Media Release

भारतीय सांकेतिक विज्ञान संस्था हैदराबाद्
भारतीय प्रौद्योगिकी संस्थान हैदराबाद
Indian Institute of Technology Hyderabad

LVPEI
So that all may see
L V Prasad Eye Institute

IIT Hyderabad announces a self-sponsored MTech program in Ophthalmic Engineering, in collaboration with the LVPEI, Hyderabad, starting August 2022

Highlights: *The MTech in Ophthalmic Engineering offered by the IITH in association with L V Prasad Eye Institute (LVPEI) is a unique program that aims*
- *To create Ophthalmic Engineers with a solid base in engineering, ophthalmology, and optometry.*
- *To inspire cross-functional engineering and clinical ophthalmology/optometry teams to advance technology-related research in vision care.*
- *To enable engineers and clinicians to collaborate in designing better technology products/ services.*
- *To create professionals who can take up technology challenges in vision care as a start-up entrepreneurial enterprise.*

Hyderabad, June 17, 2022: Centre for Interdisciplinary Program (CIP), IIT Hyderabad, in collaboration (IITH) with the L V Prasad Eye Institute (LVPEI), is launching a blended Master of Technology (MTech) program in Ophthalmic Engineering through their combined expertise in ophthalmic care and in engineering and technology from this academic year (August 2022). ***This collaborative MTech program aims to bridge the gap between clinicians and the medical practitioner working in Eye care with qualified technologists from related engineering streams.*** This may be achieved through a training program that blends essential elements of medical care (ophthalmic care, in this instance) and engineering (optics, biomechanics, and controls engineering, in this instance). ***The program intends to create a pool of qualified Ophthalmic Engineers who could take up the pressing challenges in Eye care and develop technology products.*** This unique, promising ***program is expected to create professionals who can take up technology challenges in ophthalmology as a start-up***.

This program is ideal for medical school graduates, ophthalmologists, optometrists, and engineers interested in advancing their careers in areas of technology-enabled eye care and vision science. The program requires the students to complete **52 credits** across **two years**, consisting of **2 semesters** in the **first year** with **14 credits/semester**. In these two semesters, the program also requires students to complete mandatory courses in communication skills and industry lecture series in the first two semesters, enabling them to become effective communicators and establish contacts with industry leaders. The students are provided an opportunity to select a few courses from a basket of courses to complete the 14-credit requirement in each semester, constituting 18 core credits in various areas of ophthalmology, vision science, and various engineering aspects in Eye Care and **ten credits of electives from the related subject domain**. The coursework has both theory and labs and will be taken by the leading academicians from both IITH and LVPEI teams. ***The third and fourth semesters require the completion of 24 credits (12 credits in each semester) by undertaking a project under the supervision of both the IITH and LVPEI teams in collaboration with the industry partners.***

Talking about the program's relevance Prof B S Murty, Director, IITH, said, "*IITH has a rich technology and innovation ecosystem with the several Departments working on the cutting-edge areas. Keeping up the mission of Inventing and Innovating in Technology for Humanity, the institute set up a Center for Interdisciplinary program (CIP) to encourage cross-discipline research and innovation. Eye care is among the important areas of social interest and technological importance, and our faculty members are already working with the leading institute in the area, including LV Prasad Eye Institute. I am sure this program would offer an excellent platform for developing new indigenous products in Eyecare, which aligns with the national mission of Aatma Nirbhar Bharat. I am confident that this unique program would nurture a pool of talented ophthalmic engineers who would certainly, advance eye care and work towards the mission of a blindless society.*"

Adding to this, Dr Prashant Garg, Executive Chairman, LVPEI, said, *"In addition to the world-class eye care services offered by LVPEI, the institute is also known for advocating public eye health, basic science research in eye care, capability building of eye care personnel, vision rehabilitation, and eye banking. The institute also set up the centre for technology innovation where clinicians could actively work with engineers and designers to develop innovative solutions for screening, diagnosis, and management of complex eye disorders. In this context, the joint MTech program with IITH is a welcome collaboration, adding a fantastic dimension to our education programs and for sky-rocketing technology innovation at LVPEI to a new level."*

