



CELEBRATING GENEROSITY

DR. KRISHNA CHIVUKULA
AND
DR. JAGADAMBA CHIVUKULA



Indian Institute of Technology Madras
Office of Alumni and Corporate Relations



PROF. BHASKAR RAMAMURTHI
Director, IITM

"IITs offer a fantastic environment to learn, not only from teachers but also from each other. Every IIT student must use the 4 or 5 years they spend here to realize their full potential and excel, academically and professionally. Our experience shows that alumni who use the opportunity provided here well, go on to flourish in ways we would not even have imagined when they were students.

We have an entire pre-incubation ecosystem on campus with a Centre for Innovation where students can walk in with an idea and walk out with a product, with facilities and funding support to progress with an idea, our research intensity therefore is growing rapidly. The institute will continue to focus on fundamental and translational research given the development imperative of the country and find solutions to the pressing problems facing society. IIT Madras is proud of its global alumni diaspora and well-wishers, second to none in terms of its accomplishments".



PROF. MAHESH PANCHAGNULA
Dean, Alumni & Corporate Relations, IITM

Heartfelt gratitude to Dr. Krishna Chivukula and Dr. Jagadamba Chivukula from IIT Madras

"Our aim to provide continued solutions to social problems on a global scale is realised through the sustained support of well-wishers such as you. We thank you for your contribution as we present a report of its impact.

We hope to receive your help and support for our future endeavours to take IIT Madras to the global stage."



Dr. Krishna Chivukula
1970/MT/AE

Graduated from IIT Madras in 1970 with an M. Tech. degree in Aerospace Engineering. Prior to this, he earned his B. Tech. degree with Honours in Mechanical Engineering from IIT Bombay in 1968. He received his MBA degree from Harvard University in 1980, and was awarded the Doctor of Letters (D. Litt.) degree from Tumkur University in 2012. Dr. Krishna Chivukula introduced Metal Injection Moulding (MIM) in India through his company Indo-MIM Pvt. Ltd., while this technology was still nascent in other parts of the world. Indo-MIM Pvt. Ltd. has received many international awards.

He was conferred the Distinguished Alumnus Award by IIT Madras in 2015, and IIT Bombay in 2016.

We are delighted to share the work and impact of the projects enabled by Dr. Krishna Chivukula and Dr. Jagadamba Chivukula's support. We rejoice in and celebrate their generosity towards IIT Madras and are grateful to them and their family.



Dr. Krishna Chivukula receiving the DAA from IITM



Dr. Krishna Chivukula receiving the DAA from IITB



**“GIVING
IS NOT JUST ABOUT
MAKING A DONATION,**



**IT'S ABOUT
MAKING A
DIFFERENCE”**



KEEP IT FLOWING

Keep It Flowing is a movement to seek contributions from IITM Alumni to renovate our hostels. Dr. Krishna Chivukula, one of our eminent alumni is the Founder, Chairman – INDO – MIM Pvt. Ltd. As a part of his Organization's Corporate Social Responsibility he had contributed for the Keep It Flowing campaign by supporting three hostels.

He donated INR 2,50,00,000/- towards the renovation of Cauvery hostel, which was his home away from home during the time he was pursuing his M.Tech in Aerospace Engineering. The renovated Cauvery hostel will be inaugurated on Wednesday, 8 September 2021.

He has also donated INR 1,50,00,000/- towards the renovation of Godavari hostel and INR 1,50,00,000/- towards the renovation of Jamuna hostel.

CAUVERY HOSTEL RENOVATION

Cauvery hostel is the first hostel constructed in the year 1961 with a capacity to accommodate around 216 students in single occupancy. The hostel was further expanded during the year 2002 to accommodate additional 171 students. Since 2018, the rooms have been converted to double occupancy rooms to accommodate around 750 students.



The hostel building is almost 6 decades old but still structurally strong enough to cater the present need. However, due to ageing it became necessary to augment the existing facilities in the hostel premises. Accordingly, it was proposed to renovate the hostel.

