ANNUAL GIVING REPORT 2015

The Year of Giving Generously

contents

Mission

To be an academic institution in dynamic equilibrium with its social, ecological and economic environment, striving continuously for excellence in education, research and technological service to the nation

Vision

To pursue excellence in:

- Teaching - developing human resources in the service of the nation
- Research
- Consultancy, and
- Helping to improve technical education in the country

The Year of Giving Generously

Annual Giving Report 2015

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GIVING GENEROUSLY

"From what we get, we can make a living; what we give, however, makes a life."
~ Arthur Ashe

Giving is contagious. When one gives back to the college or alma mater, the act not only helps the immediate recipient, but can spur a ripple effect of generosity through the community. A study by James Fowler of the University of California, San Diego, and Nicholas Christakis of Harvard, published in the Proceedings of the National Academy of Science, found that altruism could spread by three degrees—from person to person to person to person. "As a result," they write, "each person in a network can influence dozens or even hundreds of people, some of whom he or she does not know and has not met." 2015 saw this contagion spread among IIT Madras alumni and other well wishers in the community. It is therefore apt to label the Annual Giving Report 2015, The Year of Giving Generously.

Giving back to one's institution is invaluable. It helps fund and improve innovative programs that expand the quality of education the University or college offers its students; this in turn increases the value of the degree from the institution as it continues to maintain its prestigious title.

This Giving Report recognizes and pays tribute to the benevolence of alumni donors and many other benefactors in the community. Supporters who are staying very connected with the institution, sponsoring research, scholarships and new facilities, attending events, volunteering time, and giving lectures. It records their generosity and the ways in which the funds are being utilized. It captures the fulfillment they feel in knowing that they are furthering the aims of an institution that is molding India's next generation of bright minds; the country's leaders for tomorrow. It highlights the satisfaction of the alumni in giving back to their alma mater, an institution that did so much to educate them; for its brand value that gave them a head start in their own careers.

Giving begets giving. Leading sociologists have conclusively shown that the generosity of giving to others is likely to be rewarded down the line; sometimes by the very person one gave to, but many times by someone else. These exchanges promote a sense of trust in humanity and strengthen social connections all around underscored by deep feelings of happiness and satisfaction.

I & AR Mission & Vision

Serve as outward-facing window from the Institute to the Alumni:

- act as primary interface from Institute to alumni-at-large
- authorize alumni access to campus facilities
- administer Distinguished Alumnus Award program
- administer Travel Grant program, etc.

Drive Institute-related fund-raising activities among alumni:

- devise fund-raising strategy
- coordinate fund-raising activities
- ensure timely deployment of funds
- report to Institute and back to donor regarding status of funded projects

Register graduating students into the alumni database:

- enroll students into the database
- provide permanent alumni e-mail ID
- maintain and grow database
- provide database access on as-needed basis

Serve the student community:

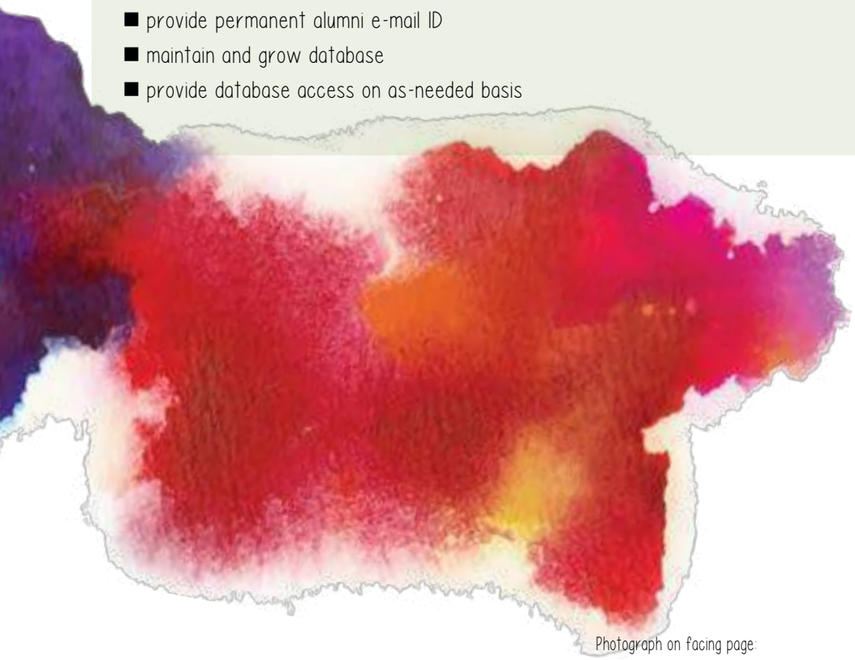
- administer scholarships and awards
- solicit alumni funds towards student travel, facilities, projects, etc.
- facilitate student mentoring by alumni

Serve the faculty community:

- promote interactions between visiting faculty and local alumni
- promote campus and department visits by alumni
- promote research & consultancy relationships between faculty & alumni

Serve the alumni community:

- support networking activities and events, such as reunions
- support alumni communications, such as monthly newsletter
- support alumni registration in database
- work closely with IIT Madras Alumni Associations (IITMAA, IITMAANA, IITM Foundation, etc.) on alumni-related matters
- support PanIIT activities (e.g., Club) and events (e.g., Annual Meets)



Photograph on facing page:

Front row (l to r): Vadhana, Sujatha, Prof. Nagarajan, Kavitha, Ilavarasi, Subbu Mahalingam
Second row (l to r): Archana, Deepika, Vidhiya, Saravanan
Third row (l to r): Vijayavani, Kalpana, Vijayalatha, Suresh, Arvind
Fourth row (l to r): Uthay, Kalaivanan, Mani, Dhanasekar, Jafar, James Rajanayagam, Joseph Thomas

Message from Director, IITM

Dear Alumnus/ Alumna,

As we approach the mid-point of 2016, it is increasingly apparent that this will be a watershed year for IIT Madras, and many of her alumni. There has been a torrent of news about the achievements of IITM faculty, students & alums- and I'm sure you would have taken note. We should take time to reflect on how far we have come since our inception in 1959, and even since the "60 Minutes" program in 2003 (https://www.youtube.com/watch?v=17iLj8FAzwA).

- Nearly 2/3rd of our students are now post-graduates, and our annual M.S. + Ph.D. admission nearly equals our B.Tech. admissions.
- 40% of UG student credits are now electives, half of them completely "free".
- Dual-degree programs where the bachelor's degree is in a core discipline, and the Masters' in an interdisciplinary, emerging area are being mooted.
- Hardly 10% of UGs are heading to graduate schools abroad. Nearly 20% are joining start-up's or starting companies.
- 20% of our Ph.D. admissions are now directly from bachelors' programs; another 10% are upgrades from Masters' programs.
- The IITM Research Park remains India's only University-based Research Park, with Phase I filled to capacity, and Phase II launching in 2016, with St Gobain Research India as anchor client.
- Interdisciplinary Centres are forming at the rate of 2-3 a year, necessitating the start of a "Research Campus" to accommodate the larger ones.
- IITM leads the nation in joint doctoral degree programs (14 & counting), and in the inflow and outflow of exchange students and Visiting Faculty.

It is also time to step back & review the state of alumni relations & fund-raising at IIT Madras. Nearly all alums are networked to each other, and to their alma mater. A key focus of the Office of I & AR continues to be to maximize two-way connectivity between the Institute and her alumni. While e-mail communications have been maintained, social media are increasingly being leveraged. The Office has built a strong presence in LinkedIn. In addition to this "Annual Giving Report", a monthly Newsletter from the Alumni Association, and attractive websites provide additional interfaces to the alumni community. Two major alumni conclaves happen on campus every year-"Reunion Day" in December, and "Alumni Day/ AlumNite" in July. Chapter meetings in India and abroad are regularly attended by the Director, Deans and faculty. In 2015, these Meets have been held in Delhi, Mumbai, Hyderabad and Bangalore. Along with Dean, I & AR, I made a visit to the U.S. in late May, with stops in Chicago, Houston, Pittsburgh and the Bay Area.

The weekly "Leadership Lecture Series" featuring alumni continues to draw crowds on Friday evenings. Alumni footfall on campus continues to be significant, with involvement ranging from innovation & entrepreneurship initiatives to industry connects. The Student Secretariat for I & AR continues to excel in outreach activities, including a "Day @ IITM" organized for the benefit of JEE aspirants.

Fund-raising has risen from an average of Rs. 3 crores per year 5 years ago to Rs. 55 crores in 2015, more than doubling the 2014 total of Rs. 23 crores. The number of first-time donors reached an all-time high of 1,130 in 2015, bringing the cumulative total to 3,200 donors. Mr. Prem Watsa donated Rs. 6.5 crores towards renovation of the Stadium, and the same has been named after his father "Manohar C Watsa". The Mehta Family Foundation sponsored the 2nd Bio-sciences Building with an additional contribution of Rs. 2.31 crores. Shri. TT Jagannathan and Dr. Krishna Chivukula funded two signature projects at IITM-the Centre for R2D2 (Rehabilitation Research & Device Development) and the Space Lab (Satellite facility), respectively. CSR contributions received from Indian industries exceeded Rs. 11 crores, with several companies contributing from their CSR funds to support DST-approved incubators on campus, as well as faculty R & D projects with social impact. Shri. R Muralidharan has pioneered a novel way to give back to his alma mater. He has assigned his and his wife's life insurance policy valued at $100,000 to IIT Madras, vesting post the lifetime of the donor.

Shri. Kris Gopalakrishnan sponsored two more Distinguished Chairs in Computational Brain Research at Rs. 10 cr each. The Chairs are currently occupied by outstanding researchers: Prof. Mriganka Sur (MIT) and Prof. Anand Raghunathan (Purdue). Seven "Institute Chairs" were funded at Rs. 50 lakhs each. HAL and MoSDE (Ministry of Skill Development and Entrepreneurship) funded two Chairs at IITM. The first annual Workshop on "Computational Brain Research" was conducted on campus from Jan 4th to 8th, 2016. The goals of the workshop were twofold: pedagogy ("neuroscience for engineers"), and outreach/community building. Participants included world-renowned experts in the area.

"Onwards & Upwards" is our institutional mantra, and we seek your continued support in this endeavor.

— Prof. Bhaskar Ramamurthi

Message from Dean, IGAR

2015 was our best year ever in terms of alumni out-reach and fund-raising. Neither happens overnight. Building strong and enduring bonds between alumni and the alma mater is a process that takes time and effort. In the past decade IIT Madras has taken several proactive measures to intensity this process. One example is the 2012 formation of a Dean's Office for International & Alumni Relations. Another is the launch in 2015 of a full-time "Development Office" to pursue fund-raising outside of North America. Staffed by 3 alumni at present, the DO brings an element of Professionalism to the sweet science of "the Ask". A sister office - the IIT Madras Foundation launched in early 2016 in the Bay Area will attempt to do likewise in the USA. The time to make changes is when things are going well; in that sense, these moves are timely, and strategic in nature.

Alumni relations can be cultivated in many ways, all of which are important. We now have alums spanning 6 decades, and each generation responds to a different stimulus. While some still swear by e-mails and Yahoo Groups, others of more recent vintage have moved on to social media - LinkedIn, Facebook, WhatsApp. We try to serve all constituencies, without fear or favor. But nothing works as well as face-to-face interactions. We make every effort to go out and meet alumni where they live. We also roll out the red carpet for alumni to revisit the campus and relive their college days. Campus tours, lectures, interactions with students and faculty, visit to Research Park, etc. are all facilitated by our Office through our able staff.

Our efforts are well coordinated with the IIT Madras Alumni Association, and the IITM Alumni Association of North America. Our faculty and students are fully supportive of our alumni engagement initiatives. The student Secretariat for I&AR @ IITM is a magnet for the best and brightest talents. No wonder, then, that many other institutions are now looking to IIT Madras for guidance on setting up their alumni programs. After all, we are #1!

— Prof. R Nagarajan

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Centre for Computational Brain Research





Kris Gopalakrishnan
[1977/MSc/PHY & 1979/MT/CS]

₹ 300 Million

Decoding the Brain, Deciphering Technology

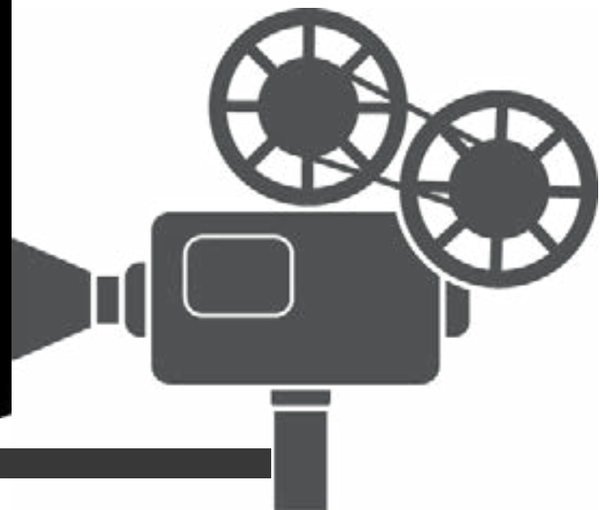
Interdisciplinary. Multi-faceted. Cross-cultural. The world of today is built on these cornerstones, moving away from individual, independent research towards a place where areas of research and fields of study interact with each other. The world of tomorrow is built on conversation, interaction, shared information and knowledge dissemination. The generations to come will not know of pure science independent of its application. They will not read biology independent of physics but rather, study its relevance and impact in different facets of every citizen's life. It is to contribute towards this conversation that the Centre for Computational Brain Research (CCBR) was set up by IIT Madras.

With CCBR, IIT Madras hopes to create a two-way conversation between the fields of neuroscience and engineering. What was thus far limited to independent labs and project reports will now come together to form knowledge systems and bodies of information that could be revolutionary to not only both scientific fields but also numerous other industries serving a plethora of functions. The dream driving the CCBR is simple. Through this interaction, it is hoped that IIT Madras will have a ringside view as not just the world of technology but also the world of neural science is revolutionized. By fostering this partnership, CCBR hopes to aid in the development of brain-inspired technological innovations, blurring the boundaries even further between what is man and machine. Simultaneously, there is also the ambition to provide innovative technological tools to study the neural circuitry of the brain, allowing the application-driven field of engineering to contribute to the growth of science research as well.

The mark of any leading institution is not just in being able to foster talent within its gates but also reach out to the best minds the world has to offer in order to contribute to the community of global research. Always aspiring to better itself, IIT Madras is constantly on the lookout for partnerships, collaborations and other fora for interaction that could benefit not just the in-house research population but the wider research knowledge base at large. It is towards this cause, and specifically towards the field of brain research, that IIT Madras set up the CCBR with the generous funding from Mr. Kris Gopalakrishnan. Though known world-over as the co-founder of Infosys, to IIT Madras, Mr. Gopalakrishnan will foremost be one of our own, an alumnus from the institute (1977, MSc Physics and 1979, MTech Computer Science). By virtue of his generosity, commitment to alma mater and dedication towards contributing to science research, three Distinguished Chairs have been set up with an endowment of ₹ 100 million each. The three chairs in question are the **Prof. Mahabala Distinguished Chair** in Computational Brain Research, **NR Narayanamurthy Distinguished Chair** in Computational Brain Research and **Prof. CR Muthukrishnan Distinguished Chair** in Computational Brain Research. Currently, these positions are being held by Prof. Partha Mitra (Cold Springs Harbor Laboratory, NY, USA), Prof. Mriganka Sur (MIT, Cambridge, USA) and Prof. Anand Raghunathan (Purdue University, USA) respectively. All three resource persons are leaders in the fields of neuroscience and neuro-engineering, with phenomenal experience and expertise. The research community at IIT Madras will undoubtedly benefit from not only the increased facilities and research focus but also access to such thought leaders in the field.

As it stands today, the CCBR chairs are ambitious and raring to go. In the short run, the Centre hopes to focus on a two-fold strategy – analysing the structure and activity of neural circuits, and focusing on brain-inspired hardware and software architecture. The three appointed chairs will work closely with multiple departments at IIT Madras, including Computer Science and Electrical Engineering, and will strive towards enhancing the institute's capacity and capability in the field of Computational Brain Research. Towards this end, multiple projects are already under way in these departments. In the long run, as a pedagogical goal, the CCBR also aims to teach and train students in the basics as well as nuances of computational brain research. Over a period of time, it is hoped this will ensure the longevity and sustainability of IIT Madras' interaction in the field.

Today, IIT Madras stands on the threshold of path-breaking research that could break the artificial barriers that are constructed between individual fields of study. With the CCBR, IIT Madras may be on the verge of something big – something that could change the way we understand research and collaboration, but also the way we understand technology and neural circuitry as well.



Manohar C watsa Stadium

Prem Watsa
[1971/BT/CH]

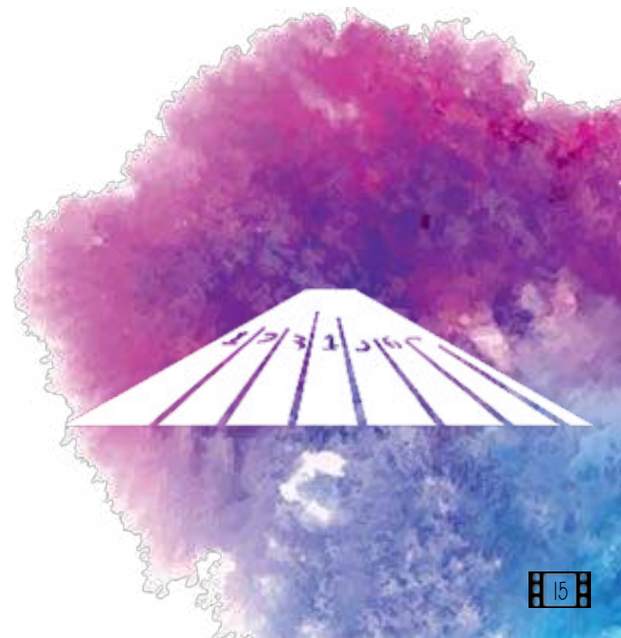
₹ 65.3 Million

Renovating community spaces

Nestled not too far from Gajendra Circle in IIT Madras campus is a gorgeous piece of land, boasting of the best sunset and the clearest view of the night sky on campus. The Stadium, for generations of students, has been the space for not just exercise and training but also casual catch-up sessions and just some quiet time. Come evening, it is not uncommon to see professors strolling with their children as the Institute Athletics team trains a few feet away. Inside the Stadium, hierarchies break down in favour of a relaxed camaraderie fuelled by a great breeze against the background score of the gentle harmony of the wind through the trees.

What was once a dirt track that got pounded out by scores of shoes over the years, however, recently experienced a facelift. The Stadium has been transformed into an eight-lane synthetic track, with the practice steps and gallery being renovated as well. The new Stadium, as it stands today, not only has a phenomenal running track that makes one question the difference between jogging and flying, it also has provisions for long jump and triple jump, as well as an integrated cricket pitch inside the track.

None of this would have been possible without the generous donation of IITM alumnus, Prem Watsa, who contributed to the entire renovation project. The new and improved Stadium has now been renamed after Manohar C Watsa, and it is only a mark of the quality of work and excellence in renovation that the stadium spectacularly withstood the torrential rains of December 2015. Today, the Stadium is a multi-purpose space like none other, offering opportunities to calm the mind while exercising the body, all the while in the company of the community that is IIT Madras.



Bhupat and Jyoti Mehta School of Biosciences

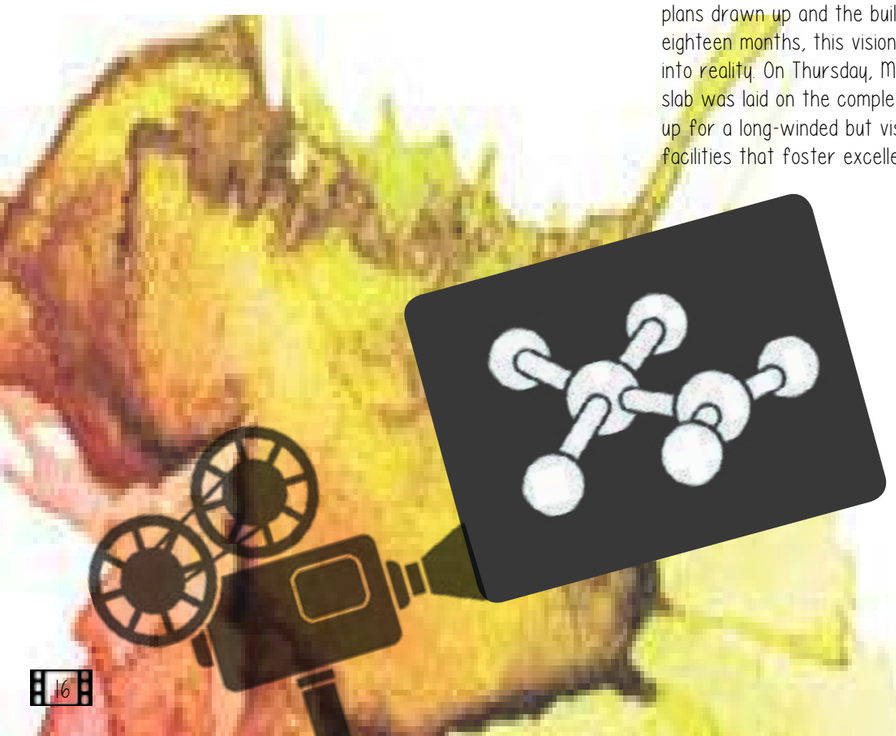
Mehta Family Foundation

₹ 130 Million

Building structures, nurturing dreams

The Bhupat and Jyoti Mehta School of Biosciences is a rather alluring building. Lying at the bend of the road deep in the heart of IIT Madras' academic zone, its glass facade and blue tiles lend it a sense of aura and charm. The neatly manicured lawns and the cobblestoned pathway speak of the department and its work: modern, cutting edge, the face of tomorrow.

In a world where biotechnology and biosciences is rapidly gaining ground as a burgeoning field of science and innovation, IIT Madras' School of Biosciences is not to be left far behind. It is towards this dream, of fostering more talent, catalysing more research and training more minds in the field, that the project of constructing a new biosciences building was envisioned. Once again, the Mehta Family Foundation stepped forward to support the mission, making it possible through their goodwill and generous contribution to undertake the construction of the second building as well. The year 2013 saw the vision emerge and hit the drawing board, with the plans drawn up and the building designed. Over the next eighteen months, this vision was expected to be converted into reality. On Thursday, March 24th, 2016, the first floor slab was laid on the completed foundation, setting the team up for a long-winded but visionary journey of creating facilities that foster excellence.



The motivation for this ambitious project is multi-fold. Not only is IIT Madras committed to the support of new-age research and technological advancement, but practically, the department also seeks to support the logistical and resource needs of existing students and projects. After completion, therefore, the plan is to introduce an animal house in the new building. This facility, it is hoped, will be able to provide needed support and assistance to medical biotechnology research, a field that is finding increasing popularity amongst the researchers within the department. Specifically, the facility will seek to support work seeking to understand conditions pertaining to cardiovascular disease, cancer, HIV and stem cells research. With the animal house, the department hopes to be able to provide the necessary support for existing research projects while also building capacity to attract more researchers and students interested in this field.

Part of the plan also includes an aero-bridge connecting the new bioscience building to the one already existing, allowing the department the luxury of shifting some of the current laboratories to the new building. Not just this, but the second building that is under construction will also house newer laboratories and facilities. The National Cancer Tissue Bio-Bank will be accommodated in the building, as will the Centre of Sustainability, together occupying an entire floor. Given the global focus on both questions of cancer as well as environmental sustainability, this will ensure that the department is poised with the resources to achieve its full potential in the arena of international biosciences research. With this increase in space and capacity, it is expected, the researchers and students of the department will be able to take full advantage of the resources at their disposal, benefiting from their access to a leading research facility.

The second part of the project was the institution of the **Initiatives in Biological Systems Engineering (IBSE) Chair**. As of today, Dr. Ashok Venkitaraman is occupying the Chair. The Ursula Zoellner Professor of Cancer Research at the University of Cambridge, UK, and the Director of the Medical Research Council Cancer Unit, Dr. Venkitaraman's experience, expertise and guidance are an unquestionable asset to the department. Through the course of time, the recruitment process spearheaded by Dr. Venkitaraman will seek to assemble a team of faculty and researchers dedicated to the field of systems biology research and bring IIT Madras even closer to making its mark in the global arena.

Thanks to the generous funding from the Mehta Family Foundation, and the vision of the planners, engineers and researchers involved in the project, the School of Biosciences at IIT Madras is on the verge of a watershed moment. The grandiose building on the bend of the road is all set to create an indelible mark in the fabric of the institute, both with the sheer magnitude of the building but also, and perhaps more importantly, with its unfailing commitment to engaging with some of the most difficult questions that face the world today. After all, it was Einstein who said the most important thing is to never stop questioning. Who is to tell when the answer may emerge?

If there was one overwhelming emotion that emanated from **Rahul Mehta**, it would be gratitude. Part of the family behind the Mehta Foundation that is responsible for both the biosciences buildings (the second currently under construction), he speaks about how ex-Director MS Ananth's vision for biosciences in IITM drew them to the project. Focusing their energies on building technical and scientific resources in the field at IITM, the family is focused on their goal of providing accessible healthcare to the needy and the poor in the country. With unnerving confidence that biosciences is the 'next big thing,' they are on the threshold of making their mark in the field, specifically healthcare. The close knit family of four siblings count themselves very lucky—a shower of good faith that has helped IITM immensely as well. The Mehta generosity has propelled IITM steadily on the path to becoming a leader in the field of biosciences by hosting a world-class program—a goal Mehta wholeheartedly supports.

Institute Chairs

IIT-Madras gives people an opportunity to endow Chairs with an initial corpus of ₹ 5 Million ($100,000). The Chairs are intended to reward senior IIT-Madras professors for exceptional performance. The selected faculty will be identified as "(Named) Institute Chair" until retirement. Financial benefits will also be provided. The Chairs will be named by IITM in consultation with the donor. All Endowments are subject to top-up as necessitated by economic conditions.

