addressing antimicrobial resistance, inflammation, and degenerative diseases.

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14, BhattraHalli, Old Madras Road, K.R. Puram, Bangalore, Karnataka, 560049, India.

Tel.: +91 9595913895.

www.ignitelife.in

CIN: U85300KA2019NPL125980

Dr. Kamat's lab is interested in studying the biological mechanisms of lipid signalling pathways in the central nervous and immune systems. To achieve their goals, the Kamat lab integrates aspects of chemical biology, immunology, animal, and/or cellular models, in conjunction with advanced mass spectrometry-based metabolomics (lipidomics) and (chemo) proteomics techniques. The lab's long-term goal is to identify and characterize as-of-yet uncharacterized lipid signalling pathways *in vivo*, annotate enzymes and/or cognate receptors that regulate their biology, and provide new insights and therapeutic paradigms for orphan and/or emerging human diseases.

On July 9, 2024, Ms. Elizabeth Suhasini Potla, GM (MS&CSR), HO visited IISER Pune to inaugurate the multi-mode plate reader provided by IOCL to IISER Pune under CSR. The inauguration took place in the presence of the Director of IISER Pune Prof. Sunil S. Bhagwat, scientists from IISER Pune, members from the Ignite Life Science Foundation, and research scholars of IISER Pune. The event included a demonstration where a student of IISER Pune showcased a test conducted using the multi-mode plate reader. "This initiative reflects our commitment to supporting scientific research in the field of healthcare", said Ms. Elizabeth.

Dr. Swami Subramaniam, CEO of Ignite Life Science Foundation said "Contemporary life science research depends on sophisticated scientific instruments to generate quality data with high throughput. The multimode plate reader we are installing at IISER Pune as a shared resource using funds provided by IndianOil Corporation Limited will help accelerate biological experiments at IISER Pune. We hope regional institutions will also come forward to take advantage of this capability".

Prof. Richa Rikhy, Chair, Biology Department of IISER Pune said, "This equipment will greatly facilitate chemical biology and biomedical research efforts at IISER Pune. It will help us train the next-generation of researchers and enhance the ongoing research initiatives at the institute. We are grateful to Ignite Life Science Foundation for enabling this development in the department."

Prof. Sunil Bhagwat, Director of IISER Pune, "We are delighted that Ignite Life Science, IndianOil and Teekays have chosen to support research at IISER Pune by making available a plate reader with high throughput capacity. Support of this kind accelerates research and nurtures discovery."

Says Mr. Umar Teekay of Teekays Foundation, "We wish and pray that this becomes an important addition to help scientists in their pursuit of scientific advancement for our country."

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ABOUT INDIAN OIL CORPORATION LIMITED

IndianOil Corporation Limited is a public sector company and a diversified, integrated energy major with presence in almost all the streams of oil, gas, petrochemicals, and alternative energy sources; a world of high-calibre people, state-of-the-art technologies, and cutting-edge R&D; a world of best practices, quality-consciousness and transparency; and a world where energy in all its forms is tapped most responsibly and delivered to the consumers most affordably.

ABOUT TEEKAYS FOUNDATION

Besides being committed to making a valuable difference to the Indian corporate world, Teekays is also committed to making a significant difference to the community at large, through an independent trust supported by Teekays Group. A certain percentage of earning from each project is transferred to Teekays Foundation. The main focus of Teekays Foundation is promotion of education in rural areas. The foundation contributes to and monitors the progress of various institutions engaged in promoting education. A significant contribution also goes to the welfare of homeless children, visually impaired and other needy sectors.

ABOUT IGNITE LIFE SCIENCE FOUNDATION

Ignite Life Science Foundation (ILSF), a Section 8 not-for-profit foundation, was launched on January 15, 2020, by Nobel Laureate Dr. Venki Ramakrishnan. Ignite's purpose is to promote a vibrant ecosystem for scientific research in India by working with the stakeholder community, including philanthropists, scientists, policy makers in the Government and the beneficiaries of the outcomes of scientific research.

Ignite funds good science! But does much more than that. They lower barriers for young and promising investigators to get funding. Simplifies the process for obtaining funding even as they put greater emphasis on the scientific merit of the projects we fund. Efficient project execution is key. Ignite supports the investigator through the life cycle of the project to ensure high-quality project execution. Upon project completion, they support the investigator in the translational work needed to make the project outcome ready for practical use and commercial development (when appropriate).

Along with project funding, they help build scientist communities, partner with other private foundations with similar goals, help train young scientists through the Ignite Fellow program and fill gaps in the research ecosystem. These make up their Sustainability Initiatives that sustain the impact of what we do over the long-term.

Ignite Life Science Foundation (ILSF) is promoted by eminent scientists, academicians and management professionals.

For more information kindly contact: ramona@ignitelsf.in

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ABOUT IISER PUNE

The Indian Institute of Science Education and Research (IISER) Pune is an autonomous teaching and research institute set up in 2006 by the Ministry of Education, Govt. of India, with the primary goal of integrating high-quality research with undergraduate teaching. IISER Pune offers academic programmes at the undergraduate, post-graduate and PhD levels. IISER Pune is ranked 34 in the Overall category and 27 in the Research category of the 2023 India Rankings by the National Institutional Ranking Framework (NIRF), and is ranked 801-1000 in the 2024 Times Higher Education (THE) World University Rankings. IISER Pune is listed 7th in India, 123rd in Asia Pacific, and 369th in the academic sector on the 2022 Nature Index Tables for research output.

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