THE RENOVATED HOSTEL HAS THE FOLLOWING FACILITIES:

- ✓ 24 Nos of Restrooms.
- ✓ Each rest room consists of 3 Water closets and 3 Bathrooms.
- ✓ Grid connected Solar PV panels and Solar water heaters.

- ✓ Recycled water is used for flushing and gardening.
- ✓ Play field area like Cricket, Foot ball, Basket ball.
- ✓ Garden space in the quadrangle area.
- ✓ Open cycle parking.
- ✓ TV room, Library and Table tennis room.
- ✓ Washing machines in restroom.
- ✓ Separate study hall.
- ✓ Drinking water points

CAUVERY HOSTEL RENOVATION



IIT MADRAS SATELLITE PROJECT

IITMSAT HISTORY AND PROGRESS UPDATE

IITMSAT TEAM - 06 SEPT 2021

The IITMSAT satellite is a student satellite that has been designed around a specialised payload, called SPEED. Space based Proton Electron Energy Detector (SPEED) is a scintillator detector system for measuring the energy spectrum, background flux, and fluctuations in the flux of protons and electrons in the upper ionosphere. The detector is being developed as a payload for IITMSAT. The study made using the detector will help verify and improve current trapped particle radiation models and analyse the dynamic nature of the radiation belts.



employees after graduating from IITM to ensure continuity of the project. Work on a new lab dedicated to satellite design with a clean room facility was initiated as well.

EARLY YEARS

IITMSAT project was conceptualized by a student team in 2010 and the project was taken up officially by Prof. Santhakumar, the then Head, Department of Aerospace Engineering, IITM. The initial team focused on designing an ambitious payload that can make a meaningful contribution to science. Under the guidance of Prof Umesh Kadane and further collaboration with Space Astronomy Group of the ISRO satellite centre, the team developed the first working model of the SPEED detector. The SPEED was designed as a standalone unit which could fly as an instrument payload in any satellite mission. Prof. David Koilpillai and Prof. Harishankar Ramachandran joined the team to extend their support to the student team. The team was given space in the new building of the Engineering Design Department.

PRELIMINARY DESIGN REVIEW AND MOU WITH ISRO

The team presented the preliminary design of the satellite to the PDR committee in 2013. ISRO's expert committee found the team & the mission satisfactory and agreed to guide the team. An MoU was signed between ISRO and IITM which formalized the relationship between the satellite team and ISRO. Under the MoU, ISRO would provide valuable information on spacecraft design, access to ISRO satellite test facilities and most importantly, launch IITMSAT into orbit onboard a PSLV. Rewanth Ravindran and Sampornam Srinivasan join as full time project employees to help the student team.