Class of 1981

An **alumnus from the 1981 batch** says, the reason the batch decided to support a Chair in ME was the unparalleled transformation they had experienced while studying at the Institute. "Our years at IIT were both educational and deeply social," he explains. By contributing to the creation of the Chair, he says, the batch hopes to catalyse and support the development of faculty on campus.

Occupied by	
Dr. Krishnan Balasubramanian	
Department	Amount
ME	₹ 5 Million

Class of 1984

For **Prof. S Pushpavanam**, the 1984 Batch Institute Chair is commemorative for the batch they were—rooted in their individual beliefs while simultaneously caring deeply for each other. "We differed from each other, we respected each other and we could live with our differences," he reminisces. Classmate and fellow contributor, Subbu, speaks of the importance of collective consensus as that which drove their batch to support the Chair. In deciding the project they should support, their only benchmark was that the project should be beneficial to both the staff as well as the current students at the Institute.

Occupied by	
Dr. V R Muraleedharan	
Department	Amount
HS	₹ 5 Million

Hindustan Aeronautics Limited Chair

Occupant	Dr. P. Sriram		
Donor	Hindustan Aeronautics Ltd, Bangalore		
Dept.	AE	Amt.	₹ 15 Mn

MoSDE Chair

Occupant	Dr. R. Krishnakumar		
Donor	Ministry of Labour & Employment		
Dept.	ED	Amt.	₹ 9 Mn

contents

RAGS Family Foundation Chair

There doesn't seem to be anything that this man does not do. Swearing by the power of movies to bring about social change, he dabbles at movie-making himself. His picture in the Carnegie Mellon University Magazine has an uncanny resemblance to a movie poster. Dr. Sridhar Tayur [1986/BT/ME], in dark glasses and black suit opposite Keanu Reeves, flails as he falls back, the entire visual adapted from a scene of a popular science-fiction movie. Dr. Tayur has a prized car collection (including Bond's favorite Aston Martin), runs a charitable foundation (RAGS Family Foundation) that supports documentaries and neuroscience research. He has, in the past, served as a policy advisor to initiatives countering human trafficking, and supports microfinance projects. Through it all, thanks to his software entrepreneurship of SmartOps (acquired by SAP), he maintains that "I don't work for money anymore, money works for me." As the magazine rightly puts it, "when he is not trying to recreate or analyse his favourite movie, 'The Matrix', he is working on supply chain research as a professor of operations and manufacturing." It is this focus on the journey, the experience and the opportunities that the world has to offer, that shines through the brightest in Dr. Tayur. In a rather telling picture, Nobel Laureate Amartya Sen is seen with his arms around Dr. Tayur, leaning forward in evident glee—because his mentor John Rawl's "Difference Principle" is actualized in Dr. Tayur's OrganJet—with his face set into a broad grin, while the professor smiles calmly. Here is a man, it would seem, who is not only multifaceted in the truest sense of the word, but dons that hat with aplomb and charm. Giving back to his alma mater by endowing the RAGS Family Foundation Chair in Management Studies at IIT Madras, Dr. Tayur remembers how, at IITM, the "preconditions for a fulfilling life were present," exposing him to the beginnings of a knowledge economy. As he signs off, his advice is simple. "Being comfortable in your own skin is key to attaining success."

Occupied by	
Dr. C Rajendram	
Department	Amount
MS	₹ 5.3 Million

Prof. Richard Karp Chair

In 1998, Dr. Prabhakar Raghavan [1981/BT/EE] was working on a new web search technology called link analysis, as were two students at Stanford. After bouncing ideas off each other, the students called Raghavan with a proposal. "We've gotten USD 150,000 to start a company, please do join us," they asked. Raghavan declined the offer, going on to tell them they will not make any money. The students were Larry Page and Sergey Brin; the company they founded is called Google. Today, IITM knows Raghavan as the man behind the establishment of the Prof. Richard Karp Chair. An alumnus who credits IITM for teaching him how to think and how to ask questions. He believes the college makes sure you are ready to walk out into any environment and move confidently. When the time came, Raghavan returned to his alma mater to institute a Chair in honour of Richard Karp, a leading researcher in Mathematics and Computer Science, who led by example and showed him how to approach life by holding oneself up to high standards. Not only did the professor shape his technical career, he also undoubtedly made an indelible impact on other facets of Raghavan's life. When he was approached by an unknown student to sign a book at an airport, he once again came to realise what an impact teachers have on lives, a lesson he holds dear to this day. In the years that have followed, he has doggedly followed one principle - ruthless prioritization.

Occupied by	
Dr. Siva Ram Murthy	
Department	Amount
CS	₹ 5 Million

Corporate Social Responsibility

T T Jagannathan
(TTK Prestige Limited)
[1970/BT/ME]
₹ 12.5 Million

Wellcome Trust
(Standing Wheelchair)
₹ 15.8 Million

Designing accessibility

TTK Center for Rehabilitation Research and Device Development (R2D2)

As the demo video of the standing wheelchair plays, there is a quiet sense of pride that fills the room. The man in the video is a wheelchair user and like most others, probably rues the lack of accessibility most of all. From the wheelchair, the world for him has been a few feet shorter, the experiences not quite first hand. Thanks to the **TTK Center for Rehabilitation Research and Device Development (R2D2)**, and the patronage of **Wellcome Trust** the video shows a man manipulating his wheelchair to "stand up." Now he can reach over the counter, participate in social gatherings, look the world in the eye. The team at R2D2 have not just improved his mobility, they have made strides in his social world.

Dr. Sujatha Srinivasan, the professor spearheading the lab and the project, and herself an alumna of IIT Madras, is a visionary in this space. Working in the field since her days on campus as an undergraduate, her B.Tech project was on the orthotic knee. She spent a decade in the USA with the prosthetics industry and after her return, quickly realised the space in India had not evolved since her time as an undergraduate. What better way to engage with the problem than to fix it?

Existing since January 2015 in its present form (though in spirit since 2009), R2D2 is an organization with a mission — to be socially relevant with a focus on the design and development of cost effective assistive devices to promote independence, employment and ability of those with largely locomotive disabilities. Though the team works largely in the ambit of biomechanics, they are slowly branching out to include aspects of therapy and rehabilitation as well, cementing their position as the only lab in the country specifically working on questions of research and development of accessible assistive technologies. Over the years, the feedback that the lab has been receiving has been phenomenal. "More people are coming to know now of the work that we do and appreciate the fact that we are addressing issues like this. Many say it is 'incredibly useful,'" Dr. Sujatha smiles. In the future, she hopes people will know to come to R2D2 for answers and the meaningful solutions that emerge from the lab will speak for themselves. "Simple solutions are underrated," she opines. "The question of appropriate technology should always centre on the ways in which we can make it simpler."

Today, the numbers that R2D2 boasts of are just as flattering as the work they have to show for it. The standing wheelchair has been singled out by the Wellcome Trust and its Affordable Healthcare in India scheme and R2D2 has received ₹ 30 million over three years specifically for this project. The model standing wheelchair has been tested by 50+ users, thanks to support from the Spinal Foundation, and is backed by a pre-order of 35 pieces and a prize of USD 15,000 from the International Committee for Red Cross at the Enable Makeathon. The lab itself has also been the recipient of support from TTK Prestige through their CSR initiative, to the scale of ₹ 36.8 million over a period of five years. These donors have allowed the lab to go that extra mile, enabling the flexibility and spirit of experiment that makes R2D2 such a vibrant space for innovation in accessible technology today.

Over the last year, R2D2 has grown to employ five former students as full time staff, including four Project Officers for product development. Now, R2D2 is a bankable employment option for those who are interested in the space of biomechanics and accessibility. "It makes a world of difference to the work," says Dr. Sujatha. "It becomes increasingly harder to motivate students to take on old projects in their final year, this way it ensures a kind of continuity and accountability." Two of these former students intend to start up independently with NeoMotion, paving the way for the continuity that Dr. Sujatha Srinivasan hopes to achieve. "I hope they lay the ground for their research at R2D2 and then continue the journey to marketing the product independently. This will ensure R2D2 has more relationships with the industry and impact to the final users is being achieved." Over the next two years, the independent venture looks to launch NeoRider and NeoBolt, add-ons that allow wheelchair users to transform the chair into a three-wheeler, ensuring greater mobility in public spaces. This innovation was born out of interaction with a Karnataka-based NGO, the Association of People with Disability, which had received three-wheeled chairs from an organization in the UK. The users of these chairs were some of the happiest in the country so R2D2 decided to see how they could make sure the principle of three-wheeled mobility impacted the most number of people at least consumer cost.

Vivek Sarda is one of the students who stayed back with R2D2 following his graduation and hopes to launch NeoMotion later this year. As I wait for him to give me time for a few questions, I watch as he patiently guides a student, listening to his suggestions and doubts before explaining why the path he is suggesting may be a better bet. In a few minutes, Sarda talks about how this is his first and only job after graduation in 2014 and he couldn't be happier. "All the technology catering to people with disabilities is outdated and old or inaccessible. This has to be the biggest motivation," he says. In the future, he hopes NeoMotion will have a global impact, working towards catalysing increased mobility for those with disability.

The walls of the R2D2 lab are a collage of multi-coloured neon post-its and in a corner, the whiteboard spells out the schedule for washing the tea flask. The room is filled with bits and bobs, some bigger than the rest — parts of a wheelchair, tools and half-built prototypes. A phone rings, a collective guffaw indicates the amusement at the ringtone and it is quickly silenced as everyone's attention shifts back to their screens. Yet, amidst this concentration and sense of purpose, amongst the students and professors and support technicians, there is an unmistakable sense of vibrancy and shared satisfaction of working on something that will go into the world and speak for itself.

Helping a project as specific as the TTK Centre for Rehabilitation Research and Device Development (R2D2) speaks volumes of a person's commitment to a larger cause. TT Jagannathan of TTK Prestige Limited is an example of exactly this, as he nonchalantly talks of why R2D2 caught his fancy. "Everything we do in our group is geared to removing pain points for the common man and woman — from cooking and cleaning solutions, to medical products and devices. Easy-to-use mops and mechanically-made fry'ums are examples. The R2D2 project was right up our alley. It removes pain points for disabled people," he explains.

A never-give-up attitude, a complete dedication to the power of introspection and blind belief that every cloud is a silver lining in itself, Jagannathan holds trust, honesty and punctuality as the most integral values in any person. What keeps him coming back to his job, you ask, and the reply is instantaneous. "Creativity, the ability to do different things every day, and the space to push other people to explore as well," he smiles. A shy teenager when he entered IITM campus, Jagannathan is quick to credit the institute with "making my life," a spirit of gratitude that prompted him to write to then-Director Prof. Arcot Ramachandran as well. "I left as an adult confident in my capabilities," he signs off.

Indian Additives Limited	Technip India Limited
₹ 9.7 Million	₹ 2 Million

Waste to Wealth, a Village's Transformation

The pictures from the project representatives tell the story many have been witness to. There is garbage on the streets with community pits merely marking their presence as a communal necessity, bushes and shrubbery knotted between old bottles and wrappers of more FMCG brands than one would imagine and wastewater being disposed into the lake. In the common pits, organic waste slowly decomposes while inorganic waste festers and remains, not just an eyesore but a health and sanitation hazard. Waste management in Ezhil Nagar (Vichoor panchayat) is a distant dream, living off ad-hoc experimentation and unplanned practices.

It is in this context that IIT Madras, with aid and funding from the Corporate Social Responsibility (CSR) wing of Indian Additives Limited (IAL) step into the picture and work towards creating **community-based decentralized solid waste systems**. With the aim of ensuring complete resource recovery from waste, providing solutions for clean water in all forms and in the process, involving the community and making a self-sustaining system, the team working on the project is setting on a journey of transformation. At the end, not only will disease be prevented but decentralized systems also imply lower transportation and road maintenance costs and reduced levels of air pollution. Each picture will be reconceptualised, each street will be cleaned up, one wrapper and plastic bottle at a time.

Over their time at Vichoor working with Ezhil Nagar, IITM hopes to implement Integrated Municipal Solid Waste Management by collection, segregation, transportation as well as reduction and reuse of waste. This is intending to use locally trained manpower to demonstrate complete resource recovery from waste. The team also hopes to engage with problems of water, identifying suitable solutions for treatment and management of water resources as well as evaluating and recommending rainwater harvesting solutions for individual households.

Through the engagement on this project, IITM is looking not only to clear the streets of garbage but by adopting a labour-intensive alternative, the project provides a dependable livelihood option. Furthermore, well-segregated and carefully disposed waste is financially more valued and produces better quality recycled products, leading to direct avenues for economic growth and benefit. With this project, an entire industry will be born and a generation of adults in the neighbourhood will have new options to explore for beneficial, sustainable and formalized employment. For the sections of the population dependent on agriculture, composting is a step towards reclaiming the inherent fertility of the soil, fighting the battle against chemical fertilizers.

The future of the project looks bright. With the team from IITM all set to identify a core group of volunteers from the local community, the path forward is to train them and the Panchayat-appointed supervisor, conduct awareness campaigns across individual households on the means and benefits of composting and source segregation, undertake door-to-door collection drives and finally, once the system is up and running independently, be involved in monitoring and data collection.

Twelve streets, three hundred houses and many hundreds of people - the community at Ezhil Nagar offers the perfect opportunity for IIT Madras to leave a lasting impression not just in the lives of the local population but also tangible visual changes on the streets of the neighbourhood. Once waste begins its slow journey of transformation to wealth, the face of the community will undergo a transformation of its own, one aided and abetted by the work of the team from IITM, thanks to the timely support of CSR donations.

Technip India Limited
₹ 1.7 Million

'C-4' Model for High School Students

The hypothesis of the model states that in a high school, if trained and mentored properly, a student studying in grade or standard 'C' can successfully teach a class of students '4' years junior to them, i.e. standard 'C-4'. For example, a student (C) of class VIII, if trained properly and mentored from time to time, can teach class IV students (C-4) successfully.

Technip has a very straightforward dream—to change the face of India, one village at a time, transforming all of them into smart communities. Reading success both as the greatest strength as well as a challenge, the team looks at it as impetus to find a solution that stands apart, paves a different path towards continued success. Forever grateful to IIT Madras for inculcating conceptual clarity, the benefits of team work and the ability to enjoy life, Shanker Karimpet decided to give back to the campus by playing close to his strengths in education and industry. True to the common adage that when the going gets tough, the tough get going, Karimpet can be found taking a quiet stroll around the grounds at the end of a long day, always keeping the perspective that tomorrow is 'just another day' with more challenges and opportunities for success.

Tamil Nadu Newsprint and Papers Limited

₹ 3.48 Million

Centre for Social Innovation and Entrepreneurship

Reaching out, digging deep

Hidden within a space famed for its work in the areas of science and technology, nestled away between projects older and more rooted, lies the **Centre for Social Innovation and Entrepreneurship** (CSIE) at IIT Madras, quietly doing its bit to create a change in the lives of those who need it, in the areas that could use some attention. Focusing on both outreach and research, CSIE is a mammoth project with a steady pace, simultaneously looking to reach out to individuals and support them on the journey of social entrepreneurship while also engaging with research in the field to ensure constant access to relevant and recent information and best practices. At its core, CSIE looks to create social entrepreneurs, create awareness about social entrepreneurship, and build capacity of social enterprises.

Independent of conducting outreach programs, competitions, camps and seminars across various colleges in Tamil Nadu, CSIE has also gotten funding from Tamil Nadu Newsprint and Papers Limited (TNPL) to build the capacity of existing entrepreneurs by working with farmer producing organizations, or FPOs. The project, its scope and its history go far wider than the gates of the institute, acting as a perfect example of sharing the privilege and resources that IITM has to its name.

The idea to work with FPOs was born from a particular clause in the Companies Act, 2010 (Government of India) which allows farmers to co-ordinate amongst themselves to form these organizations. It was envisaged as a safeguard against political and economic shocks and failures, a potent factor that threatened the success of co-operatives till then. With FPOs, the ownership and responsibility lies in the hands of the farmers, as do, by that measure, the losses and the gains, allowing for a safeguard against external shocks and failures. Ever since the Act came into being, there has been a mushrooming of about four hundred organizations in India, of which between 100 and 150 are in the state of Tamil Nadu. It is this opportunity and potential that CSIE seeks to tap into to ensure capacity building of social entrepreneurship in the country at large and the state in particular.

While it is true that FPOs offer farmers more control over their resources and bargaining power, CSIE identified areas for improvement. What would the lives of the farmers and their families be if they were better managed, had strong supply chains and increased value addition for their products, they wondered. With this thought, a dream was born, to empower FPOs to have even wider impact by optimizing best practices for greater growth and efficiency.

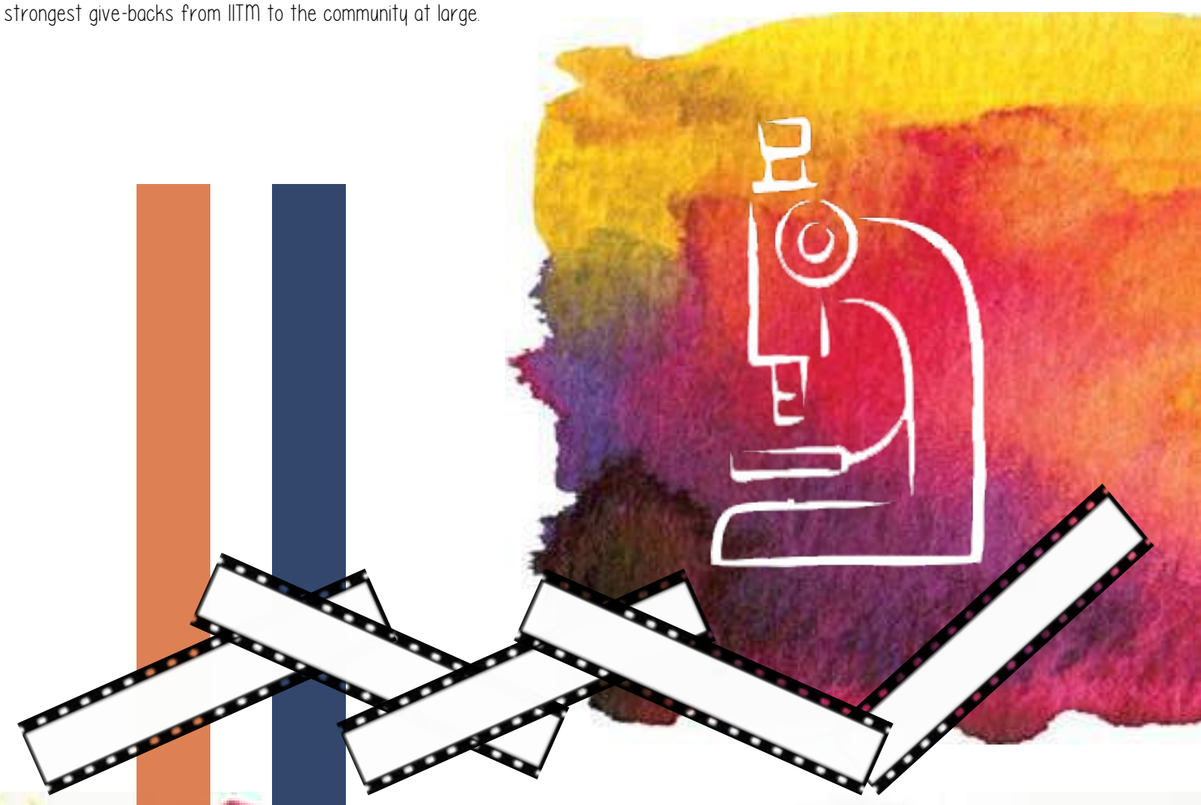
Working with M.S. Swaminathan Research Foundation (MSSRF) and the National Bank for Agriculture and Rural Development (NABARD), CSIE has designed an outreach program to train farmers in some of these practices and equip them with some of these tools. For two days twice a year, farmers will traipse into the campus of IIT Madras, transported from their worlds into a different kind of greenery, to listen to and benefit from a host of experts and professionals. From accounting to marketing to value processing, from acquiring human resources to assistance on insurance to export principles, faculty and resources people of IITM, MSSRF and NABARD will interact with and transfer knowledge to the farmers, the individuals on the ground, simultaneously getting feedback for what it is they truly require and what reality they live every day. These four days a year will represent what CSIE truly stands for - fostering real life, real time relationships between industry, enterprise and the final beneficiaries by opening up direct communication channels and means of information transfer.

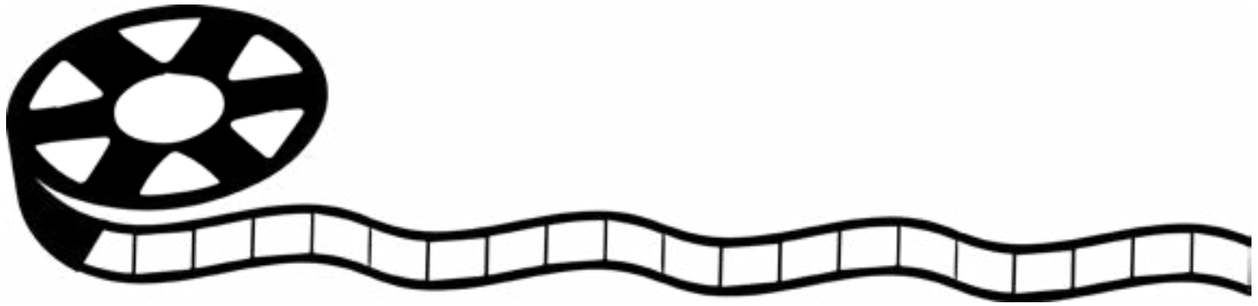
This communication and information transfer is made possible through TNPL's three year grant of ₹ 0.5 million each from 2016 to 2019. The first of the six workshops has been scheduled for May 2016, with plans of reaching out to 40 companies a year. At the end of three years, 120 FPOs (and therefore, almost all of them in Tamil Nadu) would have benefited from the resources available to CSIE, MSSRF and NABARD combined.

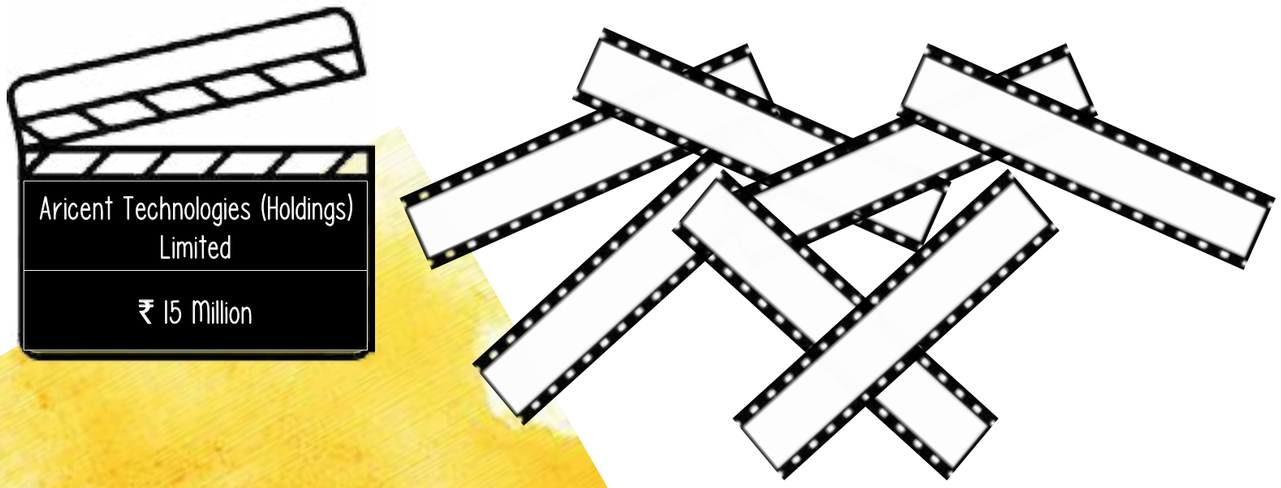
The scenario with FPOs is two-fold. They do not find representation in the space of social entrepreneurship and are relatively new to the business fabric of the country. On the other hand, farming and farmers are unquestionably key players in the social entrepreneurship ecosystem of the country, especially given their status as a priority and distressed community. CSIE is thus crucially placed to make inroads into ecosystems and environments where the impact will be deep and long-lasting. With resources at their fingertips, the motivation to go far and a clear focus, CSIE is poised to become one of the strongest give-backs from IITM to the community at large.

The contribution from TNPL is not, however, limited to helping farmers. The company also supports a project focusing on building **prototypes of footwear devices for gait analysis and rehabilitation**, assisting real time monitoring of stance to prevent individuals from developing a limp or other repercussions of fracture that is only partially healed. A patent application has been filed for this device and the project seeks to build improved prototypes that can be tested by health professionals and physiotherapists. Another project that has greatly benefited from TNPL's support is the attempts to bring **English proficiency to slums and rural schools** through the use of libraries, rectifying the statistic of English being the subject with the highest failure rate in the country. Finally, women entrepreneurs have also been the recipients of focused attention, with TNPL's support being used to develop and execute appropriate **training interventions aimed towards capacity-building**.

Thanks to TNPL, IITM has been able to identify and contribute in specific ways to building a sense of community spirit and bettering individual lives. IITM is all set to reach beyond its gates and how.







Aricent Technologies (Holdings) Limited

₹ 15 Million

National Program on Technology Enhanced Learning

Learning the IIT way, anywhere.