Mapping the objectives of this program, Renu John, Chair – CIP, and Dr K. Nithyanandan, Program Coordinator of Ophthalmic Engineering, IITH, expressed, *"Eye health and good vision have profound implications on many aspects of life, health, sustainable*

development, and the economy. Beyond affecting the quality of life, vision impairment also affects the annual global productivity loss amounting to US$410·7 billion (Rs 32L Cr). Vision problems can be effectively addressed by appropriately combining medical and technological interventions. While robust models for eye care delivery have been developed on the medical side of things (e.g., the pyramidal model of eye care by LVPEI), significant gaps still exist in meeting the technology side of the problem. The proposed master's degree level collaborative training program between LVPEI and IITH is an attempt to successfully bridge this gap and create a pool of qualified Ophthalmic Engineers who could take up the pressing challenges in Eye care and provide a practical solution by applying the right and affordable technology to the broader benefit of the society. As one of the premier technical institutes in the country, IITH is gifted with a pool of talented engineers working in various cutting-edge fields of high relevance to Ophthalmology and Optometry. This program aims to create the right ecosystem for the cross-functional engineering and clinical ophthalmology/ optometry teams to advance technology-related R&D in eye care.

Enlisting the benefits program is extending to society, Dr Avinash Pathangey, Director, SCB Academy for Eye Care Education, and Dr Shrikant Bharadwaj, Program Lead, Ophthalmic Engineering at LVPEI, have mentioned, "*According to a report by LANCET, an estimated **596 million** people had distance vision impairment worldwide of whom 43 million were blind. By 2050, due to increasing urbanization and the growing aging population, around **895 million** people are estimated to have distance vision impairment, of whom **61 million** will be blind. Action to prioritize eye health is the need of the hour. It's worth noting that vision impairment from complex diseases afflicting the eye and brain needs a team-based approach to arrive at an optimal solution. On the medical side, the team will comprise ophthalmologists, optometrists, ophthalmic technicians, and nurses that will offer optical, rehabilitative, therapeutic, and surgical care to patients. On the technology side, the team will comprise engineers with a range of technological expertise, who will develop novel technology to bridge critical gaps in the medical system. In this context, the collaboration with IITH is a welcome one, for the combined expertise of both institutes can be harnessed effectively to find effective solutions for many unresolved eye ailments. LVPEI looks forward to working with IITH and its team of brilliant engineers and technologists to develop this new breed of ophthalmic engineers who will bridge the existing lacuna in this field."*

Link to online admission portal: https://iith.ac.in/mtechadmissions/
Last date to apply: July 7, 2022
Link to the program Webpage: https://ope.cip.iith.ac.in/

About LVPEI: Established in **1987**, L V Prasad Eye Institute (LVPEI), a World Health Organization Collaborating Centre for Prevention of Blindness, is a comprehensive eye health facility. The Institute has ten functional arms in its areas of operations: Clinical Services, Education, Research, Vision Rehabilitation, Rural, and Community Eye Health, Eye Banking, Advocacy and Policy Planning, Capacity Building, Innovation, and Product Development. The LVPEI Eye Care Network has **260+** Centres spread across the states of Telangana, Andhra Pradesh, Odisha, and Karnataka in India. The institute's mission is to provide equitable and quality eye care to all sections of society. The LVPEI's five-tier 'Eye Health Pyramid' model covers all sections of society, from the villages to the city, and provides high-quality and comprehensive - prevention, curative, and rehabilitation – eye care to all. It has served over **32.11 million (3 crores 21 lakh people)**, with more than **50%** of them entirely free of cost, irrespective of the complexity of care needed.
To know more, please visit: https://www.lvpei.org/

About IIT Hyderabad: Indian Institute of Technology Hyderabad (IITH) is one of the eight new IITs established by the Government of India in 2008. In a short span of **14** years, the institute has become a top ranker. Currently, it has **274** full-time faculty, **3,800+** students, nearly **200+** state-of-the-art laboratories, and five research and entrepreneurship centers. The institute has a strong research focus with approx. Rs **535+** crore of sanctioned research funding, with PhD scholars accounting for about **30**% of total student strength. IITH has more than **7,500+** research publications with **92,700+** Citations, **164** Published Patents, **1,700+** sponsored/consultancy projects so far with **500+** running projects, and about **100+** startups.
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