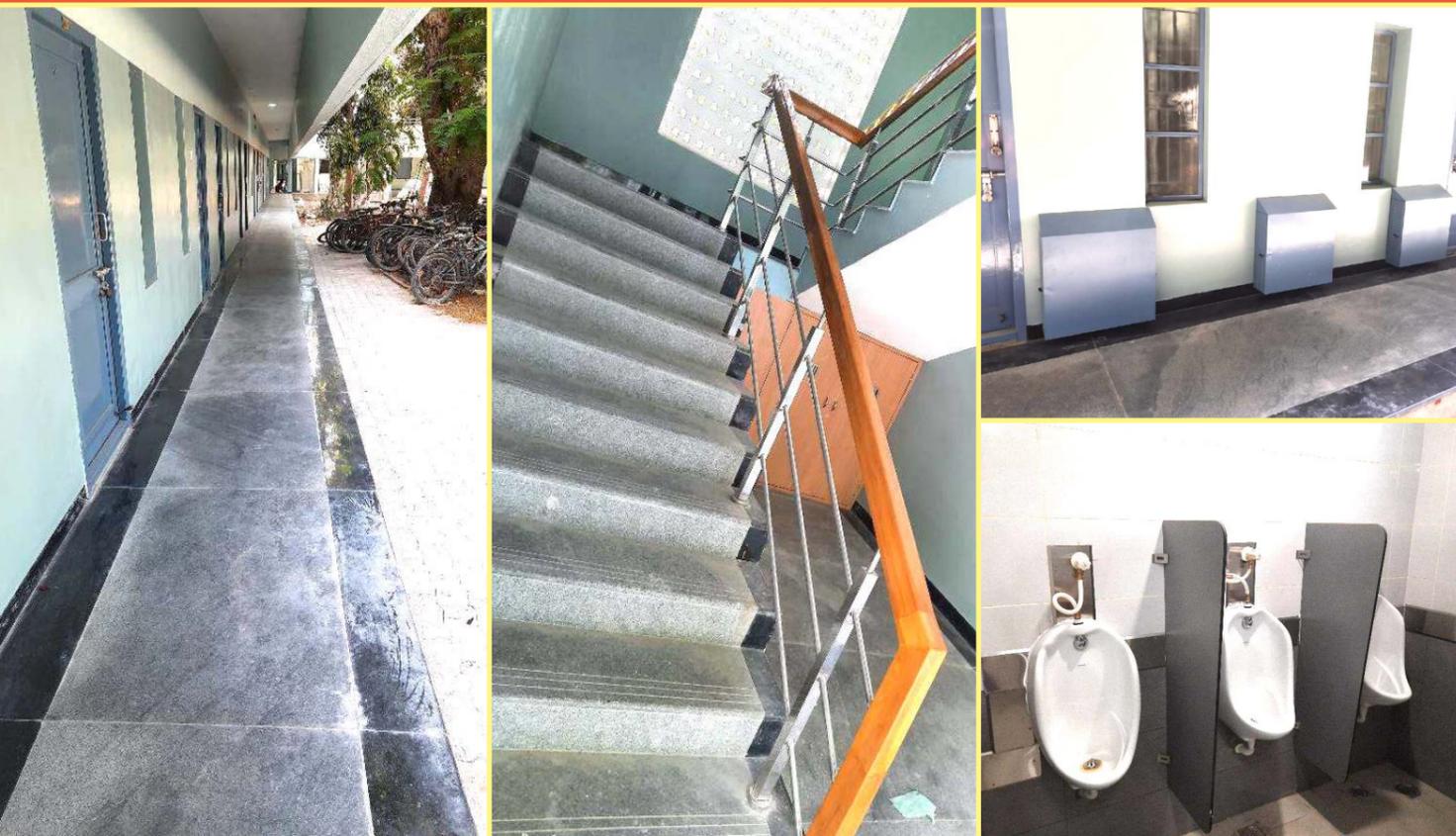
MOU WITH INDOMIM

Dr. Krishna Chiuvukula (IndoMIM), an IITM alumnus committed to fund 1.5 crore rupees to the IITMSAT Project in 2014, and is the largest donor to this project. Another IITM alumnus Mr. V. Shankar (ACSYS) has contributed Rs 59 Lakhs, and many other alumni have made contributions, making IITMSAT an alumni-funded student project.

SPACECRAFT DESIGN

In 2012, the team took an executive decision to build a spacecraft that can host the SPEED payload. The team was expanded to include engineers for design of spacecraft systems. Three students from the team, Akshay Gulati, Nithin Sivadas and Suresh Susurla joined the project as

CAUVERY HOSTEL RENOVATION





COMMISSIONING OF IIT MADRAS SPACE LAB

IIT Madras Space Lab was inaugurated by Dr. Krishna Chivukula in 2015. All activities were shifted to the new facility. Dhanalakshmi Durairaj joined the team to lend her expertise on system testing and debugging to the student team.