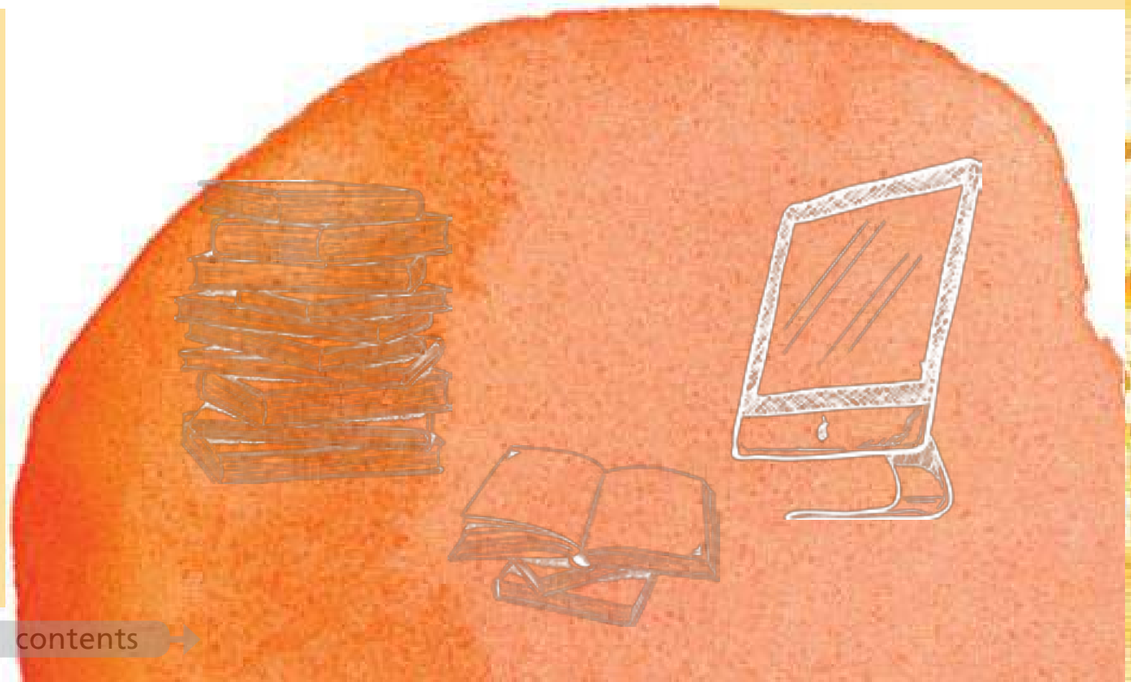
For most students on campus, NPTEL is one amongst the rather exhaustive list of acronyms that IIT boasts of as its unique campus 'lingo.' It joins the ranks of CLT, HSB, SAC and OAT on alphabets that students take pride in being able to decipher, landing visitors to the campus in quite a quandary. Yet, even for the most well-versed and fluent speaker of this tongue, NPTEL may be a tough one, throwing up memories of recorded classes and for some, volunteer hours spent transcribing and helping set assessment questions. For thousands of students outside the gates of IIT Madras, however, NPTEL is the golden ticket to an IITM education albeit removed from the sprawling campus.

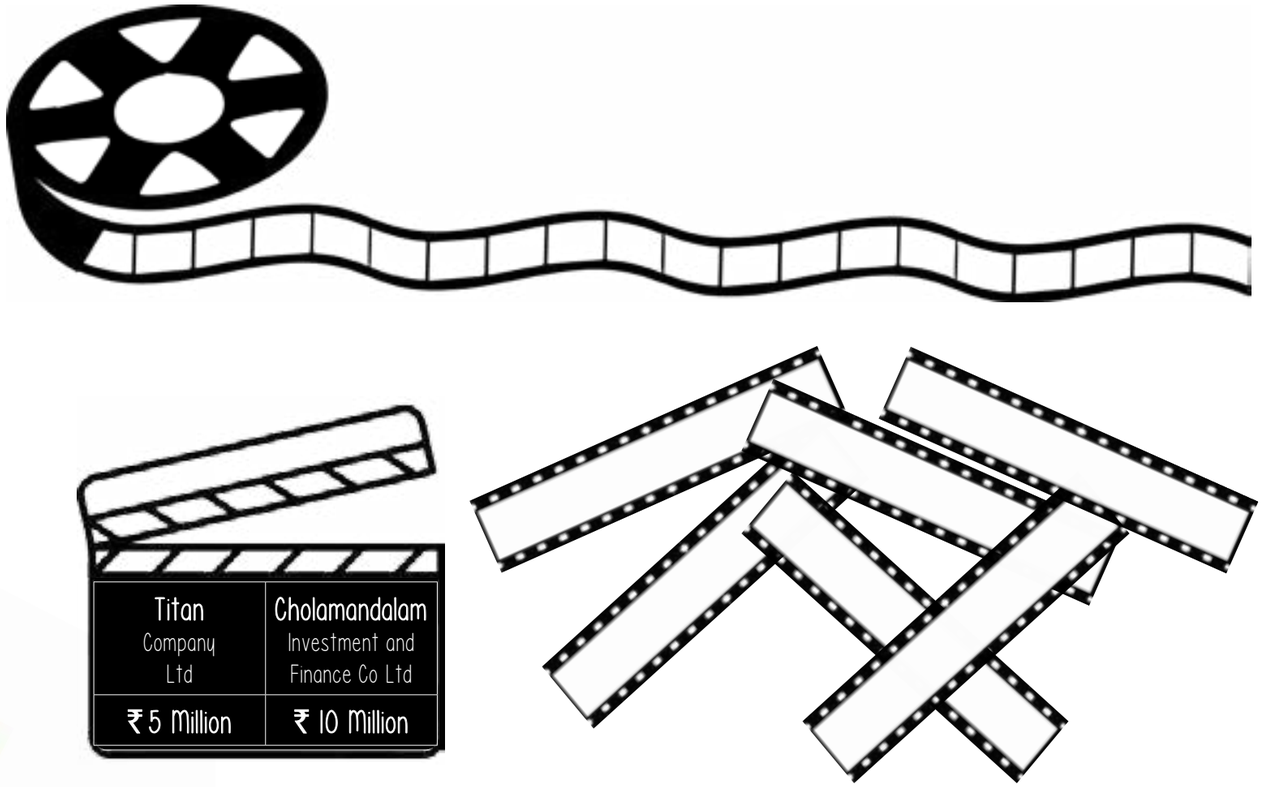
The National Programme on Technology Enhanced Learning (NPTEL) was conceived in 1999 as an avenue for the introduction of multimedia and web technology to enhance learning of basic science and engineering concepts. It was born and envisioned to be an asynchronous method of learning, where it could act as a one-stop solution to those in need of higher education class material, free of cost. The initiative was spearheaded by the Indian Institutes of Technology (with guidance from former IITM Director Prof. MS Ananth and institute Prof. Dr. Mangala Sunder) along with Technical Teacher Training Institutes (TTTIs). The first phase was kickstarted in June 2003 and involved seven IITs and the Indian Institute of Science (IISc). With time, web and video material were introduced for basic undergraduate courses in science and engineering in a visionary aim to improve the quality and reach of technical education in the country. By 2007, the programme had produced a total of 265 courses. At the beginning of the second phase in 2009, the target was raised to 600 courses across a wide range of disciplines. Over the course of this phase, the project was swamped with more requests for courses, increased registrations and beneficial feedback, driving the total number of courses to a whooping 700, far beyond the initial target. At the behest of IITM Director Prof. Bhaskar Ramamurthi, the third phase has been launched and is focusing on Massive Open Online Courses (MOOCs), with 93 successfully completed and 65 on-going courses.

It is unquestionable that programmes like NPTEL that harness the strength of technology to reach out to thousands of people are cutting edge in the education sector today, redefining what it means to have access to quality knowledge systems. The future of education has, therefore, rightly been met with open arms and generous support from various sources. A Government of India initiative, the Ministry of Human Resources and Development has allocated nearly ₹ 216 million and ₹ 960 million respectively for the first two phases of the project. Further, Aricent Technologies, a project engineering services firm, has stepped forward to provide additional funding through its CSR wing. This will be used specifically to reach out to students from financially underprivileged backgrounds to register for exams; towards the creation of new courses; and, the transcription and translation of existing ones. Media houses like The Hindu, NDTV and The Indian Express have also been generous with their coverage and support as NPTEL, through platforms such as YouTube, contributes to remoulding the Indian education scenario.

Beneficiaries of the NPTEL programme are many and varied. "In India, they are spread across the country, specifically amongst Tier II and Tier III institutions," says Ms. Bharathi Balaji, Senior Project Officer, NPTEL, IITM. Yet, the project's wings go much farther than the borders of the country. Neighbouring countries Pakistan and Bangladesh have contributed significantly to registrations, as have students from farther away in Ethiopia and Sudan. Knowing that some Ethiopian institutions offer students an option of crediting select NPTEL courses in place of their class-based sessions is undoubtedly encouraging while also instilling a deep sense of responsibility.

Over the years, NPTEL has become not only an integral part of the higher education learning experience for individual students far removed from the realities of the IIT Madras classroom, but they have also become compulsory course material for teacher training programmes and faculty development sessions. It is perhaps in the recording rooms in the IC&SR buildings, or on the laptop screens of the scores of people working on questions for online assessment or transcription lecture videos, that education is being pushed to its limits. It is through those people, courses and professors, through institutional programmes, that IIT Madras is contributing to rewriting the reality of college education in India today. NPTEL is the creation of a legacy.





Titan	Cholamandalam
Company Ltd	Investment and Finance Co Ltd
₹ 5 Million	₹ 10 Million

Incubation Cell & Innovation Fund

What does a device for measuring muscle stiffness, automatic batter processor, a wearable dialysis device and open source software implementation have in common? To the naked eye, nothing. They are incongruous, independent and in no way related at all. Yet, as is always true of plot twists, there is more than meets the eye. All of these are innovations housed under the same roof, supported by the same systems and receiving similar incubation before they are ready to be launched in the world. All of these are projects supported by the IIT Madras Incubation Cell, an entity set up to nurture technology and knowledge-based ventures through their start-up phase by providing all the support necessary to help entrepreneurs establish themselves before they scale up their ventures.

Incubatee companies at IITMIC have, at arm's reach, a host of services and opportunities to help them grow through the first phase of a company's lifecycle. They are offered shared office space and infrastructure (no rentals) or rented (subsidized) offices at IITM Research Park on a case-by-case basis along with business support services (accounting, company secretary, legal and IP), mentorship (alumni/industrialists/faculty), networking and access to seed/early stage venture funds (from the IITM Startup Fund made up of alumni and industry donations, as well as seed grants from the Government of India).

As of now, IITMIC is a storehouse of stories. Open their files and one can read the tales of companies who have found problems that need answering, people who have found their calling and are unafraid to chase their dreams, and products on the verge of changing lives. Karuvee Innovations, one such company, echoes IITMIC's own goals in its vision, aspiring to be "part of an efficient healthcare ecosystem... to promote the healthcare system in the country through a seamless integration of academia, entrepreneurs, service providers, and end users." Similarly, Udvavish Technologies offers consultancy, implementation and training in the area of open source software, all this with both its founders being engaged in full-time courses of study. Meanwhile, Enability Foundation for Rehabilitation, which includes an institute professor as one of the founders, aims at delivering "indigenous and affordable assistive technology solutions to the underprivileged and disadvantaged sections of society," specifically focusing on education, communication and leisure. IITMIC, it would seem, incubates dreams, of the founders as well as the users.

Inching close to the magical one hundred mark, IITMIC houses ninety-eight companies today, across the domains of manufacturing, energy, healthcare, education and IT. There are also a host of companies working on issues of social relevance, seeking to provide technological solutions to the problems of rural India in the fields of healthcare, microfinance and sanitation. True to its aim of fostering a supportive and inclusive ecosystem, as many as thirty companies have members of the institute faculty as cofounders or minority shareholders, ensuring a bridge between academic research and industrial requirements. At IITMIC, there is an unquestionable consensus to work in tandem, not exist in isolation, and use all the resources at their disposal to translate cutting-edge research and globally competitive industrial resources into beneficial, socially relevant solutions.

Today, IITMIC is poised to become the next big space in attempting to bridge the academia-industry-society divide. Yet, every hero has bigger mountains to scale and every story has the next chapter to tell. IITMIC hopes to grow to a level where at least thirty new companies are incubated every year, with ten percent of them becoming 'blockbusters.' The ever-present mountain is every challenge faced by the nation and society at large, with companies chipping away slowly and diligently at the stone, making inroads in the areas of job creation to meet workforce demands, product creation to meet market requirements and most of all, evolving into a leading technology entrepreneurship hub in India.

Over the years, IITMIC hopes to bring together two of the most formidable forces in the country - the IIT brand and technological expertise, with the national entrepreneurial environment that allows a generation of experimentation, innovation and growth. IITMIC, with its plethora of support systems, partners and resources, will be that platform that matches the most vivacious minds with the most pressing needs, creating a space that will answer the questions of tomorrow at the very speed they arise.

"It is crazy to think one is different from another just because they are at different levels of a hierarchy," Vellayan Subbiah [1990/BT/CE] opined, establishing very early his undying belief in innovation over a chain of command. Ideas can come from everywhere and it is the mark of a good worker to keep an eye out for them. Conscious of the need to walk the talk and lead from the front, he counts his blessings aplenty and believes every life should be dedicated to utilizing one's capabilities to the maximum, while taking responsibility for one's actions. Through his association with the Innovation Cell, Vellayan is enthralled by the ability to help create entrepreneurs in the country, seeing it as a huge opportunity to be such an integral part of their journey. Even in his spare time, Vellayan is always on his toes, skiing with family, playing tennis or just travelling for pleasure. Quiet time is meditation and yoga, to restore the balance, before raring to face the world again. By contributing to alumni funding, Vellayan is going that extra step - taking the many conversations over chai as a student outside Taramani Gate, to an institutional arena with a support system and a network of experts to reach out to. Either way, this is a story of growth and innovation.

contents

Interdisciplinary Laboratory for Data Sciences

Batch of 1989

₹ 13.8 Million

Big Data and Analytics

The Batch of 1989 had a simple goal in mind – to do their bit towards propelling IIT Madras in the direction of the future. In the lead up to their 25th reunion, the cause of batch funding was championed and over a hundred alumni were brought on board. With the silver reunion, therefore, the genesis of sponsorship possibilities came forth. Over the course of the reunion, options were discussed, projects were brainstormed and finally, the team came to the consensus that the way forward was Big Data and Analytics. Big Data was recognized as being the world's 'next big thing,' and with the sponsorship, the batch gave IITM the support it needed to set off on the path of becoming an international forerunner in Big Data and Analytics. The process has enabled increased engagement with students and the institute, facilitating enhanced interaction with alumni from business as well as academia. The project, it would seem, has thus been a homecoming of a sort, twenty-five years after graduation.

Shoma and Prasad Setty Student Distress and PhD Fellowship Endowment Fund

Prasad Setty
[1992/BT/CH]

₹ 5.9 Million

"Trust everyone. Except those who do not love chocolate." This is the life advice that Prasad Setty has to offer for anyone who asks for his two cents' worth. The man behind the Student Distress Fund that comes as a huge helping hand to numerous students on campus is a livewire of conversation, interests and humour. "When I want to relax from travel, I stay at home," says the man who has been to all seven continents. Swearing by the dictum that the people whom he works with have a larger impact on him than the work he does, he expounds perspective, reiterating that what seems extraordinary today will become mundane tomorrow. With the licence to experiment and innovate, acting as his fuel, his life could be scripted into a movie titled 'The Fast and the Curious'!

Travel Grant

Various Donors

₹ 8.7 Million

Students in a classroom, citizens of the world

Every child growing up is told that the world is his or her oyster, that the only thing that can stop the dreams is if s/he stops dreaming altogether. Every child has sat in a corner on a hot summer afternoon or a pouring monsoon evening with a book in hand, anything ranging from Tinkle to Enid Blyton, wondering about worlds far away and seemingly unattainable. What do scones taste like? How tall are mountains if they can touch the sky? Is the colour of the ocean different off the coast of Africa, or the Bahamas? Does a rose by any other name smell just as sweet? Over the years, these questions become hazy around the edges, lose their intensity and the world shrinks to just the country or the state or the college campus. Yet, for some lucky few, the mist lifts and the dreams re-emerge. For some, scones are tasted and oceans are swum in, mountains are climbed and the oyster expands.

The travel grant funded by alumni seeks to achieve exactly this – allowing students the opportunity to widen their horizons, explore their boundaries and learn by finding their place in the world. Every year, dozens of students stumble through international airports and customs checks perhaps for the first time in their life thanks to the generous donations by batches of alumni from the years gone by. As they make sense of boarding passes and duty-free shopping, as they learn new languages and cultivate alien food habits, as they grow and find their bearings, they silently thank their predecessors who have trodden the same path of growth and learning in the environs of IIT Madras.

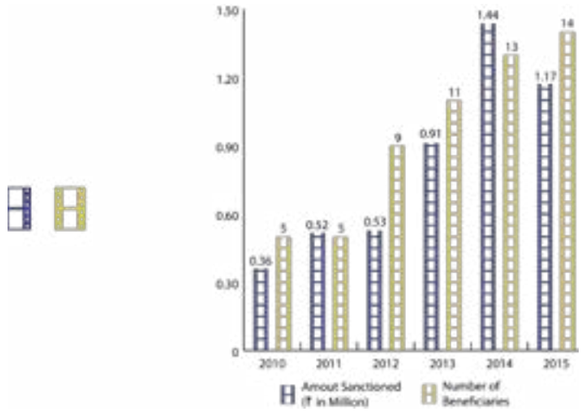
For Dr. Paresh N Patel, the University of Santa Barbara (CA, USA) was his ticket to international exposure and academic excellence. For five days, he was face-to-face with the leading experts in the field at the 25th International Society of Heterocyclic Chemistry Congress, listening to scores of plenary talks, invited sessions and poster presentations. As his peers and colleagues, he had around a hundred and fifty students from across twenty-six different countries, each speaking of individual methodologies they had adopted to varying degrees of success. For five days, minds from across the world engaged with each other to solve problems they had each been battling independently at home. Dr. Patel's paper was received well and he benefited from interactions with various experts. "The presentations were very nice and informative, I got new direction from various experts to set my future objectives. It will surely be very helpful for me as an independent researcher," he signed off.

Vamsi Viraj, on the other hand, set out on an entirely different expedition. Attending the 2015 Shanghai Summer School (Belt and Road program), he was introduced to "an immersion exercise into everything Chinese – its history, culture and development through the years." As a student from the Humanities and Social Sciences department, he spent the program interacting with fellow students and locals while simultaneously learning the basics of Chinese life. He visited companies, factories and homes, while also getting a crash course in the language and arts & crafts of the land. Overall, the program succeeded in "bringing students from many countries together, promoting dialogue and, most importantly, giving us an image of China far removed from what is generally perceived." Despite all this, however, his most vivid memories are of the food, a "tragedy in itself" which was often averted by taking over the kitchen and cooking himself. "It was a good bonding exercise between us and them and they liked what we cooked too!"

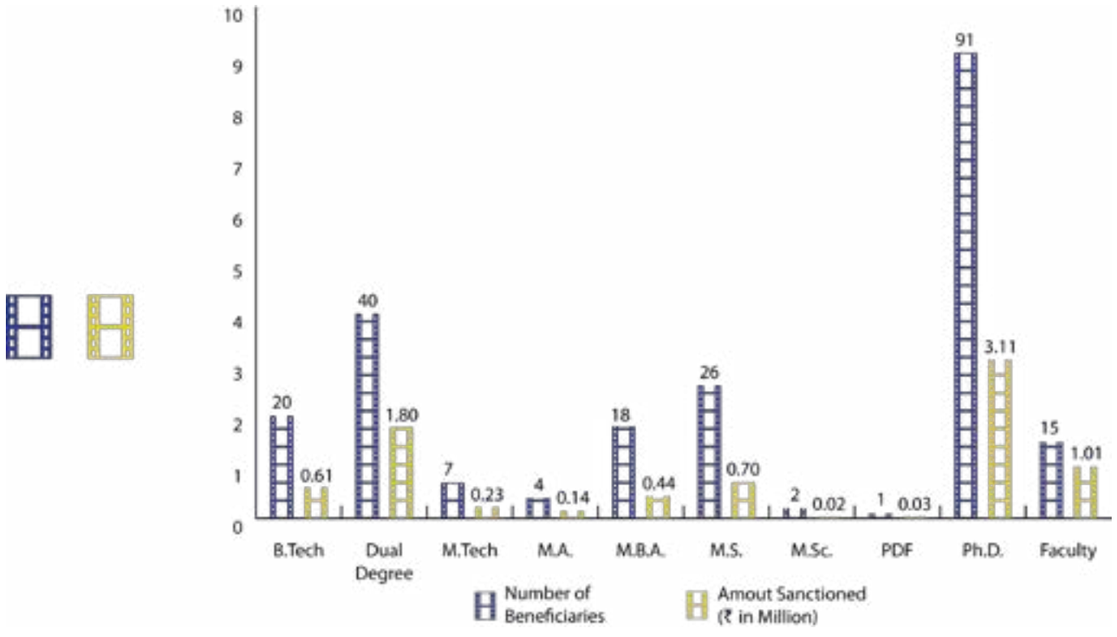
The verdict seems to be unanimous. *Phenomenal experience, smooth process, challenging* and *inspiring* are words that are echoed by students irrespective of department and degree. Whether they travelled for an internship or conference, summer school or international summit, the one common thread is the learning and growth that characterised every minute abroad. For each one of these students, the support from the alumni network was undoubtedly a treasure, one that opened their eyes to ways of looking at the world and understanding the future that could not have been achieved from within the classroom. For every iota of nervous fidgeting on the way out of India, there were undoubtedly buckets of confidence and maturity on the way back. Thanks to the alumni funding,, students of IIT Madras were transformed into citizens of the world.

Boeing Travel Grant	Amount Sanctioned	Number of Beneficiaries
Overall	₹ 4.94 mn	57
In 2015	₹ 1.17 mn	14

Boeing Travel Grant



IITMAANA and Other Sources



1980 Batch	Amount Sanctioned	Number of Beneficiaries
Faculty	₹ 0.33 mn	5
PhD	₹ 0.31 mn	4

Faculty Travel Grant

Strengthening hubs, expanding spokes

At its core, stripped of all the fanfare and public attention, IIT Madras is a research institute. The heart of the institution lies in the obscure buildings with intimidating names that shelter some of the most powerful equipment and stimulated minds in the country. Every day, IIT Madras strives to ensure this space is healthy, growing and accessible - a space for learning, not only for the students who walk into the gates full of promise and potential, but also for the professors who constantly challenge themselves to stay at the forefront of research and development. Every day, IIT Madras looks for opportunities to collaborate and cooperate to foster this kind of space. It is for this space and these professors that IIT is a haven of opportunity, and it is to aid and abet this growth that the alumni have instituted an Excellence in Research Travel Grant for professors and senior research scholars.

Pennsylvania State University (PSU), University of New South Wales (UNSW), European Organizatioin for Nuclear Research (CERN). These are merely a smattering of the universities professors from IIT Madras have visited through this grant, building bridges and fostering relationships with a shared commitment to science, research and development. Prof. C Rajendran of the Department of Management Studies visited PSU to discuss possible collaborations between the Department of Management Studies (DoMS, IITM) and the Department of Industrial and Manufacturing Engineering (PSU). Thanks to the trip, today a few students from IIT Madras have the opportunity to be hosted by the Smeals College of Business at PSU every year. Furthermore, two professors at PSU have been invited to offer GIAN courses at IIT Madras.

Prof. C Rajendran was not the only one. Apart from also visiting PSU, Prof. Abhijit Sarkar from the Machine Design Section (IITM) visited Sydney, Australia to pursue an active collaboration with the University of New South Wales (UNSW). This was a follow-up visit to strengthen the foundations that had already been laid when a delegation from UNSW visited IIT Madras in May 2014. Following this trip, Prof. Sarkar was hosted in UNSW for a month and today, an MS student from IIT Madras is currently a PhD student at UNSW with Prof. Sarkar's collaborator. The two researchers are working together on subjects of mutual interest, hoping to publish papers in their core research area of noise and vibration.

For Prof. Prafulla Kumar Behera in the Department of Physics, the alumni funding for Excellence in Research came in handy in reaching out to the best minds in the world. The funding was used to pay part of the membership fees to the CMS collaboration at the European Organization for Nuclear Research (CERN) in France and Switzerland. The collaboration with CERN, which works on Large Hydron Colliders (LHCs), has aided IIT Madras' focus on building silicon detectors used in LHCs. This membership, made possible by alumni funding, has already gone a long way in catalysing high quality research. While today, the Department of Physics benefits greatly from the collaboration, efforts are being made to involve the departments of Electrical and Mechanical Engineering as well as Computer Science to partake of the growth. This collaboration with CERN opens up access to laboratories and internships for undergraduate as well as doctoral students at IITM, an opportunity that has been utilised for the last two years by students to equip themselves to compete on international standards with their peers. Today, IIT Madras is the only IIT in the country with full membership at CERN.

In a world increasingly dependent on collaboration and cooperation, the Excellence in Research Travel Grant allows IIT Madras to find its footing on an international platform. In a world increasingly progressing towards a hub and spokes model of excellence, expertise and shared knowledge, the alumni grant allows IIT Madras to strengthen its hubs, extend its spokes and make its presence felt in the global arena of scientific research.

Heritage Centre

Batches of 1964 & 1965

₹ 1 Million

Preserving pieces of the past

Walking from the Administrative Block to the rest of the Academic Zone, one cannot miss the Heritage Centre. A rather unobtrusive entrance leads one into a room filled to the brim with history – of eras gone by, of yesteryear heroes and stalwarts, of times when things at IIT Madras were different. In this space lies a slice of memory, protected and exhibited only for those in search of a piece of history.

The room is overwhelming with the air filled with years of the institute's evolution. The displays are filled with panels of pictures – black and white shots of important people in the years following IIT Madras' establishment, newspaper articles announcing important happenings of the Institute, profiles of people who held positions of power and made IIT Madras what it is today. There are pictures of music concerts and magic shows and dance recitals, there are photos of students sitting on the floor for lectures, girls working on the lathe in labs and, as one adequately surprised caption reads, students "actually" working on experiments. Scores of Distinguished Alumnus Awardees smile from the panels, many names having become famous in their own right in the years that followed. Many Germans sit adjacent their Indian counterparts, marking the deep history the Institute has with the country, having received both financial and intellectual aid from them for many years. Jawaharlal Nehru, Sarvepalli Radhakrishnan and scores of others have done their bit to remind today's generation that IIT Madras has a rich and vibrant history committed to excellence and the pursuit of knowledge.

Amidst all the men and their achievements, peppered between building plans and artistic depictions, lie the flora and fauna of the institute. Trees of various kinds, leaves in shapes varied, butterflies in hues unnamed and the deer IIT Madras is most famous for, all contribute to transforming what was once an empty room to a lush canvas of greenery.

On the tenth year of its establishment in 2006, the Heritage Centre was renovated. Originally housed in the now decommissioned telephone exchange on campus, the idea was first suggested by then Director of IIT Madras, Prof. Natarajan. Prof. Ajith Kumar Kolar, the Cultural Advisor at the time, took it under his wing as his pet project, personally sourcing many of the rare photographs that act as time capsules in the Heritage Centre as we know it today. For a brief period of time, Nature ran amok and got the better of the Centre. Due to leaking roofs and risking damage to the prints, the Heritage Centre was temporarily moved to ICSR building while renovation was underway to bring it back to its original home. Like most things at IIT Madras, the team behind the Heritage Centre Renovation project was seeking to better matters and this resulted in an attempt to digitize documents for easy access. This project remains in the initial phases of execution and has been catalysed by funding from the two batches of 1964 and 1965. Given that 1964 was the first batch to graduate from IIT Madras, it almost seems fitting that such an integral part of the institute's history is contributing to keeping the flame lit for future generations. After all, as Mr. Kumaran Sathasivam, an alum of the Institute rightly puts it, that batch was more than mere students. "They grew up on campus and want to preserve the history of the campus and its growth." This has further been aided by a donation of ₹ 0.9 million by the Batch of 1966 towards further projects at the Centre.

While the core of the Heritage Centre may be deeply rooted in preserving the past for future generations, the team behind the renovation project have ensured that this preservation is not a static experience. Changes in the exhibits, new pictures displayed in rotation and presentations of various projects being undertaken by the departments will be on show at the Centre to ensure that it is transformed into a dynamic, vibrant space. Over the course of time, the Heritage Centre will become the hub of all information on IIT Madras, past and present.

Like most things in history, the Heritage Centre is hoping to come a full circle. Many years from today, walking from the Administrative Block to the rest of the Academic Zone, perhaps one will look out for the Centre and slip in for a reminder of what was, what used to be and what is still left behind. Buried in the Heritage Centre may be a slice of memory, a taste of history, a piece of home.

Prof. M S Ananth Endowment Fund

Batches of 1970, 1983 and other donors

₹ 25 Million

Sustaining a legacy

The legacy of Prof. MS Ananth is unquestionable, whether one is within the campus of IIT Madras or not. The ex-Director of the Institute is remembered for many things, not least of all the inauguration of the IIT Madras Research Park as well as for being the first Head of the Institute who reached out and connected with alumni in an active, engaging manner. For students across generations, his brand of leadership and charisma will forever be etched as an important part of the memories of IIT Madras. It seemed only fitting, therefore, to establish an Endowment Fund in his name, a first of its kind much like the events during his tenure as the institute's head.

Established as a part of the Golden Jubilee Alumni Fund (GJAF), the Prof. MS Ananth Endowment Fund was created with contributions from alumni across batches and departments, and the proceeds are used for a multitude of socially relevant projects including providing financial assistance for the education of the children of SHG staff members on campus. The Batch of 1983 contributed ₹ 5.1 million, the Batch of 1970 pitched in another ₹ 2 million while the other batches donated a total of ₹ 17.9 million. The total sum of ₹ 25 million was instituted as the Endowment Fund.

The year 2015 was undoubtedly special to the Endowment Fund, with the support being channelled to four specific projects. The first was the empowerment of differently-abled people, aiming to collect information and put together a database of the community in Tamil Nadu. The specific focus was to collect firsthand information, particularly from rural areas, to understand the experience of disability as well as to educate citizens on the government schemes that can be availed. The field trips that were undertaken revealed that the biggest issues were those of mental retardation and cerebral palsy amongst children below ten years old. Following interaction with scores of people, the team has put forward a plan for community awareness and sensitization, by providing solutions to the parents of these children in keeping with their own education and employment standards.

The second project that saw fruition on the proceeds of the Fund was the publication of high school books in regional languages (Tamil and Telugu), intended to be a part of village school libraries. The team identified titles in both languages to be translated, and most are currently in press. Dr. Thillai Rajan, a professor from DoMS, is coordinating the third project of the year, looking to increase the success potential of the marginal entrepreneur. The workshop was conducted in early January 2016 in Kanchipuram, with support from Hand in Hand, the NGO partner and saw sixty women participating out of a hundred applications. A follow-up workshop is planned in six months to judge progress. The final project is in collaboration with IIT Kharagpur and looks to promote research at the high school level. Preliminary field work and talks are still underway.

It comes as no surprise that the Endowment Fund established in Prof. MS Ananth's name is reaching out to a wide range of people spread across every stratification in the country. True to his image and character, the proceeds of the Fund are contributing to betterment in areas from entrepreneurship to technological innovation, from healthcare to education. In his name, IIT Madras has promised to reach out far beyond its gates and give back to society, sharing expertise, manpower and resources to address pressing problems impacting thousands of people.

Contributing to Prof. MS Ananth Endowment Fund seems in keeping with D Chandrasekhar's [1970/BT/MT] motto of seeking inspiration from "those who lead a life for others." Valuing honesty and humility above all else, DC as he is called, cherishes his line of work for showing him a path that is both enriching and fulfilling. When asked what he would title the movie if one were to be made on his life, his answer is in keeping with his core beliefs – "Hard work still pays," he says, adding on that given a chance to start over, he'd teach himself to think big earlier on. At IITM, though, he vouches to have received a world class education that acted as a turning point in life, a journey that saw him being felicitated with the Distinguished Alumnus Award many years on.

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Healthcare Technology Innovation Centre

Lalit Mahajan
[1968/BT/CH]

₹ 70 Million

Accessibility, affordability, and changed lives

The problem of healthcare is one that has gained increasing prominence in the country, providing fodder for not only growing media attention but also policy decisions and technology interventions. The best minds in the country are looking for ways to eradicate disease, cure illness, and make quality care more affordable and accessible. It comes as no surprise that IIT Madras is not far behind, contributing the best of its resources and expertise to solving this problem and lifting the standards of the nation's healthcare industry.

The Healthcare Technology Innovation Centre (HTIC) housed in Research Park has been chipping away at this situation since late 2011. Bringing together engineers, doctors, healthcare professionals, industry experts and the government, the group is dedicated specifically to improving accessibility and affordability of healthcare in the country. Over the years, the team has collaborated with fifteen organizations in an effort to meet its goals, driven by its vision to create impact and drive innovation in area of healthcare. The need to be a leader in this area known for technical excellence and collaborative spirit is the fuel that keeps the Centre on its feet and this is best reflected in the three working solutions they have put forth since their inception.

Cataract is an ailment that is impartial. It affects urban and rural alike, men and women of all strata of society. It is one of those silent health issues that the Indian public have learnt to stomach as a sign of ageing. Yet, for those in more remote parts of the country, it is a harder hurdle to overcome, owing to the cost of transportation adding to the medical bill itself. It is for this very purpose that HTIC developed a mobile eye surgical unit, providing a stable, safe and sterile environment to perform surgery in non-urban centres. After a feasibility demonstration and a pilot run of close to five hundred surgeries, the national Ministry of Health and Family Welfare gave approval to continue operations.

Continuing their work pertaining to the eye, HTIC also developed Eye-PACTM, a computing technology for extracting information from eye images. This has drawn upon advanced mathematical and computational techniques to build technology consisting of image computing and analytical modules. Partnering with Forus Health, a young med-tech company, the Centre is now working towards helping build an indigenous multifunctional ophthalmic pre-screening device. Thanks to the collaboration with HTIC, the device has been able to reach out to more than a hundred locations spread over eight countries.

The third working solution that has been put forward by HTIC in the last few years is ARTSENSETM, a non-invasive image-free technology to measure arterial stiffness in an automated manner. Pilot studies of the technology have demonstrated its ability to measure stiffness under in-vivo settings even by personnel with limited training. The device is currently being used in an extensive clinical study.

While the solutions that have come forth may seem niche to the naked eye, it is unquestionable that HTIC is in the process of making inroads where it counts. By choosing pressing problems and focusing their energy on bringing forth affordable yet effective solutions, the people at the Centre are pushing the frontiers of healthcare as well as technology in the country. At HTIC, people's lives are being changed in more ways than one.

Being in the invitro diagnostic industry, **Lalit Mahajan** could see how much work was left to be done. Aware that India imports all its testing kits, he realised that producing them indigenously could be the key to reducing costs and making the country more self-reliant, not to mention the host of advantages for the individual consumer. An alumnus of the Institute, his meeting with HTIC on campus revealed how much stood to be gained by the association and the project was born. A nature-lover who is passionate about his work, Mahajan can be caught practicing yoga and meditation or relaxing by any water body in his free time. Driven by unquestionable perseverance and passion for the causes he supports, he has not looked back since one of his earliest products was evaluated as a market leader by the WHO in 1999. He has continued to hold this position in India ever since. Despite such international success, however, it is the underprivileged children enrolled in the four schools he runs and their smiles of happiness and joy that brighten up his days.

Quark

Batch of 1973

₹ 8 Million

Different batches of students graduated from IITM with evidently fond memories of their time on this campus. What better way of commemorating this experience than to give back to the alma mater? The newly renovated Quark building hosting multiple eateries on campus is their form of saying thank you.

For Ramesh Nair [1973/BT/EE], it is all about the fraternity. "I am deeply committed to the community," he says. "There is a joy in giving back to one of your own." That drive coupled with a natural disposition towards helping others without expecting returns made sure he was at the forefront of the renovation project. Greatly aided by a spectacular memory and innate attention to detail and commitment to the Batch's goal, the responsibility to mobilize the funds was in safe hands.

Quark has gone a long way in making this campus feel like home. The foundations for this are often laid in the classrooms but also, outside, in the corridors, mess halls and now, in Quark.

Camaraderie clothed in red brick

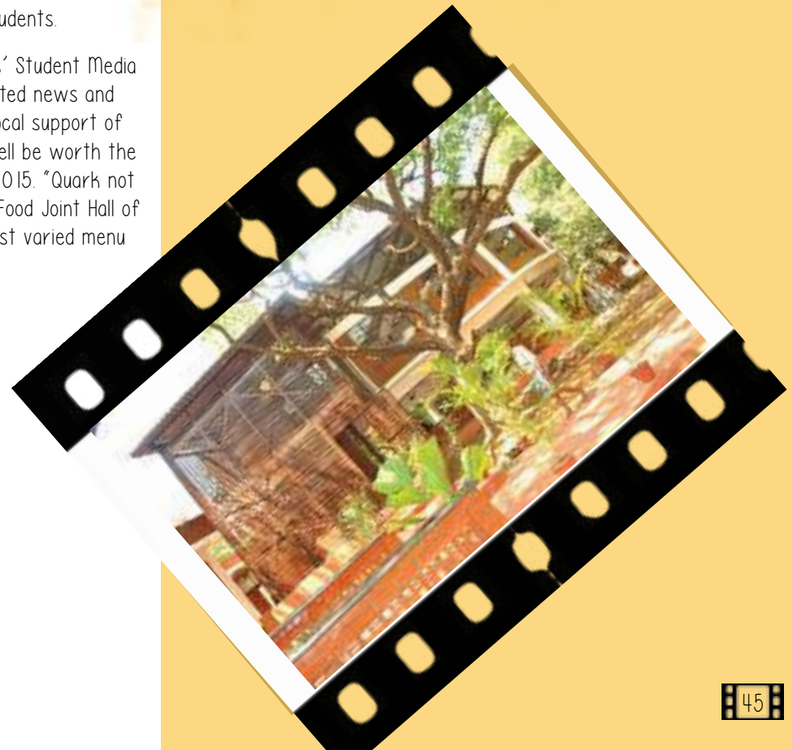
The red brick building nestled in the hostel zone near Sangam ground is almost always swarming with activity. Whether it is 2 PM or 2 AM, you are assured a crowd, a queue and the constant buzz of sleep-deprived conversation. Some are patrons, ordering their regular menu with a nod of recognition to the staff behind the counter and others, judging by the peering at the menu taped to the wall, are still manoeuvring through the choices at hand. Tandoori or Chinese? Breakfast food or dragon chicken? This is the dilemma of IIT Madras' arguably hottest hangout spot.

Quark, as it is called now, reopened in July, following a two year hiatus for renovation. Students were impatient and it wasn't unusual to hear deep sighs and reminiscences about the days of Zaitoon or Basera, depending on which 'generation' you were listening to. Yet, this two-storeyed replacement has answered every sigh and more. Funded by the Batch of 1973, Quark hosts Zaitoon that offers a multi-cuisine menu for starved college souls as well as, more recently, Parfait 3, to add dessert options and convert every missed mess dinner into a three course meal. ₹ 8 million and two years later, the collection of tin-roofed structures that used to be a favourite haunt has transformed into a well-ventilated, expanded layout with an abundance of natural lighting and space enough for around 250 students.

Not surprisingly, The Fifth Estate, IIT Madras' Student Media Body and a popular channel for institute-related news and trends amongst the students, came out in vocal support of the new building. "The new structure may well be worth the wait," read a report published on July 14th, 2015. "Quark not only promises to get re-inducted into IITM's Food Joint Hall of Fame by hosting arguably the largest and most varied menu among all the food joints in IITM, but also provides substantial competition to the other hangout spots in insti."

Food is not the only thing on offer at Quark. The planners and executers went a step further, striving to create shared spaces that support a culture of interaction and camaraderie. The first floor of the building has been constructed to serve as practice ground for the various student clubs on campus, with plans to even provide Wi-Fi connectivity in the future. Quark, it would seem, is on the verge of transcending its role as an eatery to becoming a communal space, a "square" that promotes student interaction and cultural activity.

It is no exaggeration to say that in two years, the space near Saraswathi hostel has completely transformed. What used to be a run-down collection of tables and chairs today is a teeming building with fans above every table and patches of greenery. Every temporary structure of the past is brick and mortar today. The new and improved Quark, thanks to the Batch of 1973, is well rooted in the annals of the institute's culinary history as the eatery that came to signify more than just 'grub.'



Space Lab and Student Satellite Project

Dr. Krishna Chivukula
[1970/MT/AE]

₹ 15 Million

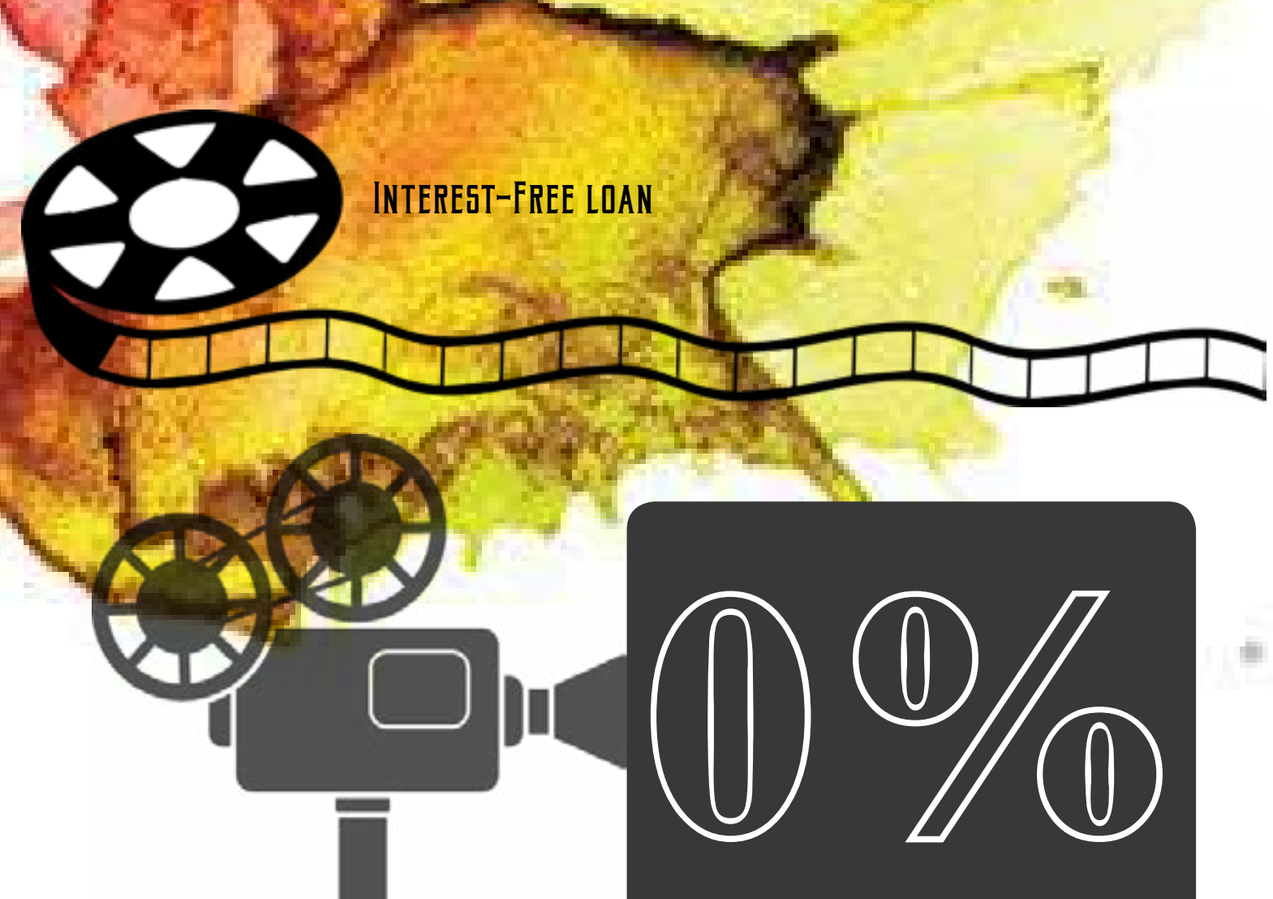
Following in mankind's giant leaps

Man has always been fascinated by the sky. The stars, planets, moon; everything above the Earth's surface represented the unknown, the uncharted, the unconquered. As science and technology developed, the thirst to explore the skies built up to a crescendo and man's curiosity never ceased. In classrooms, laboratories, and science centres, fresh minds and veterans alike spent hours trying to unravel the mysteries that lay, as nursery rhymes would say, "up above the world so high." Given this fascination, why would the minds at IIT Madras be any different?

The IIT Madras Space Lab is special for a very specific reason. Entirely student driven, it represents everything the institute stands for - proactive learning, innovative thinking, applying theory to real life situations, and cross-department interactions. The Student Satellite Project is an inter-disciplinary venture to develop a small satellite in technical collaboration with the Indian Space Research Organization (ISRO). The envisioned plan is to see the satellite launched on one of ISRO's launch vehicles, with a High Energy Particle Detection experiment on board that will be designed and fabricated by the team at IIT Madras. Orbiting at a height of six to eight hundred kilometres above the Earth, it will collect and transmit data on electrons and protons in the Earth's magnetosphere throughout its mission life of one year. One particularly interesting application is that it will expand on existing data for testing an earthquake prediction model that has been recently developed by scientists.

Being the recipient of ₹ 15 million of funding as well as the energy of scores of students passing through the institute, the Space Lab and the Student Satellite Project itself represent everything exciting about IIT Madras - the space to explore, the skills to contribute and the support to see that dreams come true.

Cleanroom facilities in the CEC Basement where the "IITM Satellite" was assembled were inaugurated in the presence of the sponsor, Dr. Krishna Chivukula [1970/MT/AE], Distinguished Alumnus.



Sunderam Swaminathan
[1969/BT/ME]

₹50 Million

One man's quest for excellence

For scores of nations around the world, the United Nations set out the Millennium Goals urging countries to attain universal primary education. World over, no one questions the importance of education in the process of nation-building, creating a base of citizens who are literate and committed to the greater good. While globally the goals have been applauded for their intent, for some individuals, they are too small. For some students, attaining primary education is merely the first rung of a rather tall ladder, one they are itching to climb. It is these students who stay committed to the classroom, work their way through school and dream of walking through the gates of an esteemed institute of higher education. It is for these students that IIT Madras instituted interest-free loans in an effort to rid them of the burden of financial constraints.

Many boys enter IIT Madras with their heads full of dreams and eyes bright for a future of learning and growth. Inside these portals, they will find their calling, will have access to the best minds in the country and peers defined by quality and skill. Here, on this campus, they will be pushed to excellence, they will be challenged every step of the way and they will come out stronger. Yet, the financial struggle they sometimes put their parents through often threatens to overwhelm their star-struck eyes. It is at this juncture that the SSAN Ananya Trust Scholar loan makes a tremendous difference in their lives by providing financial relief to the parents. For the next few years, this loan will change a few deserving lives by providing an interest-free loan to chase after their dreams.

Says one student, "Unlike other scholarships, SSAN Trust uniquely addresses the financial problems of the student. SSAN Ananya Trust granted me an interest-free loan which was a great financial relief for my parents. It also made me a more socially responsible person by motivating me to willingly give back to society."

"I came across SSAN Trust in my first semester. I was inspired by the trust's vision of ensuring 'deserving students are not deprived of higher education due to financial constraints'. This set me wondering. Why were we always placing so much importance on education when there are scores of other social problems in the nation? Fortunately, I soon got an opportunity to have a conversation with Mr. S Swaminathan, Founder of SSAN Trust. That conversation opened my eyes.

After speaking to him, I realised that education would make a person stand on his own feet. A well-educated person would take responsibility and positively contribute back to society. By educating a person, one would indirectly solve all other social evils. I realised the role of education in one's life and the potential change it bring in the society in due course of time. Since then I am deeply motivated by SSAN Trust's philanthropic cause. Personally I would like to give back to society by sharing the knowledge I gained at IIT Madras. One day, I also hope to contribute through financial means."

"Since its inception, SSAN Ananya Trust has helped a considerable number of students to complete their education without any financial obligations. The Trust's vision to be socially responsible is an inspiration to all the students of IIT Madras. I am confident that all beneficiaries recognise the objective of the Trust and will willingly give back when they can."

Old fables speak of the ripple. Grandmothers sit children down and describe how throwing a pebble into the lake will cause water to move far away. Science speaks of the butterfly effect of chaos theory, where a small change in one place causes a much larger impact somewhere else. These interest-free loans, and the experience of dozens of students like Akash and Dheeraj, are examples of such ripples. Thanks to SSAN Ananya Trust's support, students of IIT Madras are not only able to pursue their academic dreams without fear of being a financial burden, but they are also being moulded into conscientious, responsible citizens of the larger world. Helping the ambitious and the spirited today evidently goes a long way in creating a generation of sensitive, committed leaders for tomorrow.

SSAN Ananya Educational Trust Interest-free loan & S Swaminathan

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Launch of the IITM Development Office- India

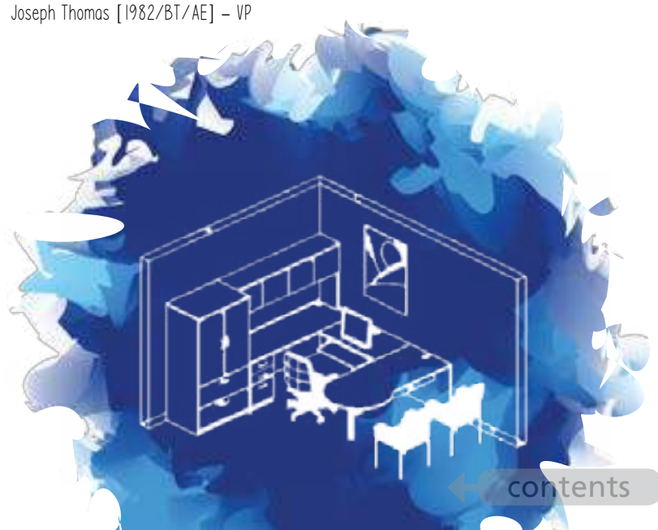
I&AR's commitment to IITM (as per the Strategic Plan) is to raise a corpus of ₹ 5,000-10,000 million by 2020. To achieve this, I&AR believes that the current volunteer effort needs to be bolstered by "Development Offices" that are professionally-staffed and managed in India and in the U.S. The range of donors has now expanded beyond alumni to non-alumni individuals, corporates, and Foundations. Industry CSR spending is emerging as a major opportunity for IITM as well. It is important to have talented & full-time staff to identify, cultivate & fructify these opportunities.

Thus it was that I&AR welcomed 3 alumni — Subbu Mahalingam ('84), Sujatha Dube ('83) and Joe Thomas ('82), respectively as CEO and VP's of the IITM Development Office-India. The office was launched on May 1st 2015 on the renovated 2nd Floor premises of IC & SR under the aegis of the IITM Alumni Charitable Trust. The office will report to the Board of ACT.

Subbu Mahalingam [1984/BT/MT] – CEO

Joseph Thomas [1982/BT/AE] – VP

Sujatha Dube [1983/BT/CH] – VP



Distinguished Alumni Awards

Distinguished Alumni are the pride of any institution. It is no different at IIT Madras. The Institute continues to recognize and award the exceptional achievements of its alumni through the **Distinguished Alumni Awards**. Presented each year to a select number of achievers. The nomination process is structured and well established. Awards are presented under the categories of Academic Excellence, Technology innovation Excellence, Managerial Excellence, Entrepreneurial Excellence, and Excellence in Other Walks of Life. The awardees are a source of inspiration for their peers as well as the students on campus. Almost all of them give their time to mentor aspirational students and student and faculty entrepreneurs. Without exception they acknowledge the deep influence IITM has had in their lives, especially for making them who they are today. Their message to the student body is very similar — think differently, challenge the norm, ask questions, make the best use of the IIT years, and importantly, have fun.

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Which word do you think describes you the best?

Fearlessness

Do you think this trait of yours is the idea reason of you success?

Yes

Sir, your company focuses specifically on manufacturing precision Engineering Products using metal injection moulding MIM technology. India, as a whole, is definitely not at the forefront when it comes to manufacturing and manifesting tech. So, do you think this situation is going to change in the near future?