DEVELOPMENT OF QUALIFICATION MODEL AND ENVIRONMENTAL TESTING

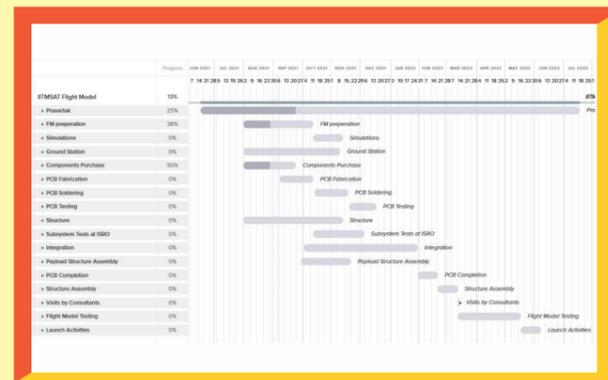
The team developed and fabricated a fully functional spacecraft with a SPEED payload by 2017. This Qualification Model (QM) of the satellite would be tested for survivability under launch and space environmental conditions. Two students from the satellite team, Saisree Eega and Sooraj Gopakumar, joined the satellite team as employees after graduation to take over from Akshay and Rewanth. Environmental testing of the QM was carried out at UR Rao Space Centre in Bengaluru. The satellite was subjected to thermovac, vibration and mechanical shock testing. The QM performed nominally throughout the tests, proving the reliability of the design by IITM.

CRITICAL DESIGN REVIEW

The results from the Environment Tests were reviewed in detail by the ISRO expert committee. The IITMSAT team presented the final configuration and design of the satellite to the CDR committee in 2019. The team was given the go ahead for fabrication of the Flight Model (FM) of the satellite.

LOCKDOWN

When the pandemic stuck, IIT Madras also remained under strict lockdown for most of 2020. The staff set up temporary labs in their home and continued essential development & testing work



during the lockdown. Our alumnus Joel Rogers has continued his support of the IITMSAT software development. Online correspondence with ISRO was held during this period to close out final points from the CDR and to initiate Flight Model discussions. The Spacelab was briefly opened during early 2021 but operations had to be suspended after new lockdown measures. Spacelab has finally resumed full operations in the second half of 2021.

PRAVARTAK FUNDING

IITM Pravartak Technologies Foundation is a Department of Science and Technology funded Organisation under the National Mission on Interdisciplinary Cyber Physical Systems, Government of India, hosted by IIT Madras. In 2021, the IITMSAT team reached an agreement with Pravartak Foundation to fund the project to completion.

FLIGHT MODEL FABRICATION

In June 2021, the team has re-commenced activities with a major effort to restore the full functionality of the Space Lab. The procurement of electronic components required for the FM has been completed. Final configuration and software testing is under progress. Fabrication of spacecraft subsystems will commence soon. The team is aiming to handover the satellite to ISRO in the second quarter of 2022, and to have the launch date to be finalized by ISRO as per the MoU.



THE REVIEW WITH ISRO SCIENTISTS



IIT MADRAS SATELLITE PROJECT



TRAVEL GRANTS

The goal of this travel grant is to facilitate the professional development of undergraduate and graduate students/research scholars and faculty by supporting their travel to professional meetings. This also supports exchange programs, summer schools and joint doctoral programs which provides an opportunity for the recipient to present his/her own research. This enables them to interact with peers and established scientists, which also helps to develop professional contacts to facilitate their career development.

CONFERENCE TITLE: 2015 International Conference on Space Science and Communication (IconSpace2015).

VENUE: Langkawi Lagoon Resort, Langkawi, Malaysia.

DATE: August 10-12 2015

REPORT FROM GOPA KUMAR (MM12B015) AND SAITEJA DOMMETI (ED12B015).

The IconSpace2015 was 4th International Conference on Space Science and Communication in the series of conferences organized by ANGKASA UKM and IEEE through IEEE Malaysia Communication – Vehicular Technology Society Chapter with a theme “Space Technology for Humanity”. It was a premier forum for academicians, scientists, engineers and students to interact and disseminate information on the latest developments in space science, communication and technological advances. The conference aimed to address advances in research on space science and communication by bring together researchers in the fields of space science, communication technology and related fields to present their research findings. The research topics ranged from Astrophysics and Astronomy, Atmospheric Sciences, Disaster Management, Geosciences and Remote Sensing, Satellite and Communication Technology, all the way to Space and Climate Change. The reports of novel findings were organised into 109 oral presentations.