Yes, absolutely. It's a very good question. We're located in India and we're World No. 1 in this field; the world No. 2 is in US but half our size. We only sell 5% of our product in India; the rest is exported to the advanced countries (Japan, Germany, France, US). Israel buys from us - though they have their own companies which do Injection moulding, they don't buy there. Instead they come to Bangalore and buy from us. But we can't sell in India right now as there's no market, because there is no scale in manufacturing in India. It's there in only a few segments. For example, two wheelers- India is the largest producer of two wheelers in the world. And we supply to all these makers. There is no diversity and scale in manufacturing but eventually it will come. What it needs is what I call an Industrial infrastructure, the basic building blocks of industries. That's what I'm focussing on creating, so that bigger companies can come like Tata's, Birla's, etc. Then they can come and say I can buy from here, and I can design this plane, tank etc. and put the whole thing together. But this won't happen without the ground floor i.e. the basics. So, my mission in life is creating the ground floor.

Sir, last year our Prime Minister N.Modi announced a Make in India mission. So how far do you think this effort is going to improve the manufacturing sector as a whole and are there any pitfalls associated with such a step?

I think make in India is a good campaign. I think we've got to produce more than software and software engineers. I think it's a sound strategy. It's going to be a little different from China's strategy. China's already done it and is conquering the world, producing about 40% of everything in the world. So there's no way you can replicate/duplicate China's strategy in India. It's got to be India specific. I.e. we can't make cutlery/plates and other low value stuff. I think we've to focus on higher value products because our engineering know-how is much better than the Chinese. And we've the advantage of knowing much better English. And we've got damn good educational institutions. In my days the gap between IITs and other colleges was very big but nowadays it's much smaller. So I think that the breadth of talent we have is fantastic. The question is will

Dr. Krishna Chivukula [1970/MT/AE]

manufacturing progress fast enough in India to recruit and accommodate and satisfy the younger generation which is coming up. For that a lot government policies have to be changed. For example, the land acquisition bill. Of course the farmers have to be paid adequate compensation. But it's become a political football game. The parties have to get together and say, look this is where our country is headed, we're not going to fight on this, and we're going to fight in other issues like whether Rahul Gandhi has an IQ of 115/160. Who really cares, who is it important to?!

Is there any principle that you learnt as a student which is still serving you in present professional/day to day life?

I think you learn a lot in IITs. Both IIT Bombay and Madras had lots of people from different cultures. India at that time was not integrated; there were Madrasis and North Indians, unlike now where everyone is treated the same, people marry across, study across...I think the main thing we learnt was the acceptance of different cultures and integrating with them. When I went to the US in 1970 I think that's what helped me the most apart from the education I've got here.

Sir, what do you consider your biggest achievement in life?

*whistles again.....It's still yet to come I think. Right now all I've done in my life is make tons of money and I've created 2 world No. 1 companies. That was quite challenging. But I didn't start off thinking I was going to do all that. The way you start off is by saying I've got a damn good idea. . I like it... Like you guys are doing the satellite. Why? Because you like it. We should like our work and have fun doing it ...it's fun getting up at 5.30 in the morning, it's fun going to the office at6.30, fun to work till 9.30 at night, it's just joy of life....once you do that the money starts flowing in and then you don't count it....I think it's been a good ride till now, I'm 67 now hale and hearty, my wife is a medical doctor and she takes care of me really well....sometimes at 3 in the night I feel something cold on my chest, it's her stethoscope! She says you're wheezing, I say I'm 67 now, I will wheeze! Laughs.... Another thing that makes me really happy though is after living in US for such a long time - 1970 to 1995 - I establish a world another No. 1 company in India, and all the charitable work they were able to do in India...you know you feed 2200 children in midday meal, Bangalore everyday... I've donated one million dollars to Baptist hospital because they do good to with poor people....I'm a Hindu and they're Christian but who cares? They do a good job with poor people and that's all that matters...we just adopted an orphanage in Chamrajnagar- 300 kids in a lovely school served by a Indian called Jayadeva. He's got a revolutionary method of teaching, he designs wonderful experiments for children....it's a joy to see so I adopted that school of 380 children with food, clothes, teachers' salaries, books, hotel fees, etc. it's a joy to be able to give back to India which has given me so much and I keep thinking about my own life. I keep thinking I was not rich when I was young...India gave me an opportunity to go to IIT and get a top class education. In America you've got to spend a quarter million dollars just to get this kind of an education...and my college fees were 40 rupees a year. Laughs.....

And because of that I went to IIT and did my B.Tech and then I went to Harvard and did my MBA and because of that I became a big shot and because of that I earned a lot of money and you can go on...because...because... but then the 1st because is here!

Sir we are so proud of having an alumnus like this who has done so much for the society...Sir, now I'll ask some questions regarding your stay in the institute... You came to the institute in 1968, how difficult was it to get in to IITs in those days?

Let me put it this way, if I took the JEE I probably wouldn't get in... but in 1963 it was not too damn tough

then the education system and country was different....e.g. calculus was taught to us in college and not in school....children are now a lot smarter than we were at a comparable age...they are more exposed globally and nationally...so...obviously the exam is much tougher. My rank was very high when I took JEE; I think it was AIR 3 or something like that... now I'm pretty sure I won't get something like that.

What used to be you favourite pastime in the institute?

Oh here.... I had two main past times... One was playing tennis; we used to have tennis courts right next to Cauvery hostel in those days. The second thing is on Saturday evenings wearing those Malayali lungis and then there used to be a tent theatre in Velachery. Velachery used to be a small fishing village at that time. Saturday evening we used to go there, there used to be only 2 classes: Bench or Floor...and obviously since we were getting 250 rupees as stipend a month so we would sit on the bench. And there used to be a thatch wall behind the bench it had a hole cut in it through which the movies used to come from...we'd sit right under that, light up a cigarette and puff like a king...laughs loudly...you know just play the fool.

Sir, can you recall any memorable incident funny/embarrassing/touching so that you give us a true flavour of your life in the institute...

We had a lot of incidents...

Any one.....

Drinking was prohibited those days....no body drank...I mean drinking Coca cola was a big deal. We just used to have a lot of simple fun.....I think the Professors were much more old fashioned and strict...you take Professors like Natarajan and others... I think they interact with you much more than those days. Those days Professors were like gods...like Guru Kula... nowadays they mingle with you, empathise with you a lot more ..... so I think I see many big difference...I think playing the fool was a lot of fun especially with my personality... those days...hostel day functions... dramas...

Sir, life in the institute is not a bed of roses...how far would you agree with this statement?

I don't agree with that...I think it's a bed of roses as long as you like what you're doing /love what you're doing..... I never felt stressed at IIT Bombay or Madras. I used to be disciplined in terms...I used to study regularly. In fact, my friends used to say we don't know when the hell this guy studies, but he always gets A+. Just study two to two and a half hours, listen carefully in class, be sincere, have fun, don't get nervous, relax, let the ball come to you before you hit it....take it easy policy and life is a bed of roses here. You've got nice accommodation, good food, brilliant classmates that you can engage with ... I mean how much better can it get?!

Sir, when we are in graduation or college life...we are very unsure of what to do next? We've got different options like join a job, do MBA, MS, it's very confusing so do you have any message for the students...?

Life is just like water...it goes its own way in the path of the least resistance....life will choose for you ultimately maybe not immediately, what you're going to do in life.... I was talking to another DAA sitting next to me...When I was doing my M.Tech here...I was in propulsion...what I really wanted to do was to do my PhD in propulsion systems here or in US and design liquid propellant rocket engines. That was what I wanted to do. In the US when I started my PhD programme I didn't like it because my advisor was bad etc. I found it a little too easy after IIT.... maybe the university I went to was like that... but when I went to Harvard to do my MBA THEN I was really challenged. Did I end up doing Propulsion systems NO, but did I end up becoming happy and successful YES. Did I end up being a good and productive citizen of India, loving my county and my people, yes. So life will choose for you...you needn't get anxious about it ....whatever your Ist job is out of college... think of it as a starting point...it's the start of a journey...same thing happened in my life...when I was a young engineer I used to look at the office of the chief engineer and group president of a big company (about 5k Employees at that time) and I used to think that someday I should be there... And lo and behold! When I was 37 years old, I was sitting in that office in US. And on my Ist day I looked around had a cuppa tea and said this is it? Laughs..... That's it? Nothing left in life? I'm 37 and I've already done it. This is what happens in life...Take I step at a time...enjoy the journey... I think that's more important that reaching the destination, just enjoy the journey going forward... I think happiness is much more important...and things will come to you ultimately... and the things that will come to you will be appropriate for you and maybe what's appropriate for you is not appropriate for me! And Vice Versa!

Sir, is there any message you want to give to the alumni?

I think they should come and participate in what you guys are doing much more... I think they should financially support IITs much more...IITM is relatively well cared for...the buildings are okay. They could be a little better when compared to an American university for example. In terms of show IITB is bad... Just basic and simple cleanliness can be taken care of...that is upkeep and the facilities.... All this can be easily done if the alumni play a bigger role...I mean most of us are reasonably well off in terms of the amount of money, not just me. I think most IIT grads like Harvard MBA's... Most of them end up as millionaires, maybe not super millionaires like me but they do okay... and they give back to Harvard....I think that whole principle is wrong.... Harvard has an endowment. I suspect it's close to half a trillion dollars.....crazy number...they invest that money get interest, get income, pay for high class professors, for high class facilities...IIT's can do the same thing and must do the same thing.... and there should be a greater outreach from the IIT'S to alumni and greater response from the alumni to the IIT's and they should also acknowledge the fact that they've become successful because of IIT education and this education was heavily subsidised by govt. of India...so we need to give something back to our country...I think it works on both sides. I think Prof. Nagarajan is doing a wonderful job ... first of all finding out who are the graduates, second where they are? And third what are they doing, and next how do I get in touch with them, how do I get them excited.... how do I get them to open up their pockets... the amount of money doesn't matter,... the point is if everyone gives 1k dollars each, then can you imagine..... Wow, I think that's the kind of interaction you need.

Sir you did your M.Tech in IITM and then worked in Bombay before going to the US, did you find any difficulty in adjusting there...being Indian?

NO, I think academically, once you go to IIT you get those analytical skills and that just carries you through the rest of your life. You look at everything in a very analytical framework... in fact Prof Nagarajan was commenting last night that there were only 50 people in the party in the room and I went to address each one, introduce each one... I knew exactly where each one did their masters, bachelors and Ph.Ds. which companies they worked for.....then he came to me and said you remember everything about everybody.....I said that's IIT...But Harvard was challenging , but it was a different set of challenges... academically it was easy. It was learning these new skills which weren't engineering oriented, like soft skills. But once you have an IIT foundation you're tough to beat...

Sir we'll have a rapid fire round now...

IIT- Excellence

One irresistible thing - A good scotch

Home - Happiness

MIM - Top of the world

Bollywood - Paan

IITM SAT - Brilliantly conceived, dedicated team

Harvard - Brilliant

Thanks very much for your time sir! It was really fun having you here.

Dr Krishna Bharat, formerly a Distinguished Research Scientist at Google Inc is a distinguished alumnus of IIT Madras from the batch of 1991. He graduated from the department of Computer Science and Engineering and received the Distinguished Alumnus Award this year for his tremendous contribution to his field of expertise. He is a pioneer in Computational Journalism. His first contribution to the field was in 1994, when he created a personalized, interactive newspaper in graduate school. He believes no one had done something like that before. His bigger achievement came later - Google News, which became Google's news product. "There is news being created all over the world in real time and it is hard for humans to know where everything is. Our computers have a key role in bringing all that news together. We need to understand the importance of bringing the right piece of journalism to the right eyeball", he says.

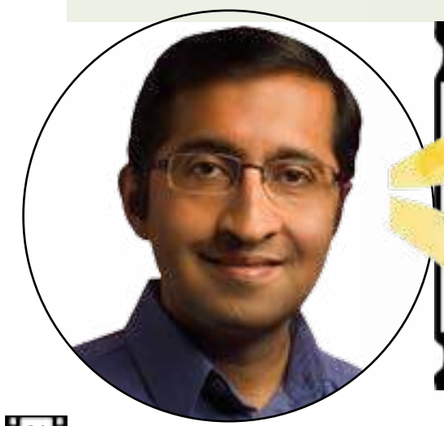
When asked about his life at IIT Madras, Dr Bharat says that when he got here it was thrilling and intimidating. Being in a campus filled with brightest and smartest toppers from round the country is similar to a gully cricket star joining a national league. Here you meet professors with tremendous publication histories and coming from top universities from round the globe. For him, being around such competitive people with high standards was a great learning experience.

One of his proud achievements from being at this institute is his B.Tech thesis. He, along with his partner, decided to build an interactive programmable animation maker. Knowing what they ought to do, they were looking for a professor who wouldn't get in their way to be their thesis advisor. They approached a new professor coming from Stanford. He, who was involved in low level computer networking, was convinced to be their thesis advisor and promised to be very supportive. The thesis worked out really well for all three of them. "We benefited greatly from having him on board," says Dr. Krishna Bharat thanking his professor.

Speaking of his Insti life, Dr Krishna Bharat tells us he was one of the editors of Campus Times. Campus Times, an older version of The Fifth Estate, didn't get enough submissions. "So, we would write most of the articles", he admits with a grin. "Technology wasn't very sophisticated back then", he explains. He had to write up the article and get it printed. One of us was the designer and did the cover art. They made it in a magazine format and distributed copies. "It was the only one of its kind on campus back then", he proudly tells us.

He was also involved in Mardi Gras. He once built the technical equipment for a JAM event. It needed very Precise timing and there was nothing available to do that. So, he tells us, he had to get a ZX Spectrum home computer and link up some electronics to it to support buzzers. "Everything that could possibly go wrong, went wrong", he digs into his nostalgia. Mardi Gras was a great experience with people coming from various cities. There were a lot of competitions: geeky, cultural, quizzes, JAM, Bharat sir's favorite essay writing and many more.

Dr. Krishna Bharat, after his B.Tech, joined Georgia Tech for PhD. After his B.Tech project, he developed an interest for graphics. That led him to joining Georgia Tech to acquire a PhD in Professor James Foley's group.



Dr. Krishna Bharat [1991/BT/CS]

Foley and Van Dam, a bible for computer graphics, covered a broad range of topics in graphics. Dr. Bharat was interested in animation, but Jim Foley was working on Human-Computer interactions. This was in early nineties when the web had just taken off. It was a good place to be in that time. "You wanted to think about how one interacts with content from a new direction. The Web was that new direction." He explains saying he was lucky to be in that field.

Comparing the life at IIT Madras with that at Georgia Tech, he explains the different learning experiences. 'Being in IIT as B.Tech., you work with a batch of people who work really hard and peer pressure inspires you to work harder. It is a bit more relaxed in these US universities.' He continues saying that the exposure to the state of the art access to leaders in the field and resources needed conduct research is way better at these universities. "I found that I was getting exposed to what is currently a big deal more often at Georgia Tech than I was getting here", he says. "Things may have changed now in India," he adds.

One of the interesting aspects of being in US for Dr Bharat was all the internship opportunities in high tech companies. He believes they are a great place for you to take your ideas and what you learnt and apply them on a practical problem. "Being on the other side and hosting interns" he continues, "I realized how wonderful it was to have such fresh minds to work with." He mostly chose internships to get away from the hot and sultry summer weather in Atlanta, Georgia. He was at Sun Microsystems for one year working on Java libraries for communicating between different programs. He then spent two years in DEC system research center. He found the work there very interesting and joined DEC systems after finishing his PhD. There he was involved in many projects including Captcha. He suggested creating puzzles which only humans can solve to avoid spamming. At DEC, he developed a new interest in information retrieval. "Coincidentally, DEC had just launched AltaVista, world's biggest and most high-tech search engine at that time," he says. He joined a Computer Science research lab in Palo Alto and was involved in 'web search'. "We built up some of the early algorithms", he tells us. Then came a small start up called Google "which actually did it better than us", he adds with a smile.

Google, the new startup, was quite different from others. At that time, all the companies were trying to put as much content as possible that could directly be provided to the customer. Search, was not given much importance. That wasn't true for Google. It was started by a pair of Stanford students who dared to see the world in a new way. They decided to own the problem of search and built something that was "super phenomenal". "Having worked in the same space, I knew how Google worked and I was a big fan", he announces proudly. By mid-1999, DEC systems was clearly falling apart. At that time, Dr. Bharat and his colleague were asked to start research at Google. "They said they needed people who are able to think about an alternative approach in case a problem presents itself." He says he was very happy to join Google. In spite of being a small organization, the amount of "technical knowhow, the experimentation and maturity in that respect" was commendable. According to him, Google was fortunate to be able to recruit highly talented individuals who made it what it is today - in part due to the collapse of the technology bubble at that time.

After starting research at Google, Dr. Bharat was initially focusing on recruiting more people. He says it was a productive phase. He also conducted his own work in research. When 9/11 happened, the whole world was reading news. That's when Google realized the value of news and Dr Bharat understood the importance of providing the world with news in real time. Providing news also meant organizing it by prioritizing the most important stories. "This assured a new age of computational journalism where computers participate in collection, grouping, presentation and ranking news", he explains. "Google News doesn't just consider how fresh a news article is or how many times it mentions the keywords in the user's query. It asks the question: how important is the underlying story? That is something we compute separately, independent of the other parameters." He continues explaining. That is what makes Google News as useful and powerful as it is.

What made him be so excited and interested in news? He lived with his grandfather, who was a great story teller when he was a child growing up in India. They would periodically take a break from stories to listen to BBC news. That is when the interest in news was inculcated in him. In Georgia Tech, Dr. Krishna

Bharat built a personalized interactive newspaper as a student project. It ranks stories based on your preference which was learnt as you interacted with it. So everyday your newspaper was redesigned for

you based on your liking.

Dr. Bharat came back to India in 2004 to set up Google India. That was a time when Google was starting a lot of international offices, and "India seemed like a logical place." He ran the office for a couple of years which was a great learning experience for him. He, however, wasn't interested in running a big office with a lot of administrative work. He wanted to dedicate his time to something he enjoys and hence, he went back to Google News.

He believes in six points that he wants to share with all the students. First says 'education is an investment'. "The best time to complete your education is now. Don't delay investing in your Education", he strongly suggests. The second says 'future vectors matter'. "You have to go into the society being ready to adapt". He believes quality is above all which makes the third point. IITs have the respect they do because they are the highest quality of institutions in the country. "You always have an option of diluting quality for convenience; but you should not." He says we should cling to it. "You are the person who is not going to settle for second best. You are going to value quality in everything you construct, everything you design, kind of people you partner with and kind of people you hire", he says. It is hard to get back once you let that go. The next one says 'You also have to choose whom you respect'. When you have to make a choice choose the organization which has the potential to be at the top. "Follow your hunches on respect", he suggests. Fifth asks you to aim higher than you peers. "It is always easy to gravitate to the median, but why settle?", he asks. Always be ready to do something "one step more challenging, one step harder." The last factor, freedom to innovate. Wherever you are, it is essential to have a supportive environment.

"I believe IIT prepares you to take on the best of the world. When you graduate from here, you should remember that you are a product of one of the best institutions in the world. Believe that you are the best in the world". His message to us.

He retired from Google after 15 years of a fantastic working experience. Now he is looking at various investment and startup creation alternatives, and keeping his options open. He plans to continue living in the United States.

However, he is open to working with companies and organizations in India. He also has discussions going on with professors of our Insti about giving back to IIT Madras in the form of lectures or education.

Your campus memories....

Speaking about memorable experiences at IIT Madras, I vividly recall certain events like the day on which we had the written test followed by an interview for selection for M.Tech. Course in the Aero department which went late in the evening and the day on which I made up my mind to do my P.G. in Aero Engineering.

I had applied for M. Tech. in both Mechanical Engineering and Aeronautical Engineering and got admission offers from both the departments. Aerospace Propulsion was definitely an exciting subject and my heart was set to choose this field for PG. However, M. Tech. in Machine Tools for which I got selected was a much sought after course and everyone advised me to take it up as it had a wider job market potential. Unable to decide, I thought of meeting the Professors in both the Aero and Mech. departments to get a firsthand feel for the course contents and prospects. I first went to the Aeronautics department and met the Asst. Professor in Charge of Propulsion stream.

The childlike enthusiasm and passion with which he explained to me the various topics and the challenges in this area bowled me over and I made up my mind. I did not visit the Mechanical engineering department.

Looking back, I am happy with the choice I made, which led me to a very exciting career and satisfying professional life.

The other incident I recall is the first experience of an open book examination. It was in my third semester, we had a paper called 'Special Topics'. It covered high temperature gas dynamics, plasma physics etc. - subjects relevant to rocket propulsion. I had a basic passion for physics and enjoyed studying this topic. The semester examination for this paper was declared to be 'open-book'. I had a collection of books from Library. On the morning of the exam, I reported at the department along with my batch mates and when I took out my books, I realized that I had missed taking an important book. I spoke to the Professor and he allowed me to go back to hostel and fetch the book and at the end he was considerate to allow me extra minutes to complete the paper, compensating for time lost in my trip to hostel to get the book.

By and large, my entire two-year period at I.I.T. Madras as an M.Tech. student was enjoyable. Having been a home bird and a day scholar all through my school days and the five years of engineering, hostel life at IIT and living away from home was a new experience. There was extra time and avenues for indulging in some sports like Ball-badminton, Roller skating etc.

I recall lectures by quite a few passionate and committed teachers who took efforts to make us understand the fundamentals.

I believe I came out of IIT as a more confident professional.

Life after IITM....

I am personally satisfied with my life and a career spanning more than four decades in the very interesting and challenging field of Aerospace engineering. I feel privileged to have participated in this pioneering endeavour to make India a space-faring nation and an emerging space power. I was fortunate to work in ISRO with a unique work culture and I enjoyed my freedom to give my best to the organization.

Dr. S. Ramakrishnan [1972/MT/AE]

Speaking about life choices, my outlook is rather philosophical for I believe that though we think we make considered decisions in life, it is better to be guided by our intuition and having made the choice, accept whatever comes and never brood over past. We must count our blessings and learn to look at life with a broader perspective.

In my own experience, many a times I have been confronted with difficult decisions to make in my career path and I have gone by my intuition and I believe whatever happened have all been for my good. I do not harbor any regrets.

Advice to students....

My first advice to fresh graduates is to discover their passion and strength and orient their career path to align with them. Today, options and avenues for engineering graduates are plenty. Several inter-disciplinary courses and avocations help one to reorient one's professional career to match his/her core interest and innate capabilities.

The initial period in any job is a learning phase and a phase of discovery. You should not have preconceived notions and should apply yourself wholeheartedly to the assigned task. Strive to bring out your innovative approach and sincerity of purpose in performing your role. What matters is not what job you are doing but what difference you can bring about in doing it. Good performers are always noticed and further opportunities will open up for them.

Another important quality is the ability to work in a team. This is vital for your mobility and growth in the organization. If you are endowed with leadership qualities which can also be imbibed and cultivated as you progress in your career, there is no limit to where you can reach.

In the early years of your career, you are still young, energetic and have more freedom in personal life, without family commitments. This is the time to invest in intense learning in the chosen field and to be counted as an expert in a niche area in your work place. This will have a lasting influence in your career growth.

Your future plans for interaction with IITM.

Hope to keep in touch. Willing to mentor students and young graduates.

Path from Madurai to Austin - How did it happen?

Dr Arumugam explains that his path was not a straight line, and that he had no idea what his future would hold. He tells us that he didn't plan or worry overmuch about the future, but whatever he did he was passionate about it, and worked hard and sincerely.

We proceed to ask him about his somewhat unusual final destination – teaching. "You get a lot of pleasure teaching", he tells us. "I have 30 people and a constant turnover. They come, they work with me for 4 years, they graduate and they leave. My job is not a routine job. Everyday morning I don't know what the day will bring."

He then talks about the difference between research in a university and a company. There is a lot of difference" , he says. "In a lab we research a lot, develop intellectual property and patent it. In a company we work on a larger scale and in scaling up there are a lot of new problems. You have to make a product, make money and that is very different from intellectual property. When asked how he connects his university research to business, Dr Arumugam firmly states that as a professor his job is not to create business. " My job is to educate, to prepare the next generation workforce and then to be inventive, creative and to innovate, not to make money." His love for and pride in his work is evident in his tone.

We now speak of interdepartmental research collaborations. He stresses the importance of such collaborations, saying that it is essential not to compartmentalise. "It is in the interface between multiple disciplines that innovations happen ; so collaboration is very important leading to new ideas."

Speaking of IIT Madras, he tells us that it came as a big change. He talks about the beautiful campus, and the intellectual atmosphere, saying that there had not been much research in the colleges where he did his BSc and MSc. "I was opened up to the world," he says fondly.

He now tells us the fascinating story of his life. "I was born in a small village, of only forty people. People don't study there, they farm and work with their parents." When he had to go to school he had to walk 2 miles each way through a jungle. " One day when I was going I saw a cobra!" The plan was to finish studying and open some small business. "But then when I was in high school my teacher said if he doesn't go to college then no one from this community will ever go to college. So he took me to the St John's. All admissions were already over, so on the second day he took me and my mother to the principal and I got admission. The school was tamil medium that I studied so to go into the English medium college was hard. After my MSc no one gave me a job but then I saw in the paper – in IITM PhD application was already over but then in that year alone they called for applications to materials science centre later, as it was first year of the materials science centre. So I was lucky. But then my supervisor left to work in Bangalore, so I was stuck without a supervisor." His hardships continued – " I applied for a fellowship in America, in Radcliffe and I was chosen. But then one of my professors had recommended his student for that same fellowship so he came to me and said that I should decline, and I did. Maybe I was stupid, but everything worked out for me in the end. I met my wife, got married, had my daughter. Then I was called to work at oxford and my life changed." Speaking of his life in Oxford, Dr Arumugam tells us "The professor who employed me there is the person who designed the materials for cell phone batteries, without him we would not have any of that. So I went, without my

Dr. Arumugam Manthiram [1981/PhD/CY]

wife, without my kid. I had to cycle to university lab, it was November and very cold; I cycled over ice. I had to learn to take care of myself; there was no landline, only letters." Ten months later at the offer of the same professor, Dr Arumugam moved to the university of Austin, in the fall of 1986. "Then I got tenure, and now I have everything that I want; a great job, a large research group, all conceivable things. So I think that I went through a lot of trouble from birth till 1985, and at that time I learned a lot of things. People may say I got lucky but it is not just that. You have to make your way, by being sincere and passionate."

When asked how he realised where his passion lay, Dr Arumugam replies that he tried many things, and that he still does, though the core remains the same. His belief is that this is necessary for success even while working in a company, as there is no field which lasts forever and never changes.

When asked what message he has for the students, he leaves us with these insightful words: "For some, if they are from very affluent families, probably their career can be very well planned. I don't know what percent of people that is. For people like me, there is no way they can plan what they want to study. But they can do one thing. Whatever they do, they should do it properly. Be honest and sincere; if you are studying then do it honestly. Hard work will pay you of. This is the first thing. The second thing is that if you want to be successful then you need to be organised. If you are organised, if you are passionate, that will lead you to success." Truly a good moto to live by.

Dr. R. Srikant [1985/BT/EE]

What was your reaction on being named as Distinguished Alumnus of the IIT?

I was delighted, honored and humbled to receive such an award. I mean, getting into IIT in the first place is a dream in itself and to get the DAA it's a big honor and I know the kind of people that have gone through IIT in the past and all the past winners, and to be in that list is definitely a huge honor.

Tell us about your interests during life in the institute and what contribution did it have in your life?

I have varied interests. I like doing research, working on mathematical problems focused on communication and networks. I also have a lot of interest in game theory, control theory and more lately in machine learning and data mining and so on. My time at IIT was extremely influential; this is where I learnt about many aspects of Electrical Engineering. Not just Electrical Engineering but also many other areas and aspects of engineering. When I was studying in IIT it was a 5 year B.Tech course and we were the last 5 year batch, so we had a lot of courses in lots of different areas which was really influential and helped me move from one area to another. So without the background I got here I'm not sure if I could have done that.

What were your initial career plans after graduating from IIT and how did they turn out to be?

In those days almost 80% of the graduating class wanted to do graduate studies in the US and it was my ambition too. I was happy to get a few offers from some good universities and Urbana Champaign was among the top of my list and once I got a call letter from them there was no looking back. There were minor hiccups though; once I accepted the offer and decided to go to the US my visa was rejected twice. But eventually everything turned out well and I did finally get the visa and it turned out pretty much the way I wanted.

You have been associated with University of Illinois at Urbana-Champaign (UIUC) since 1985. So that's a 30 year long association. What's makes it so special?

There are several things. Academically it's a great institution and I love my colleagues who were professors before they became my colleagues. It's a wonderful place to do fundamental research in the areas that I like and also like the town. It's a small town and you know there are certain benefits when compared to big cities like Chennai cause there's pretty much zero traffic. I love the people I met there over these years. So overall both personal and academically it's been great. I did go away for 4 years after my PhD to Bell Labs which was a very important experience and an important part of making my career but I was glad to go back after my 4 years at Bell once the opportunity came.

You have worked on diverse problems in networking and other areas outside networking as well. So tell us about your research interests and work and how IITM prepared you for that?

As I mentioned it earlier, I did a large variety of courses. During your 5 years at IIT you are exposed not just to Electrical Engineering but to a lot of different things and I think the rigor of the courses and the challenge of succeeding amongst a bunch of people who are all extremely good was very important. My interests originally in IIT was control theory because that is what my B.Tech project was about, so I started working with control theory. That's what I did for my PhD in Urbana Champaign as well. But over time I gradually moved

away from it and started working in networks, but then throughout, the control theory background has been very useful. I think the firm foundational background I got at IIT was extremely helpful because the kind of things that I like are mostly mathematical in nature and courses I did at IIT were exactly to my liking. So, of course my time at IIT was instrumental in everything I did in my career.

Would you like to share a few key defining moments of your life?

One definite key deciding moment was getting into IIT Madras. In some ways I was lucky because in those days it was a 5 year program, so you were allowed to take the JEE from your eleventh grade. So you had less pressure when compared to students nowadays because now you have to prepare for your 12^{th} exams and JEE both at the same time. I didn't know much about IIT Madras, I just heard some friends talking about how they were going to apply for admission there. So getting into IIT was probably the most defining moment of my career and I think everything else happened because of it. Joining Urbana Champaign was because I went to IIT and that led to joining in Bell Labs and that led to again coming back to the place where I did my PhD. So I think IIT has been extremely instrumental in my career.

What are your plans ahead? Also have you thought of ways to contribute back to your alma mater?

I like to continue to do research on the areas I'm working on. One new area many people are excited about in the US and probably in India too is cloud computing and machine learning. You hear a lot about companies like Google, Microsoft,IBM etc getting into them and so a lot of my students are very much interested in sort of slowly gravitating towards that. Also mathematics behind them is not that different from the maths that I've learned in the area of networks. As far as how I could contribute back to my alma mater, it would be presumptuous of me to think that I could do something for my alma mater. IIT's a great institution and I need IIT more than it needs me, but one thing is I do know people here, younger faculty members working in areas of research similar to mine. Maybe in the near future if there's an opportunity I'd like to collaborate with them, possibly exchange students and I'd be happy to host if they want to come and visit Illinois and spend a summer with me or something like that. And of course, I'll continue to recruit students from IIT as they're the best students in the world and I'd be delighted to have more students from IIT to come and work with me.

What qualities do you think describe you the best? Would you like to share principles of your life?

I love doing research in mathematical areas. Outside it love cricket and I like other things as well but academically the thing that I like to do the most is research. It has a practical application and I motivated by practical applications, but I prefer to work on the mathematical side of practical applications. As far as what principles guide me, I want to do original research and ultimately outside of research one wants to be useful to humanity. So keeping that in mind I'd like to do something that has some benefit to some particular area or application. Important thing is to identify something that is practically useful and satisfying to yourself and if all of us can do that it would be the best way to contribute to the world.

A few words of advice to current students of the institute?

This is one of the best places in the world to study and most of you probably know it. It's an immense opportunity and it's lucky to be among the very select few who get to attend IIT Madras. Enjoy your time here, learn as much as possible, make friends and be passionate about research and what you want to contribute to the world. Finding something that is practically useful and satisfying to yourself, I think finding something that satisfies both these requirements is the key to a great life.

What are your fond memories of IITM? Anything in particular that you would like to share with us?

Day Scholar: There used to be 6 to 7 day scholars. We used to get together for lunch. Often bring food from home and share. I still cherish those memories. Such friendships you make last for a lifetime. I am still in touch with one of them who lives in Boston.

A particular memory - A Physics exam: Almost everyone in the class got 0. Only very few got 20. I was fortunate enough to not get a zero. The exams were really hard but they did prepare you for life outside insti. It taught me to think rigorously and find solutions even in the toughest of situations

You have a lot of patents and honours. You were there in the list of excellent teachers at UIUC for 14 continuous years. How did these affect your life? How do you keep yourself motivated?

I enjoy interacting with students. I could have continued at Bell labs but teaching and interacting with students is what excites me the most. The good thing about teaching is that you always get to meet new students, each one having a different perspective, different personality. This demands you to come up with a new problem for each of them, adapt yourself to a totally new situation. It's always a completely new challenge. But i enjoy doing it. Hence, I guess motivation has never been an issue for me.

How is the life of a researcher different from that of a professor?

Bell labs were one of the best experiences of my life. Being in a company helped me to learn solving problems are useful in real life and how well they could be implemented. I, undoubtedly learned a lot. It's however different from mentoring. There is no interaction, no classes. You just need to do research all by yourself.

I feel those who don't enjoy mentoring should rather stay at such research labs rather than a university. I prefer the latter and I enjoy it for that matter.

What did you do before joining PhD in IIT Madras?

I did master's degree (MSc) in Pachaiyappa's College (Chennai) during 1975-77 and stayed there as a lecturer for a couple of years before joining IIT Madras in 1980 for a PhD program. I graduated in 1985 and then went to USA on a post-doctoral research fellowship.

How difficult was getting into IIT in the 80's?

Getting admission to PhD was very competitive. I did very well in my MSc (state 1st, gold medallist) from Madras University, but I wasn't very sure of doing PhD at the time of graduation. Hence I joined as a lecturer in the same college (Pachaiyappa's College). A couple of years later, IIT called for applications from teachers for doing PhD under a DST-sponsored program called Faculty Improvement Program, where teachers would keep their job in their respective universities, but could enrol to do PhD in any of the approved institutions including the IITs. I applied for the program at IIT Madras chemistry department. It was highly competitive - you had to take a written exam followed by interview. I do not know how many candidates applied for the program, but I was one of a few who got selected to pursue a PhD program in chemistry.

How was your life in IIT and how different was it?

I would recall my life in the IIT campus, both academic and living, as the most enjoyable and memorable in many aspects. Prior to moving to IIT, I lived in Chennai city for about five years. Inside the IIT campus was an entirely different world, an environment highly conducive of quality life, culture, and education. Always in my memory are the roaming of spotted deer, weekly movies in the open-air theatre, the hostels (Krishna was my favourite!), and annual Mardi Gras celebration. Equally exciting was the blend of students from all over the country and abroad which added a unique culture to the campus. Needless to say that the resources available for research were exemplary. I came to IIT to do a particular research, in the field of electron paramagnetic resonance spectroscopy which was very unique and interesting to me at that time. IIT Madras was one of a couple of places in India that had the resources (magnetic resonance and other spectroscopic systems) at that time. Thanks to the "Regional Sophisticated Instrumentation Center" which had all the advanced and best facilities for my work. I used work non-stop in the lab - day and night, sleeping in the lab.

Any message you want to give to research students?

Scientific research is not a job and it is not for everybody. You shouldn't commit to research career because you didn't get anything else, a mistake that people often make due to attractive fellowships in recent days. You should have an interest for doing science. Research requires passion and dedication. Dedication is particularly important because research may lead to the discovery of new knowledge and recognition, but it may not be financially rewarding. To be a successful scientist, you may have to commit yourself - time and energy - for achieving excellence. Research is not a 9-to-5 job, where at the end of work you go home and forget about your work. It should be something you always work on. My advice to aspiring researchers is that they should first make sure that they are truly interested in pursuing science and second they choose a field of research that is most interesting to them. You should not pick something that comes your way. I often notice

Dr. Periannan Kuppusamy [1985/PhD/CY]

that people are willing to accept a position, such as post-doctoral fellowship, to do "anything" even if it is not in their field of expertise or long-term goal. So choosing the right field of research and maintaining your field of expertise/interest are key factors for achieving excellence and establishing a successful career in scientific research.

In research you make a hypothesis and work diligently to test the hypothesis. Along the way, you may encounter formidable hurdles and 'dead ends' and so you must be prepared to change your approach, seek new directions or revise your goals. You may have to make many trials and it may be very frustrating. If everything works the same way you think it should, then it may not be interesting or important to do it or tell the world. Only when things behave not the way you expected, you will start thinking about why it is happening the other way, which will bring unexplored area of research and new knowledge.

Were there any other activities you were involved in IIT?

Unfortunately, I was not involved in activities other than my graduate research. At the time I came to IIT, my only goal was to complete my PhD in the short period, 3 years, given to me by my institution. I knew that was a short period, and so I wanted to get started right away and work hard to complete as much of the work as possible.

Any life altering moments you had during your PhD?

During my graduate studies at IIT, I also had the opportunity to mentor other graduate students in my group. My mentor was away on sabbatical for a good period of time during my graduate years, so I had a wonderful opportunity to help my junior fellow researchers. That opportunity helped me to develop my skills as a mentor and collaborator. It also gave me an opportunity to work with others and do joint thinking and monitoring of projects. I considered that experience a privilege that only a few would have had. Very importantly, this experience made me a great mentor/teacher over the years of my research career following my graduation from IIT.

What motivated you for research?

The very idea that whatever I am doing is new and that no one else has done it before is exciting to me. Particularly attractive to me is the research in academic institutions where one has the freedom to do the research of interest. The driving force in my research is my satisfaction and recognition I get from my peers and the impact of my research to the society. Of many things, there certainly are few that I can mention as motivators of my research. I was intrigued by some of the natural products that we use in our daily life. We think we know all about them; however, I found that there is a lot more that we still do not know. Oxygen is something we all know or we take for granted that oxygen is important for life ("elixir of life"). Recently I started looking more and more into what happens when you breathe oxygen and developed an entirely new field called oxygenomics The engineering background I had from IIT helped me in developing a technology to measure oxygen in tissues so that so you have an accurate read out of what happens when you breathe or in diseased conditions say in case of cancer or some cardiovascular conditions. For example, I have seen some people who have advanced stage cancer gave up taking any anti-cancer medication and resorted to control cancer by breathing oxygen (pranayama) or yoga techniques and have extended their life period. Although they are not free of the disease, they are in control of its progression and thus develop an ability to live with it. This increased my curiosity and motivated my research. I used animal models to study the effect of oxygenation on cancer progression and now I have started to explore this using clinical trials. I have found a new use to something very commonly used oxygen - as a treatment for cancer.

Journey after IIT

After my graduation at IIT, I went to the Johns Hopkins University, Baltimore, on a post-doctoral fellowship. I was in the cardiology department. My task was to develop electron spin resonance technology that I graduated at IIT, for measuring oxygen and oxygen free radicals in the heart. I suppose I did well as a post-doc and then continued on to become a faculty and stayed at Hopkins for 16 years. In 2002, I moved to the Ohio State University (Columbus, Ohio) and there again my responsibility was to develop imaging and imaging of all sorts, optical imaging, magnetic resonance imaging and so on. So I developed a center for biomedical imaging and I

was there for 11 years and then in 2013 I moved to Dartmouth College (Hanover, NH) to continue my work on oxygen in cancer and cardiovascular diseases.

Any message you want to give to your mentor

I was fortunate to have a great mentor, Prof. P. T. Manoharan. He wouldn't tell you what to do, but he would tell you how to do. He played a great mentorship role. He trained me how to do research and left it to me decide on the rest of the project. Now I have been doing the same with my students. I consider that they're not here to do what I want, but I'm here to help them to achieve what they want to do. I am grateful for the mentorship I have had from Dr. Manoharan, who had mentored over 30 graduates (PhD) and still continuing the great service at IIT Madras.

Any message you want to give

As I said before research is not a job. If you want to become a scientist you have to have a lot of dedication. Once you decide to make a career in research, you should decide your field of interest and a suitable mentor to guide you through the initial program such as PhD. Research is not easy and straightforward. It requires an enormous amount of hard work, and dedication to achieve the goals and to establish yourself as a scientist. You should aim for success and not just survival in the field.

Any message for other Alumnus

IITs provided a great environment for our advanced learning. We had the best of education and training that were available to a selected few students at that time. No matter where we're now, we should be proud of the opportunity that we have had and pay it forward as much as we can.

Any experience that you want to share with us

I enjoyed my profession as a successful scientist, teacher, and mentor. I have had received numerous awards and recognition for my work in the scientific community. However, there is some experience that I consider as important and noteworthy to mention here. When I went to USA in the 80's I noticed that our people - mostly children - were unable to speak, understand or write their native mother tongue, for example, Tamil in my case. Unlike today, there were very few avenues for learning or exchanging conversation in native language in those days. Personal computers were slowly becoming a household device and interest to the children. So I decided to make use of that as a medium to teach them and learn language. I educated myself on computer programming and started making multimedia software and made them available to people all over the diaspora. This became very popular and I became known as 'Kalvi' Kuppusamy', 'kalvi' meaning 'education' in Tamil. I travelled many countries for my language-related workshop/lectures for about ten years. Although it wasn't related to my research/profession, I enjoyed it a lot. It was a very fulfilling experience.

Dr. Prakash Keshaviah graduated with a B.Tech. degree in Mechanical Engineering from IIT Madras in 1967. He went on to complete an M.S. in Mechanical Engineering from the University of Minnesota, Minneapolis in 1970. His interests switched to the medical field soon thereafter, and he became a part of the "Artificial Heart Program" at the University of Minnesota. He obtained a Ph.D. in Biomedical Engineering from the same University in 1974. He joined the Regional Kidney Disease Program (RKDP), Minneapolis in 1973 and his dialysis research at RKDP earned him an M.S. degree in Physiology in 1980. With joint appointments at RKDP and at the University of Minnesota, he attained international recognition as a dialysis researcher with numerous peer-reviewed publications and speaking engagements all over the world. He held the positions of Director of Dialysis Research, Education and Training at RKDP and that of Adjunct Professor, Departments of Chemical and Mechanical Engineering and Member of the Graduate Faculty, Biomedical Engineering Program at the University of Minnesota.

After an illustrious academic career spanning 15 years in dialysis research, Dr. Keshaviah decided to delve into the corporate world, He excelled in the corporate world as well, working his way up to Vice President, Research and Advanced Development, at Baxter Healthcare Corporation. At Baxter, he worked on several advanced dialysis products and received several patents and technical awards.

After 30 years in the United States, Dr. Keshaviah returned to India to devote himself to a life of service and spirituality. Dr. Keshaviah was appointed as Professor of Physiology in the medical college of the Himalayan Institute Hospital Trust (HIHT) in Dehradun. The non-availability of dialysis facilities in the region prompted him to set up a dialysis program at HIHT in 1999 and a kidney transplant program in 2005. The dialysis unit at HIHT now performs over 15,000 dialysis procedures per year. Dr. Keshaviah has also been involved in the water and sanitation programs of the Rural Development Institute of HIHT and has helped in setting up a vocational training program for rural youth. He is a member of the Governing Body of HIHT, is on the Board of Governors of Swami Rama Himalayan University (SRHU) and is Advisor, Finance to the Vice Chancellor of SRHU.

As a disciple of Swami Rama of the Himalayas, Dr. Keshaviah continues to pursue his spiritual development and is actively involved in spreading the teachings of Swami Rama through books, audio CDs and videos. He has co-authored the book, 'At the Feet of a Himalayan Master: Remembering Swami Rama, Volume 1' and has served as the editor of all 5 volumes of the series.

In recognition of Dr. Prakash Keshaviah's academic excellence and research contributions in the field of Biomedical engineering, and his selfless service for humanity at the Himalayan Institute Hospital Trust, IIT Madras and its alumni are proud to confer upon him this award.

Dr. Prakash Keshaviah [1967/BT/ME]

Shri Lalit Mahajan graduated with a B. Tech. in Chemical Engineering from IIT Madras in 1968, and is currently the Chairman and Managing Director of J Mitra & Co. Pvt. Ltd. He is credited with the phenomenal growth of the company. He is recognized as both an inventor and an entrepreneur, motivated by his strong vision to see India become self-sufficient in medical diagnostics through indigenous products. He has rendered his philosophy of preserving the life of the critically unwell into a practical realization through the innovative products created and successfully marketed by J Mitra & Co.

Shri Mahajan has demonstrated how a technology company can be built in a globally competitive space through integrated efforts of R&D, innovation and entrepreneurship. His strong focus on innovating for the country is illustrated by the success of products such as diagnostic kits for infectious, and even life-threatening, diseases. While a sustained focus on R&D has allowed Shri Mahajan to develop these novel products, indigenous production, with innovative procurement and marketing strategies, has enabled him to make these products affordable to the Indian healthcare system and patients. The products developed under the leadership of Shri Mahajan are among the rare successes of indigenous diagnostic kits in the country, making India self-reliant in these areas and reducing the need for imports. His focus on delivering quality products is underlined by the credit given by the World Health Organization for quality and sensitivity of the test kits for HIV, Dengue NS1 and Hepatitis. With 23 patents granted in the five years from 2007–2011, Shri Mahajan was recognized by the Indian Intellectual Property Office as India's leading individual inventor on World IP Day in 2011. He currently holds 26 patents to his name.

Shri Mahajan is also the Chairman of two running Hydro-Power projects located in Kulu, Himachal Pradesh. The electricity generated is being distributed to the town of Manali, HP. He is a Member of the Board of Directors of Biotech Consortium India Ltd., Government of India, and is a Member of the Taskforce formed by the Ministry of Health & Family Welfare, GoI, for framing guidelines for WHO-GMP norms for Medical Diagnostic Kits and Devices.

In recognition of Shri Lalit Mahajan's innovative contributions to the field of indigenous medical diagnostics, IIT Madras and its alumni are proud to confer upon him this award.

Lalit Mahajan [1968/BT/CH]

Shri Ajita Rajendra graduated with a B.Tech. in Chemical Engineering from IIT Madras in 1976, and subsequently obtained his MBA from Carnegie Mellon University in 1978. He has since held a wide range of finance, operations, marketing, and executive management positions at numerous leading organizations such as Corning Inc., Kennametal Inc., etc. through the course of his 36-year career in American industry, excelling in each of them. He is currently the Chairman and CEO at A.O. Smith Corporation, a global leader in water heating and treating technologies. Shri Rajendra was elected to the A.O. Smith Board of Directors in December 2011.

Of particular note is his tremendous contribution to improving the quality of life in India by generating employment and investing in a large manufacturing facility in the Bengaluru area. Shri Rajendra has been the driving force behind A.O. Smith's implementation of a large-scale manufacturing facility for water heaters in Harohalli, Bengaluru. The investment of $ 25-30 million was greenfield - adding capacity by purchasing land and building a factory, rather than simply purchasing existing assets. The factory, established in 2010, manufactures residential water heaters specially designed for robust use in the Indian subcontinent, and is now adding capability to manufacture water purification products. The Company is growing its business while generating employment in India, and providing a technologically advanced product to the Indian consumer. A.O. Smith continues to invest its proceeds from this operation back into the Indian business, benefiting the community greatly. The Company exclusively uses national talent in India, and consequently there are no expatriates in Harohalli. Current employment is about 400, of which approximately 50 are professionals.

Shri Rajendra's professional accomplishments are reflected in the various corporate awards he has been a recipient of, such as the Corporate Marketing Award in three different years, and the highly-regarded Individual Outstanding Contributor Award from the Board of Directors of Corning. Further, he was elected as the Chairman of the Air conditioning, Heating & Refrigeration Institute (AHRI), a major industry trade organization. His extensive involvement in community activities makes him a truly respected business leader, as does his serving on various prestigious Boards in a leadership capacity. He is a Director of Donaldson Company, Inc. and The Timken Company. He was a Board Member of the Gas Appliance Manufacturers Association and of the Tennessee Business Roundtable.

In recognition of Shri Ajita Rajendra's focus on bringing manufacturing excellence to India, IIT Madras and its alumni are proud to confer upon him this award

Ajita Rajendra [1976/BT/CH]

Shri Sekhar Vasan graduated with a B.Tech. in Metallurgical Engineering from IIT Madras in 1975, and went on to found a world-class manufacturing company, Sansera Engineering in 1986. In the interim, he worked with Rambhal Industries and pursued an MBA from IIM Bangalore, both of which helped to prepare him for his entrepreneurial venture. Creating a world-class manufacturing company from scratch is a commendable achievement given the capital requirements of the sector (automobile components), as well as the legal and bureaucratic challenges involved in launching such an enterprise in India.

Started in 1986 from a small workshop, Sansera Engineering has become a ₹ 7,000 million company today, with 9 plants located all across the country and more than 3,000 employees. Meeting the stringent requirements of demanding clients, who include Maruti Suzuki, General Motors, Yamaha, Honda Motors, and Ducati, is no easy task, but Shri Vasan has proved time and again to be up to the challenge. When the firm just started out, it received an order to supply 5,000 pieces per month against a capacity to produce only 1,000 pieces; this was accomplished by a quick and efficient ramp-up, an early indicator of similar achievements in future. Shri Vasan has led from the front and from the floor, often machining in the workshop himself to ensure that production needs are met. During the last 6 years, turnover has grown at a 20% compounded rate every year, from ₹ 2,100 million in 2008-09 to ₹ 7,000 million in 2013-14.

All of Sansera's forgings are produced in-house in one of the best facilities for high-precision small forgings in the country. Another commendable feature of Sansera is the in-house design and production of most of the 450+ machines installed and in operation in the various units. Sansera has won many awards from its customers both in India and abroad, including a Best Practices Recognition from General Motors and a Quality Award from Yamaha Motors in 2012. Acknowledging the dedication and the commitment of the founder, Citi Ventures has recently invested ₹ 3,000 million into the firm.

The Sansera Foundation has undertaken many socially-responsible initiatives around the residential area of its workforce, including provision of scholarships to rural students, sponsorship of a Government School building, employment for the physically-challenged and volunteer work in waste segregation and recycling.

The struggle to achieve excellence, and to gain acceptance of the most demanding automobile customers in the world is a Himalayan task. In recognition of Shri Sekhar Vasan's ability to build and sustain such a large and successful manufacturing organization in India, IIT Madras and its alumni are proud to confer upon him this award.

Sekhar Vasan [1975/BT/MT]

contents

STAR DONORS

JAN

Dr. Krishna Chivukula [1970/MT/AE]

Purpose - IIT Madras Student Satellite Project

Category - Academic & Research Initiatives

FEB

Dr. N R Dave [1965/BT/CE]

Purpose - DA Endowment

Category - Endowment

Even after Fifty Years, I Consider Myself Fortunate to be a Member of Madras I.I.Tians' Family. While I proudly see the Progress of Alma Mater in every Academic and Research Field, I feel its my bounden duty to donate for its praiseworthy heritage, upkeep, progress, entrepreneurial activities and training. As in the past, I will continue to donate in future years.

MAR

Kris Gopalakrishnan

[1977/MSc/PH & 1979/MT/CS]

Purpose - N R Narayana Murthy Distinguished Chair in Computational Brain Research

Category - Distinguished Chair

APR

Titan Company Ltd

Purpose - Incubation Cell (CSR)

Category - Entrepreneurship/ Innovation

Mr. Bhat says that "The motivation for this contribution arises from our experience at the IITM Research Park where we have been for nearly two years. We would like to see greater industry / institute collaboration, especially in incubating new technology businesses in India".