International Conference on Space Science & communication – ICON SPACE – 2015



With Dr. Mohamad Fakhari Mehrjardi, University Kebangsaan, Malaysia



TO ATTEND 18TH INTERNATIONAL CONFERENCES AND EXHIBITION ON VIRTUAL TECHNOLOGIES AND USES, LAVAL, FRANCE.

Laval Virtual is the most important event in the field of Virtual Reality (VR) and Augmented Reality (AR). Since 1999 it is assembling the engineers, scientists, professionals etc., working on technologies based on virtual realities.

It includes VR, AR, 3D printing, Robotics, IoT, 360 cameras, Motion capture, Projection mapping etc. Including these varieties of topics, Laval Virtual became the most important events in Europe showcasing innovation and technologies.

As the hype of VR and AR is increasing day by day the Laval Virtual has become a hub for more scientists and researchers.

Kumar Mridul received this travel grant to attend the **18th INTERNATIONAL CONFERENCES AND EXHIBITION ON VIRTUAL TECHNOLOGIES AND USES, MARCH 23rd-27th, 2016, LAVAL, FRANCE.**

Kumar Mridul presented his work under the column of Innovation and Technologies. The title of his paper is “Design and Development of Portable Virtual Reality Headset” which describes the innovative way of approaching VR head set design.





WORKING WITH AN ATTITUDE OF GRATITUDE



IIT Madras Alumnus
Donated ₹5.5 Crores
To
Renovate Hostels & Augment
Existing Maintenance Activities



Giving it back, IITian style

DC CORRESPONDENT
CHENNAI, JAN. 17

IT Madras gave me world-class education at literally zero cost. This led to my being admitted to the Harvard Business School, which in turn led to my being successful in life. I am delighted to be able to give back to the institution that was the root cause of my success.

Dr. Krishna Chivukula
Chairman, Indo-US MIM Tec Pvt Ltd
IIT Madras

The donations by the alumni have made a huge difference to several key initiatives of the institute.

Prof. Mahesh Panchagnula
International and alumni relations, TEC Private Ltd
IIT Madras

Harvard Business School, which he has led to my being successful in life. I am delighted to be able to give back to the institution that was the root cause of my success.

Dr. Krishna Chivukula
Chairman, Indo-US MIM Tec Pvt Ltd
IIT Madras

Dr. Chivukula has been an alumnus of IIT Madras since 1981. He worked at IIT Madras for 12 years in the area of process control and instrumentation. He then worked at IIT Madras for 12 years in the area of process control and instrumentation. He then worked at IIT Madras for 12 years in the area of process control and instrumentation.

“IIT guys think a lot. I know! I am one too.
Since we HAVE to think, we might as well THINK BIG.
Does not cost anything EXTRA.
But once you’ve THOUGHT IT OUT AND
set your mind, say to yourself,

IF NOT NOW, WHEN
IF NOT HERE, WHERE
IF NOT ME, WHO”



MEMORIES TO CHERISH THEN AND NOW



7TH CONVOCATION AT IIT MADRAS ON AUGUST 1970



57TH CONVOCATION AT IIT MADRAS ON OCTOBER 2020.
THE EVENT WAS CONDUCTED IN MIXED REALITY MODE.



4 BUDDIES - THEN AND NOW

WE ARE GRATEFUL TO YOU !

Dr. Krishna Chivukula & Dr. Jagadamba Chivukula

Thank you for your sustained generosity to IIT Madras over the years. Contributors such as yourself enable our students and Professors to dream big and work towards a better and brighter future. We hope you are proud of your alma mater and how it has remained steadfastly committed to academic and research excellence since your time here. You and your family have been instrumental in facilitating this significant growth. Our efforts to nurture the culture of academic excellence that is the hallmark of IIT Madras - quality education, cutting-edge research, and unfettered creativity shall continue. We are privileged and humbled to have you and your family walking with us along this trail. We wish you and your family the best always in all walks of life!



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