MAY

Dr. Krishna Chivukula [1970/MT/AE]

Purpose - IIT Madras Student Satellite Project

Category - Academic & Research Initiatives

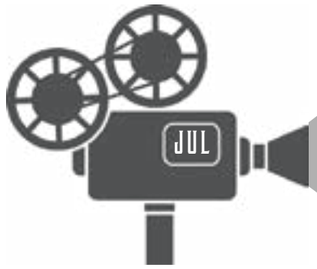
JUN

Kris Gopalakrishnan

[1977/MSc/PH & 1979/MT/CS]

Purpose -N R Narayana Murthy Distinguished Chair in Computational Brain Research

Category - Distinguished Chair



Wellcome Trust

Purpose -Affordable Standing Wheelchair (CSR)

Category - Research Initiatives

Ms. Sarah Hardy says that "The Wellcome Trust has recently funded Dr Sujatha Srinivasan and colleagues at the Indian Institute of Technology Madras, working in partnership with Phoenix Medical Systems and of the Association of People with Disabi."

Dr.K.S.Varyani Memorial Trust

Purpose - Dr.K.S.Varyani Memorial Award towards Tuition Fee for NA/OE students to U.K. to pursue MS & PhD

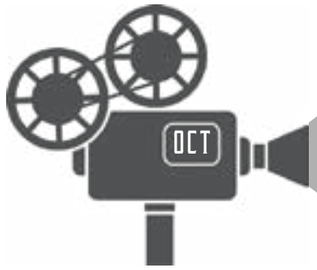
Category - Awards

Maya Varyani says "After Kamlesh passed away in 2012, we wanted a way to celebrate all his accomplishments and encourage more young bright minds such as his to pursue a career in research. We set up the fund in order to allow young talent in IIT Madras to study and perhaps work abroad. We hope to hear how well these brilliant IIT graduates have done in the near future."

Dr. Krishna Chivukula [1970/MT/AE]

Purpose - IIT Madras Student Satellite Project

Category - Academic & Research Initiatives



Shrikumar Suryanarayan [1982/BT/CH]

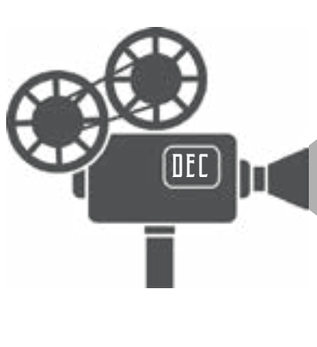
Purpose - Chemical Engineering Auditorium

Category - Project

Deepesh Salgia [1990/BT/EE]

Purpose -SarasVidya Endowment Fund

Category - Awards



Kris Gopalakrishnan

[1977/MSc/PH & 1979/MT/CS]

Purpose - Prof. C R Muthukrishnan Chair in Computational Brain Research

Category - Distinguished Chair

Leadership Lecture Series

Leadership Lecture Series talks in 2015

"CSR, Ethics and Brand @ Tata"
talk by Dr. Mukund Rajan
(Member of the Group Executive Council at Tata Sons Ltd; Tata Brand Custodian and Group Spokesperson; Chief Ethics Officer)
on Jan 30 (Friday) @ 5 pm in IC & SR Auditorium

"Yoga and Global Sustainability"
talk by Dr. Sailesh Rao
(BT-EE, '81, 2013 DA Awardee),
Executive Director, Climate Healers, USA
on Jan 22, 2015 @ 5.30 pm
in Central Lecture Theater.

"Brains, Minds and Machines"
talk by Dr. Mriganka Sur, Paul E. and Lilah Newton
Professor of Neuroscience, Director of the Simons Center for the Social Brain at MIT, USA on Feb 27, 2015 @ 5 pm in Biotech Seminar Hall.

"Tech -> Tech4Dev -> Dev: An alumnus' journey in the development sector"
talk by Shri. Vijay Krishna
(BT-92, EE),
Director, Sanitation Programme, Arghyam on Feb 11, 2015 @ 5 pm
in IC & SR Auditorium.

"Reflections on a career after IITM"
talk by Dr. Umesh Achia
(BT/1968/CH), Technology Consulting as President of ACHIA LLC
on Feb 13, 2015 @ 5 pm,
IC & SR Auditorium

"Reinventing Education"
talk by Dr. Anant Agarwal
(BT/EE/82, 2014 DA Awardee,
Professor, EE & CS, MIT,
President & CEO, edX)
on Feb 10 (Tuesday) @ 5 pm
in IC & SR Auditorium.

"Learnings from Life"
talk by Shri B Muthuraman
(BTMT-66, 1997 DA Awardee), and Ex-Chairman, Tata International Ltd & Ex-Vice Chairman, Tata Steel Limited
on Mar 13, 2015 @ 5 pm
in IC & SR Auditorium.

"Building a Career - A Trapeze Act"
talk by Shri. Ajay Tandon
(BT-81, ME), MD & CEO,
Tata AutoComp Systems Ltd,
on Apr 16, 2015
in CLT @ 4 pm

"Transforming Perceptions about Physics"
talk by Prof. Meera Chandrasekhar
[1970/MSc/PH] & 2002 DA Awardee
on Jul 9, 2015 @ 5 PM
in IC & SR Auditorium

"The Latent Power of Absurd Ideas"
talk by Dr. Jayant Haritsa
[1985/BT/EE] and 2012 DA Awardee, Professor, IISc
on August 21, 2015 @ 5 pm
in IC & SR Auditorium.

"Serial Entrepreneurship Challenges and Upsides"
talk by Mr. T. Muralidharan
(1979/BT/CH), Serial Entrepreneur
on August 14, 2015 @ 5 pm
in IC & SR Auditorium.

"The Cricinfo Story"
talk by Dr. Badri Seshadri
(1991/BT/ME), MD, New Horizon Media (NHM)
on September 4, 2015 @ 5 pm
in IC & SR Auditorium.

"The Normal Distribution is Abnormal"
talk by Dr. Satish Ramakrishna
[1987/BT/EE], Head of Risk & Pricing, Deutsche Bank, New York,
on Sep 18, 2015 @ 5pm, IC & SR auditorium.

"Internet of Everything, a new growth opportunity"
talk by Dr. Manish Kothari
(1992/BT/ME), VP, Engineering, Qualcomm India
on Tuesday, Oct 6, 5 pm
in IC & SR Auditorium.

"Transformation of Society through Space: Indian Scenario"
talk by Dr. BN Suresh
(1969/MT/ME, 2004 DA Awardee),
Vikram Sarabhai Distinguished Professor at ISRO,
on Oct 9, 2015,
IC & SR auditorium @ 5 pm

"Life is full of ups and ups"
talk by Shri. Ramgopal (RamG) Vallath
(1989/BT/EE), author of 'From Ouch to Oops'
on Oct 16, 2015,
IC & SR Auditorium @ 5 pm

Other Lecture Series 2015

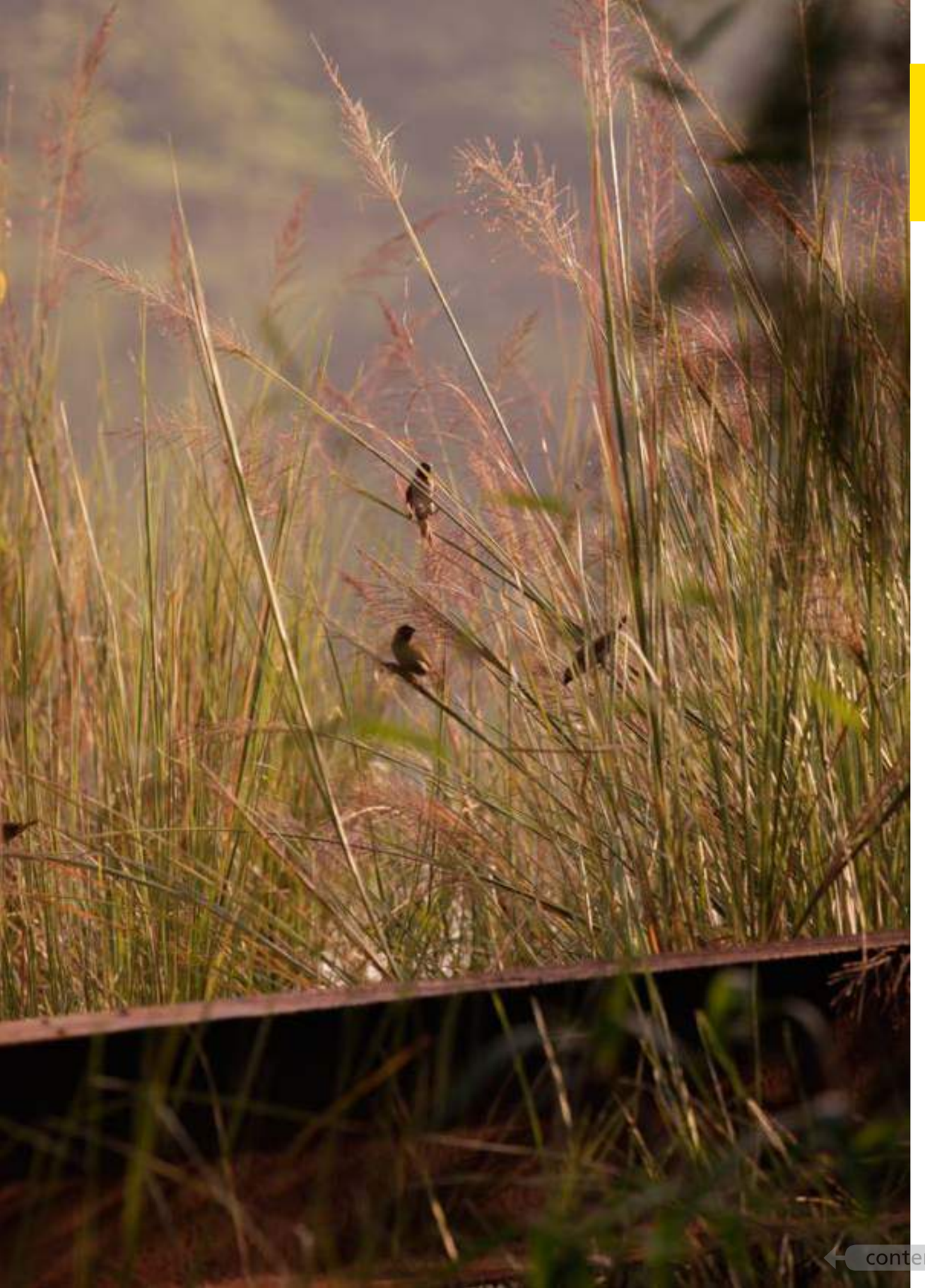
"Measuring Molecules: Mass Spectrometers in Science, Medicine and Business"
talk by Prof. R. Graham Cooks & Henry B Hass
Distinguished Professor of Chemistry 2013, Dreyfus Prize Winner in the Chemical Sciences, Purdue University, West Lafayette, IN, USA
on Jan 21, 2015 @ 4.30 pm
in Central Lecture Theatre.

"Nano Technology meets Biology in the Cancer Cells"
talk by Prof. Mostafa A. El-Sayed & Julius Brown
Chair and Regents Professor, Director,
Laser Dynamics Lab, Georgia Institute of Technology, Atlanta, USA
on 17th Feb, 2015, 4.30 pm
@ IC & SR Auditorium.

"Science at the Interface: Physics, Chemistry and Biomedicine"
talk by Prof. Jim Heath & Elizabeth Gilloon
Professor of Chemistry Caltech division of Chemistry and Chemical Engineering, Pasadena
on 1st April 2015, 4.30 pm
@ IC & SR Auditorium

BR Sengupto Lecture Series-2015

"Prof. Sengupto Lecture Series"
talk by Shri. R.S. Thakur,
Chairman of Tal Manufacturing Solutions Ltd, Director on the Board of Drive India Enterprise Solutions Ltd, Currently a Management Consultant, Former MD & CEO at TATA Auto Comp Systems Ltd
on 2nd March at 5 pm
in IC & SR Auditorium.



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YOUNG FACULTY RECOGNITION AWARD

The Young Faculty Recognition Award (YFRA) was instituted by alumnus Dr. P. Balasubramanian [1971/BT/AE & 1973/MT/IM] to promote excellence in teaching and high-quality research. The awards are presented to outstanding young faculty members on Teachers Day to acknowledge and felicitate their achievements in their respective academic and pedagogic fields.

Karthik was nominated for YFRA on the basis of excellent course evaluations in three different courses over the last three years, well-cited research publications in international journals and an edited book. Karthik is a PI on a DBT-funded project and co-PI on an Indo-Finland initiative in synthetic biology. He has initiated several interdisciplinary collaborative projects at IITM.

Karthik's 17 papers have over 750 citations in all (650+ in the last five years). Some of Karthik's algorithms and models have been instrumental in advancing systems-level understanding of Mycobacterium tuberculosis, the tubercular pathogen. Karthik has also written two well-cited reviews in systems biology and was recently invited to contribute a chapter to the comprehensive 3-volume Handbook on Computational Biology, published by Chapman & Hall/CRC. Karthik's most recent work at IITM in the area of computational systems biology & biological network analysis has been published in high-impact journals in the field.

Karthik Raman has made significant contributions to the field of systems biology and biological network modelling over the last 10 years. His work has been well cited (1150+ citations) and has laid an important foundation for the curation of genome-scale metabolic models of Mtb by leading research groups in systems biology.

As a principal investigator at the Department of Biotechnology, IIT Madras, Karthik and his group have continued to work in the area of biological network modelling, focusing mostly on metabolic networks, with industrial applications in metabolic engineering and identification of combinatorial drug targets.

In 2014, Karthik co-edited a book on "A Systems Theoretic Approach to Systems and Synthetic Biology" in two volumes, together with Dr. Vishwesh Kulkarni (University of Warwick, UK) and Dr. Guy-Bart Stan (Imperial College, London). Karthik has also written a couple of well cited reviews on flux balance analysis (180 citations) and construction and analysis of protein–protein interaction networks (50+ citations).

DR. KARTHIK RAMAN

Biotechnology Department

Dr. Ratna Kumar Annabattula is an Assistant Professor in the Department of Mechanical Engineering at IIT Madras. He joined the institute in December 2012. He received his PhD in Micromechanics of Materials from University of Groningen, The Netherlands.

His research interests include granular mechanics, mechanics of thin films for microsystem design and multi-scale modelling of materials. His main research focus at IIT Madras has been to investigate thermo-mechanical behaviour of (granular) breeder materials in nuclear fusion reactors. Towards this goal, his group develops computational models to study the thermo-mechanical response of granular systems at particle-scale using Discrete Element Method and at continuum-scale using Finite Element Method.

He has been an active member of international ceramic breeder material modelling community working towards the development of the first experimental fusion reactor-ITER. His current research on breeder materials at IIT Madras has direct implications to the ITER program in general and ITER-India in particular.

DR. V V S D RATNA KUMAR ANNABATTULA

Mechanical Engineering Department

The primary focus of his research group at IIT Madras is to integrate experiments and mechanistic models to understand the chemistry and kinetics of complex reactions relevant to industry and renewable energy. Some of the key research areas include:

- Green conversion of biomass components like lignin to value added phenols, guaiacols and syringols via photocatalysis and catalytic fast pyrolysis
- Non-conventional methods of biomass deconstruction to sugars using a combination of ultrasound, microwave and enzymatic processes
- Thermochemical conversion of lignocellulosic biomass, waste plastics, municipal solid wastes and microalgae to biofuels and/or useful intermediates via catalytic fast pyrolysis and microwave pyrolysis
- Development of novel bio-based composites (e.g. chitosan-lignin, modified thermochemical chars) as efficient adsorbents for detoxification of organic pollutants
- Characterization of energy feedstocks and fuels, and development of models for biomass combustion
- Understanding the stability of aged engine oils and developing correlations between the degree of ageing and the relevant ageing marker
- Process intensification of industrial reactions via bench scale tests and kinetic modeling

Research projects sponsored by the Department of Science and Technology (DST), India, and industries like Caterpillar Inc., Thermax Ltd., Shell India Markets Pvt. Ltd., GAIL and BHEL are being carried out in the group.

Dr. R. Vinu

Chemical Engineering Department

Research areas include Natural Hazards; Risk assessment; Structural Mechanics; Random vibrations

Dr. Raghukanth

Civil Engineering Department

contents

Excellence in Teaching Award

Srimathi Marti Annapurna Gurunath Award for Excellence in teaching was instituted in 2011 by Prof. Marti Subrahmanyam [1967/BT/ME] & 2004 Distinguished Alumnus.

Prof. David Koilpillai, who is also an alumnus of 1984-BTEE, received the award for this year.

Citation of Prof. Ravinder David Koilpillai

Prof. Ravinder David Koilpillai received his B.Tech. degree in Electrical Engineering from IIT Madras in 1984. He then received Masters and Doctoral degrees from California Institute of Technology in 1985 and 1990 respectively. He was worked with the Wireless Communications Group of GE (R&D) and Ericsson USA before moving to IIT Madras.

Prof. David's has been an active researcher in the areas of wireless communications and DSP and his expertise lies there. Prof. David is very committed to giving back to the society, and as an academic a large part of this has been through teaching. He handles a wide range of UG and PG courses, both core and electives, with much passion. His course feedback compiled over the years is evidence of the high regard and esteem his students have for him. As Head of the Guidance and Counselling Unit he is regarded, as an excellent student counsellor. He has effectively nurtured a passionate team of 80 students over the last 3 years in the IIT Madras Satellite Project. During 2008-09, as the Co-Chair of the special Task Force, he hand-held the early batches of students and faculty of IIT Hyderabad.

Prof. David is a strong believer in practical research collaboration between Academia and Industry. He was responsible for launching "Broadband Wireless Consortium of India", while he was at CEWiT. He also helped drive Broadband wireless standards in the country. He has published more than 70 papers in journals and conferences and has 32 U.S., 10 Canadian, and 19 WIPO/ European Patents.

Prof. David is admired as a meticulous person by his colleagues. He puts his heart and soul into his responsibilities at the Institute. His contributions in streamlining the function of the Central Electronics Centre as its Head and as Vice Chairman of the Computer Centre are noteworthy. He has been serving as Dean (Planning) from September 2011, and has been instrumental in managing the Institute's finance, physical and electronic infrastructures.

Prof. David Koilpillai is an excellent role-model as teacher, Professor, research supervisor, and administrator. The Institute is proud to confer upon him the "Srimathi Marti Annapurna Gurunath Award for Excellence in Teaching" for his demonstrated proficiency and innovativeness in teaching.

Prof. David Koilpillai receiving the award from Mr. Bhaskar Bhat, Managing Director, Titan Company Limited on 56th Institute Day – Apr 17, 2015

2015 Class Project

The Institute has always striven to create a passion in its students to give back to their alma mater. The endeavour has been a successful one since 2013. In 2013 we have received ₹ 0.22 million from 166 students towards Center For Innovation and in 2014 we have received ₹ 0.8 million from 475 students towards Study Center @ Quark facility.

For this year, 915 Graduands waived their caution deposit amount of ₹ 1.37 million towards Campus sustainability. Alakananda hostel bagged the rolling trophy for the highest number of students participation & the amount waived for this year.

Other Endowments & Scholarships

New awards instituted and will be awarded in 2016

- Camp Gaveshan Endowment
- Dr. Pitchai Endowment fund for Environmental Engineering in Civil Engineering Department
- Jayant Baliga Scholarships
- Kalidas Madhavpeddi Scholarship Fund
- Lakshmi Raman Memorial Lecture in Chemistry
- Lakshmi Raman Memorial M.Sc Chemistry Scholarship
- Lakshmi Raman Memorial M.Sc Physics Scholarship
- M.Sc Mathematics Endowment
- Muthuvel Memorial Mayuram Endowment
- SarasVidya Scholarship
- Summer Internship Endowment in Physics Department

Institute Day, Convocation and "Alumni Day" Prizes

- 54 alumni sponsored Institute Day prizes were distributed in **56th Institute Day** (April 17th)
- 18 Alumni sponsored Convocation Day prizes were distributed in **52nd Convocation Day** (July 24th)
- 18 Alumni sponsored Alumni Day prizes were distributed in **AlumNite** (July 25th)

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REUNIONS

Batches of 1964 & 1965

- Golden Reunion of the 64 & 65 batches held on May 23-24 at Naperville, IL, USA
- 80 alumni along with family attended

Batch of 1970

- Golden Reunion of the Class of '70, with nearly 100 alumni in attendance, along with about 50 spouses gathering at IITM Campus on 19th January 2015
- The '70 batch has always been well-networked, meeting annually at exotic places & reliving their memories

Batch of 1975

- 1975 Reunion held on Dec 29th in IITM campus
- 1975 pledges for ₹ 5 Million

Batch of 1975 (MSc Mathematics)

- 1975 (MSc Mathematics) Reunion held on Nov 28th.

Batches of 1985, 1990 & 1995

- Reunions for 1985, 1990, 1995 batches on Dec 28th on IITM Campus
- 300+ alumni with families attended the event
- Short remarks given by Prof. R. Nagarajan (Dean, I & AR), Ravi Venkataraman (IITMAA President), Subramanian (CEO, Dev Office)
- Kumaran Sathasivam described the Heritage Centre
- Prof. Anand Raghunathan (Purdue U) introduced 'CCBR'
- Prof. B. Ravindran (IITM) presented ILDS
- Prof. Ashok Venkitaraman (Cambride University) via skype presented IBSE along with Prof. B. Ravindran
- Prof. Satya Chakravarthy (IITM) highlighted NCCRD
- Shri. S. Gopal (President) outlined the status of AIIC
- Dr. Tamaswati Ghosh (CEO) explained the Entrepreneurship ecosystem @ IITM
- Prof. MS Sivakumar (IITM) talked about student lives
- Prof. Bhaskar Ramamurthi (Director) announced the 2016 DA
- Family Program @ CLT
- Chennai Rains: Relief, Rehabilitation and Rebuilding - brainstorming session held on Dec 27th - IITM Faculty, alumni & DO Team attended.
- 1990 batch pledges ₹ 80 Million towards entrepreneurship and innovation initiatives on campus
- 1990 batch given ₹ 5 Million towards SarasVidya Fund
- 1995 batch pledges ₹ 5.8 Million

IIT MADRAS ALUMNI CHAPTER MEETINGS

Delhi

Sunday, 22 Feb 2015
12 Noon to 4 PM
India International Centre - Annexe Court, Lodhi

Interactive session with Prof Bhaskar Ramamurthi (Director IIT-Madras), Prof. R Nagarajan & V Gopinathan (President IITMAA)

Mumbai

Saturday, 28 march 2015
4 PM to 6 PM
IITB Campus

Interactive session with Prof. Bhaskar Ramamurthy (Director) & Prof. R. Nagarajan (Dean, International & Alumni Relations).

Pune

Sunday, 30 Aug 2015
24 Alumni
Westin Hotel.

Ravi Venkatraman (IITMAA President) , Mohan Narayanan (TreasurerIITMAA), Subramanian (Dev Office) & Sujatha (Dev Office) attended

Hyderabad

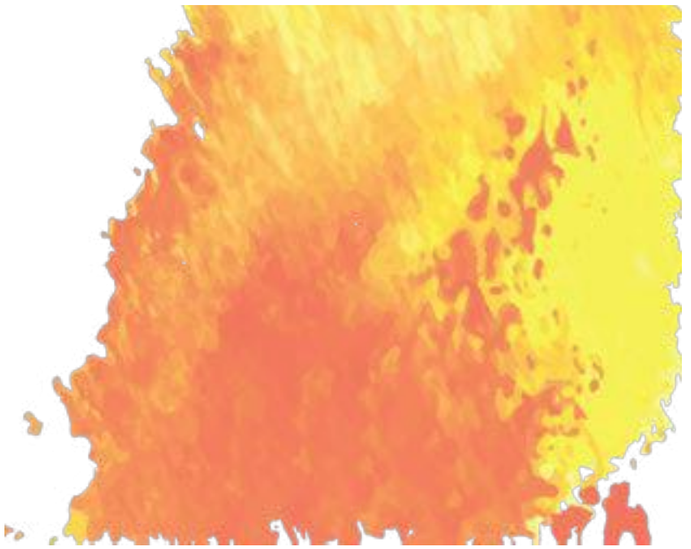
Saturday, 12 sep 2015
90+ Participants
ISB Campus

Launched "Entrepreneurship Forum"

Singapore

Sunday, 1 Nov 2015
48 Local Alumni
Nanyang Business School

Interactive meetings with Dean I & AR, Subramanian (Dev Office), Sujatha (Dev Office), Ravi Venkataraman (IITMAA)



Bengaluru Alumni Meet

Sunday, 26 April 2015
Microsoft Ventures Vigyan #9, Lavelle Road

Theme: Entrepreneurship
45+ Participants

Interactive session with Prof. Bhaskar Ramamurthi, Director, IITM
Prof. Nagarajan, Dean (I&AR)
Prof. Mahesh Panchagnula (Faculty-in-charge, CFI)
Dr. Ashwin Mahalingam (Member, Board of IITM Incubation Cell)

★Culture of entrepreneurship
★Introduction to Nirmaan 2.0
★Overview of start-up projects by the students
★Best practices in mentoring

Deans' Meet

Guwahti

20-21 March 2015

Alumni Fund-Raising & International Workshop
IIT Campus

Participants included Joseph Thomas (Dev Office)
& other committee members

contents

Industry Partnership

On Feb 21, 2015 the Development Team organized a meeting on "IITM Strategic Plan 2020 & Industry Partnership Opportunities". 35 companies including 10 Research Park companies participated in the meeting.

The Development Team made a presentation on sponsorship opportunities & CSR presentations were also made by Dr. Ashok Jhunjhunwala on Research Park, Dr. Mahesh Panchagnula on CFI, Dr. Ligy Philip on Waste Management & Sanitation and other faculty members.

CII & IITM Workshop

- Workshop on promoting technology innovations in CSR – Learning from IITM
  Held on 28th September 2015 @ IC & SR
- 46 attended representing 34 Institutions, 23 Companies, 6 Foundations and 4 Colleges
- B. Santhanam, Saint Gobain Glass India Ltd, N K Ranganath - Chairman - CSR Sub Committee CII & MD of Grundfoss Pumps India Pvt. Ltd. were among the participants
- 6 IITM Faculty presented their socially-relevant Projects

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MOU Between HAL And IITM

The objective of the MOU is to establish a long-term, mutually-beneficial relationship between HAL and IITM for academic and research based interactions leading to promotion and development of new and breakthrough technologies under the responsibility of the Faculty Chair.

MOU Between TCS And IITM

IITM and TCS propose to collaborate in the areas of research, consultancy, advisory, education, training and promotional activities. All activities will take place under the IITM-TCS program umbrella for efficient administration and execution of various engagements.

DONOR DINNER RECEPTION

Saturday, 18 April 2015
6:30 PM onward
AC Dining Hall, IC&SR, IIT Madras

Felicitating Distinguished Alumni, major donors and alumni volunteers for their contributions & achievements.

Attended by

- Prof. Bhaskar Ramamurthi, Director, IIT Madras
- Prof. Nagarajan Dean (I&AR),
- Prof. Koilpillai, Dean (Planning) & Prof. Sriram, Dean (Admin)
- Distinguished alumni (DAs) & major donors (MDs)
- Prof. Ananth, Former director & other current faculty members
- Suresh & other OAA office staff & GJAF committee members
- I&AR student council secretaries and outgoing heads

LAUNCH OF ALUMNITE

iitm's own Oscars

Presentations interwoven with dance, music & drama performances by the 2015 graduands.

★First-ever AlumNite held on Jul 25th
★350+ alumni with family attended the event, out of these 200+ are 2015 grauduants
★Launch of the 3rd "Distinguished Chair in Computational Brain Research (sponsored by Kris Gopalakrishnan)
★Conferral of "Distinguished Alumnus Award 2015" on Prof. R. Srikant UIUC (BTEE-85)

★Awarding of several alumni-funded prizes for students & faculty
★Time-on-stage for reps of 2014 reunion batches (64-65, 70, 74, 84, 89) & 2015 reunion batches (66, 90)
★Remarks by reps of the 2015 & 16 batches & many great acts staged by the Class of 2015
★2015 Caution Deposit Waiver scheme – Highest contribution & Highest pledges goes to Alakananda Hostel
★18 Alumni sponsored prizes were given
★Keshav - Rangnath Excellence in Research Awards were given for two research scholars and the respective Guides to recognize excellence in journal publications jointly by a scholar and a faculty member - the award is sponsored by Dr Prakash Keshaviah [1967/BT/ME]

IIT UK CONFERENCE

February 13, 2015

The Optoelectronics Research Centre (ORC) is based in Southampton, UK. Interesting discussions with several people at the ORC including the Director Prof Sir David Payne, Prof Jayanta Sahu, Prof Gilberto Brambilla, Dr Senthil Ganapathy and Prof Periklis, a well-known expert in the field of Optical Signal Processing for Optical Communications, revealed strong common research interests between ORC and IITM. It also seemed like there was very good potential for collaboration in the area of vortex beam propagation in high power fiber amplifiers and in a couple of research areas including evanescent wave sensing using tapered optical fibers, and vortex beam generation in all-fiber lasers. In view of this, Prof Sir David Payne influenced AFOSR to direct their "Offsets" towards funding a collaboration between ORC and IITM. He commended Dr KV Reddy, alumnus from IITM, for establishing funds to support research exchanges between the two institutions. Dr Senthil Ganapathy, Research Faculty at ORC, gave a conducted tour of the labs where cutting edge research work was being done in the areas of whispering gallery modes and mid-infrared spectroscopy.

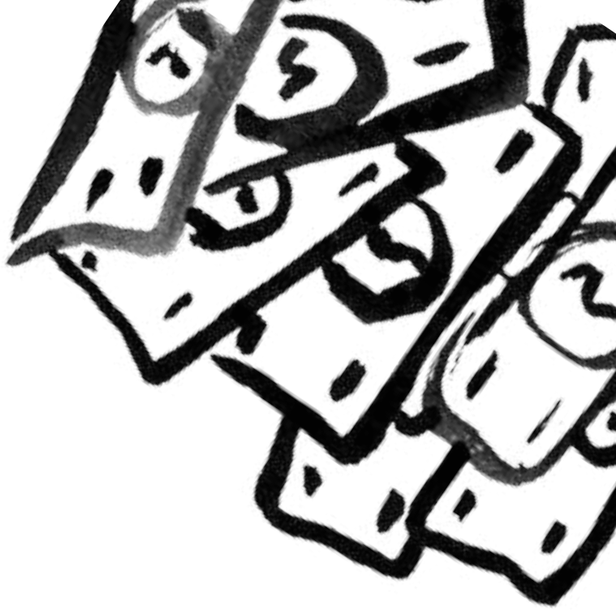
On their side, the IITM delegation had the opportunity to give a seminar which was hosted by the Optical Society Student Chapter at ORC, on the Distributed Fiber Optic Sensors project at IITM.

The trip also included a meeting with Prof Ken Grattan, Dean of Engineering and Prof Tong Sun of City University, London, during which collaboration in the area of fiber Bragg grating sensors, possibly leading to a joint PhD program, was discussed. Tong Sun was nominated DC member for one of the PhD students working in the area of FBG sensors. The consensus was to evolve a joint PhD program.

The IITM visitors next participated in the Web Science conference organized by UK IITAA at London. This was a great opportunity to share views about Optical Communication and on-going Web Science related activities at IITM including the inter-disciplinary center for data science. It is relevant that several commonalities were found in data science related to water, traffic, and power. There was some discussion about bringing communication traffic into the fold. The team also met Dr Sunish Mathews, Postdoctoral Fellow at Imperial College, London, members of the UK Alumni Association, and alumnus, Dr Murthy Nuni, a major benefactor of the Centre for Innovation, Incubation and Entrepreneurship (CIIE, IIMA). It is thanks to his effort that an Innovation Forum Event was held in London to showcase CIIE@IIMA as a leading Innovation & Incubation Centre to peer groups at Cambridge, Oxford and Imperial.

YALE GLOBAL ALUMNI LEADERSHIP EXCHANGE
YALE UNIVERSITY & IIT MADRAS

Strong, internationally competitive universities such as Yale are essential for innovation and growth. Institutions in the U.S. have made significant investments in alumni relations, primarily because these universities, both private and public, depend heavily on financial contributions from alumni for operating and endowment support - as well as for advice and counsel. Often, the difference between a good university and a great university is the willingness of alumni to contribute significant resources, by way of both time and money. Most universities outside the U.S. have been historically supported by governments and have not created or fostered alumni associations. The IITs are one of a few international institutions that have developed robust alumni relations programs. In our increasingly complex global economy, universities recognize that they too must compete for resources to attract the best students and faculty. As has been evidenced in the U.S., alumni associations are key to successful fundraising efforts - so vital to the long-term financial health and growth of our institutions. Even more importantly, engaging alumni is "the right thing to do" in seeking to ensure the future of any great university. Alumni provide critical leadership by serving as trustees and board members, and by giving advice and counsel in their areas of professional expertise - acting as "consultants" to the management team at a university.



YaleGALE India 2015

10th Jan at IITM

11th January at East Coast Highway Farm House.

The January 2015 Meet focused on how to create and sustain alumni organizations and how to build collaborative relationships. Alumni from leading institutions around the world, shared best practices that foster alumni communities, or "friends for life." Yale alumni leaders conducted workshops at the Conference on alumni activities at Yale and universities in general. They in turn wanted to learn about opportunities and challenges facing universities in India, and how to develop a shared platform for future alumni collaborations.

Entrepreneurship Unconference

★ Held on Oct 24th co-ordinated by IITM Alumni Association, IITMEF and I & AR

★ 100+ alumni and 40+ students attended the event.

IIT Maana dinner Reception

June 5, 2015

Office of I & AR, IIT Madras in association with IITMAANA (IIT Madras Alumni Association of North America) hosted a reception at The Westin, Velachery, for IITM students going to foreign universities (mostly in the US) for higher education. The event was attended by 40 students, Prof Nagarajan (Dean I&AR), Robert Nathan from IITMAANA, and some members of the I&AR office and the I&AR student council. Prof Nagarajan shared his own personal experiences while in the United States following which useful discussions took place about:

★ What support systems exist for IITM community in the USA
★ How to make use of the alumni network of IITM
★ Discussion of what the students expect of IITMAANA
★ Discussion of the kinds of activities students would like from the alumni association
★ Importance of reaching out to alumni
★ Importance of giving back to the alma mater

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PAN IIT Meet 2015

Santa Clara Convention Center
Friday-Saturday, July 24-25
220+ alumni attended
(50% increase over that of the 2013 Meet)

★ Profs. Ashwin, Mahesh & Arockiarajan represented IITM

HERITAGE DAY

★ The annual "Heritage Day" event on campus to celebrate the launch anniversary of the "Heritage Centre" was celebrated on Tuesday, March 3 at 4:30 pm at the IC & SR Auditorium

★ Kumaran Sathasivam is the alum in charge of the Heritage Centre

The program included an address by R. Natarajan (first Registrar of the Institute), unveiling of a painting of Prof. Sengupto, first Director of the Institute, talk by Prof. Ajit Kolar on the origins of the IITs, inauguration of Heritage Trails & addresses by the historian Mr. S. Muthiah & the Director, Prof. Bhaskar Ramamurthi

Heritage Centre Workshop - Oct 2nd & 3rd

★ Heritage Center workshop on natural sounds recording was conducted by Sharad Apte, a renowned ornithologist

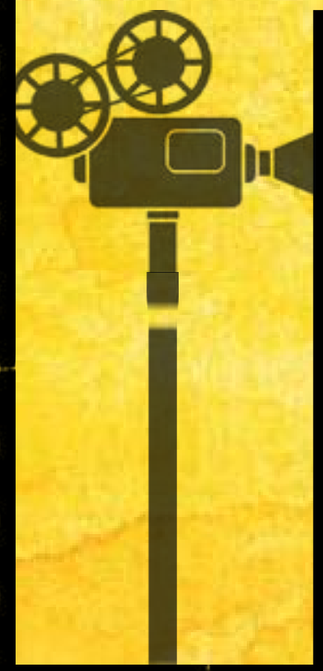
IIT WORKSHOPS

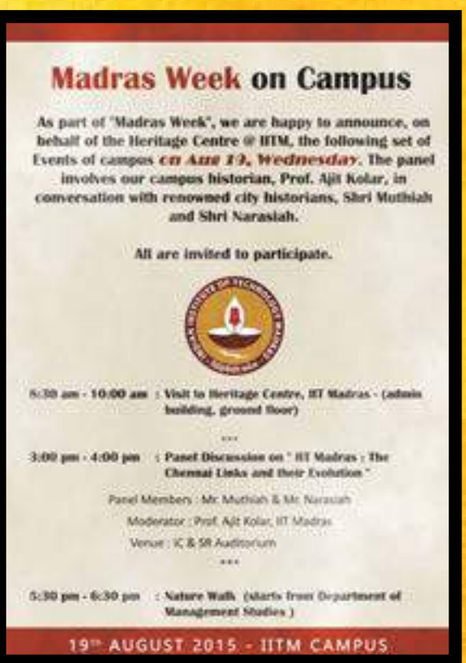
All IIT Workshop - Nov 13th & 14th

- ★ An inter IIT workshop to discuss funding experiences
- ★ 9 IITs participated in the workshop

MADRAS WEEK

August 19, 2015





US MEETS

The Director, Prof. Bhaskar Ramamurthi, and Dean, I&AR, Prof Nagarajan visited the United States from May 23-31 with stop-overs at 4 cities. Their agenda included interactions with alumni, industry and academic institutions.

The first stop was Chicago, the Windy City where the main Event was the "Golden Reunion" of the 64 & 65 batches, ably orchestrated by Mallik Putcha & team. The nostalgia was palpable. Alongside, these senior alumni were very keen on identifying a socially relevant initiative for them to be involved in.

The local Chapter meeting brought together nearly 80 alumni – a huge show of strength in the Midwest – and an impetus for I&AR to nurture valuable alumni relationships. Vikram Rao presented a concept note on "Consumers Adapting to Power Shortages", and this is well positioned to serve as a springboard for relevant collaborations between alumni and IITM.

From Chicago, the Director and the Dean flew down to Houston, where they first met with collaborators from 3 local Universities—Texas A & M, Rice and Houston. Compared to a similar meeting two years ago, momentum was clearly evident in the outcomes of these interactions. While faculty collaborations and research scholar exchanges have been progressing, the time appeared to be ripe for taking relations to the next level—joint supervision of M.S. and Ph.D. students. This key step will enhance engagement to a higher, more committed plateau. Rahul Mehta of the Mehta Family Foundation, a huge benefactor of IIT Madras, hosted tea for the Director and the Dean at his lovely home in Houston. This was followed by a local Chapter dinner attended by PanIIT alumni as well. On the way back to the Hotel, the gracious host, Subba Viswanathan, the Director and Dean got caught in a flash flood, and spent the night in the lobby of some hotel while waiting for the torrential downpour to end and the water level to recede. It was a long wait to say the least. That eventually happened at 4 am!

They next flew to Pittsburgh, and enjoyed dinner at the home of Distinguished Alum, Dr. Subra Suresh (President, CMU). Another DA, Sunil Wadhwani, joined them as well. The quality of the food was matched only by that of the conversation. Earlier, they had met Ramayya Krishnan, Dean of Heinz College at CMU, for discussions. The Director and Dean visited CMU for further interactions. Kris Gopalakrishnan, apart from funding the "Distinguished Chairs in Computational Brain Research" at IITM, has also funded postdocs at CMU in the same field. The discussions focused on how best to integrate the two optimally. The Director and Dean were also given an impressive tour of his supercritical CO2 process-development facility by Lalit Chordia, 1980. They then attended a luncheon for local alumni hosted by Prof. Ravi, where Bob Nathan, the erstwhile President of IITMAANA, launched the Pittsburgh Alumni Chapter.

The Bay Area was the last stop. They met IITM alumni at Google, along with '68 alum, Seshan Rammohan who escorted them to several other meetings over the two days they were there. These included a meeting with Stanford faculty where they discussed all aspects of "entrepreneurship". At a dinner reception, they conferred the "Distinguished Alumnus" award (first-time ever outside the campus) on Venky Harinarayanan. This took place alongside the launch of the U.S. Development Office & Foundation, which will henceforth assist IITM in the crucial matter of fund-raising in North America.

The last day of the Bay Area visit was punctuated by several one-on-one meetings with alumni, interspersed with a visit to the Berkeley campus and finally a Bay Area Chapter meeting.

A memorable trip that triggered many exciting opportunities. The team in Chennai is all geared to follow up on these possibilities. .

Nayudamma Award

December 21, 2015

Dr Ramayya Krishnan an alumnus of the 1981 Mechanical Engineering batch of IIT Madras, became the recipient of the Nayudamma Centre for Development Alternatives (NCDA) Nayudamma Award for his contribution to data driven innovation in key societal domains on Monday.

He is the Dean of H. John Heinz III College and William W. and Ruth F. Cooper Professor of Management Science and Information Systems at Carnegie Mellon University. "Data driven innovation is having a transformative effect on national security. A system, which brings sensing, reasoning and decision making together," he said.

Citing some examples from his research work, he pointed out the advantage of the sensing technique. Dr Ramayya said that using the sensing technique, traffic congestion could be avoided. In traffic signals, the smart sensing system will identify the congestion of the vehicle population on the road, and have scheduled signals in a way to monitor the flow of traffic so that there is no pile up, and at the same time, schedule it in such a way so that people know how long they need to wait before the signal moves.

FINANCIAL INFORMATION

2015 was by all accounts the Year of Giving Generously. Donations and sponsorships more than doubled during the year and the money was utilized for specified projects or added to the Institute's corpus. Significant support was made possible through this generosity in the areas of research and entrepreneurship including ventures for social good. Generous endowments helped to support various Chair positions and scholarships for students. In all 2015 was an important year in moving IITM closer to achieving its strategic goal of raising ₹ 1,000 million ($20 million) annually towards a corpus of ₹ 5,000 – ₹ 10,000 million ($100 – $200 million) by 2020.

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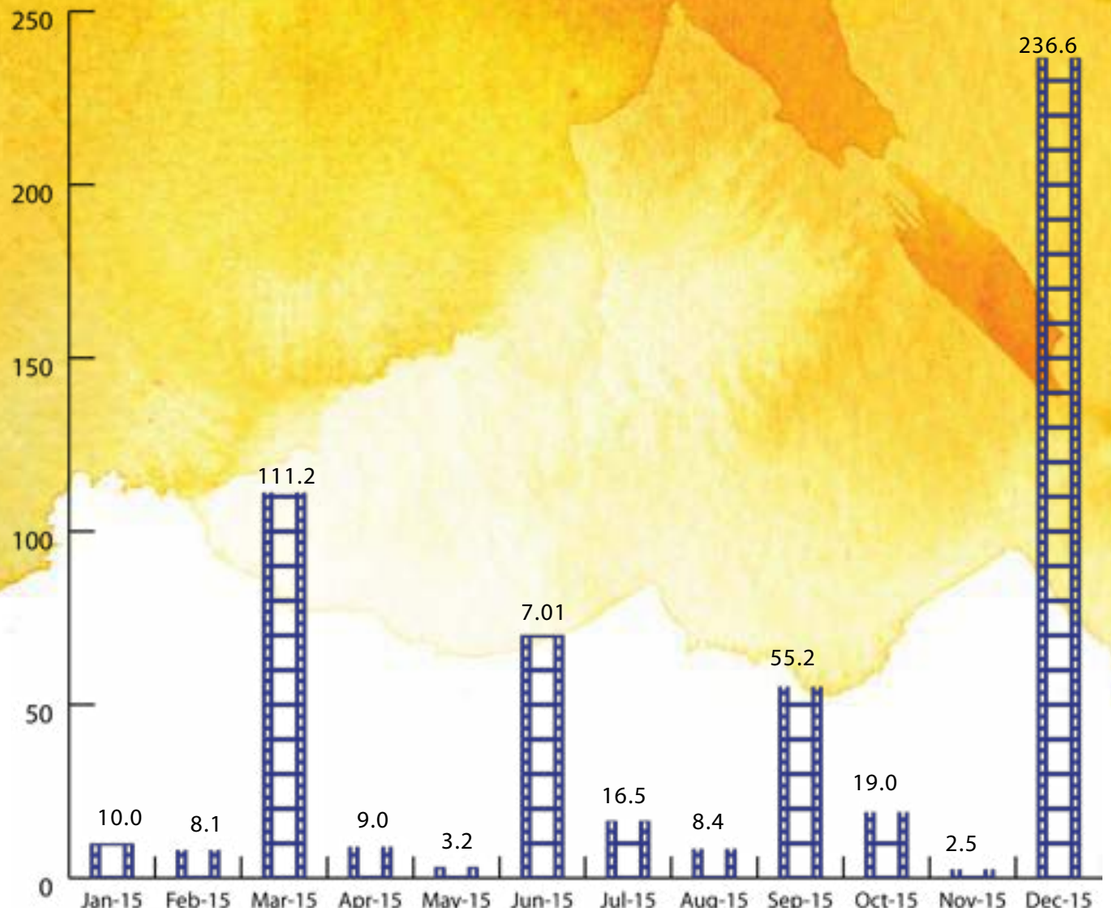
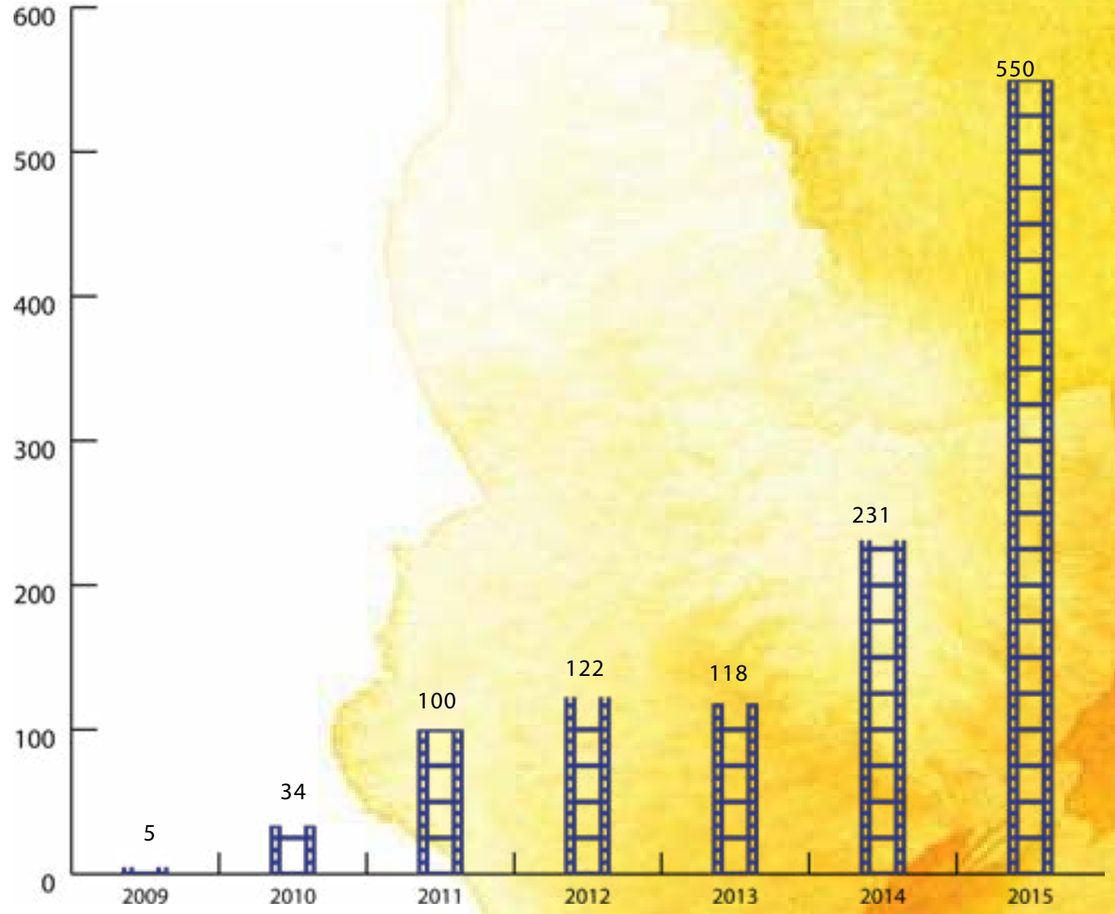
BOX OFFICE COLLECTIONS

MONTHWISE DONATION AMOUNT [₹ IN MILLION]



YEARWISE DONATION RECEIPTS [₹ IN MILLION]



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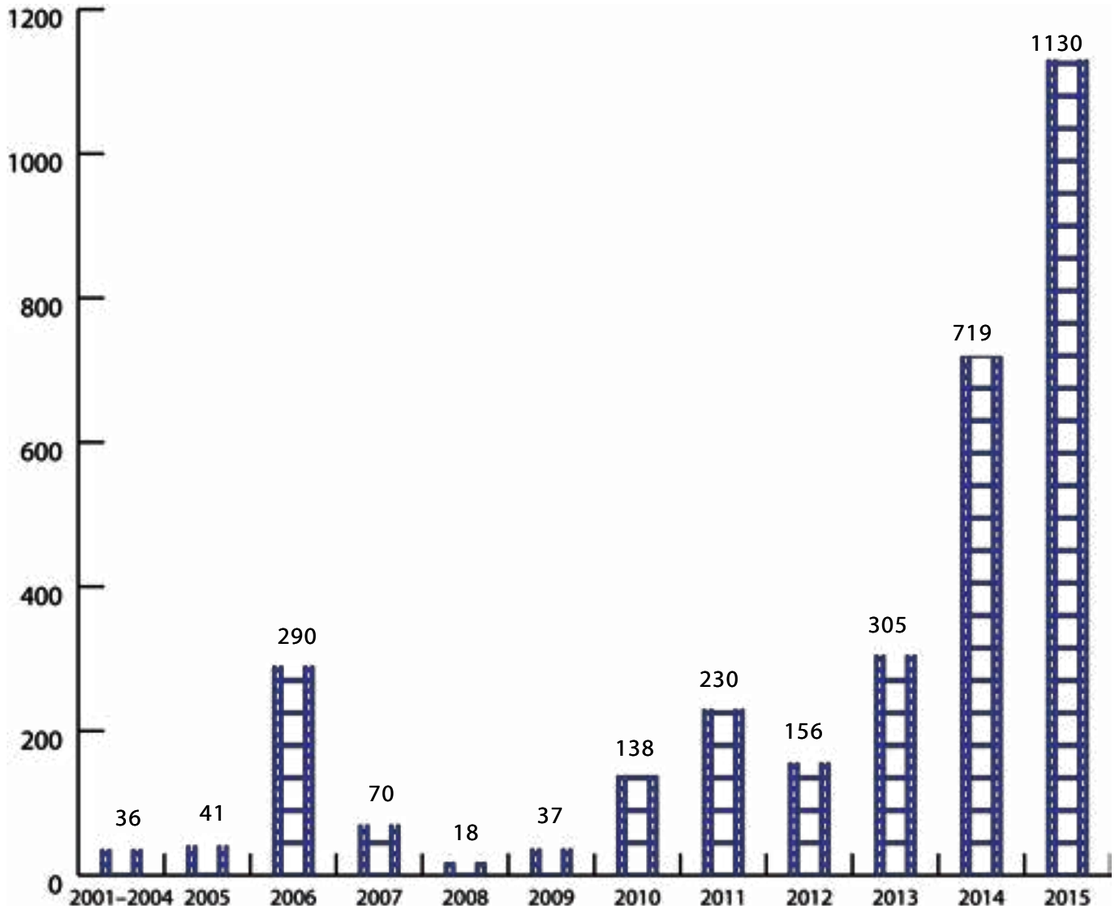
Yearwise New Donors



GEMs

Give Every Month (GEMs) is the recurring scheme of donation and the same being deployed towards Travel Grant.

- This year we have received ₹ 0.31 Million and total amount received is ₹ 2.13 Million over 6 years.
- 24 New donors in 2015.

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